

Revision of the West Palaearctic species of the genus *Agathis* Latreille (Hymenoptera: Braconidae: Agathidinae)

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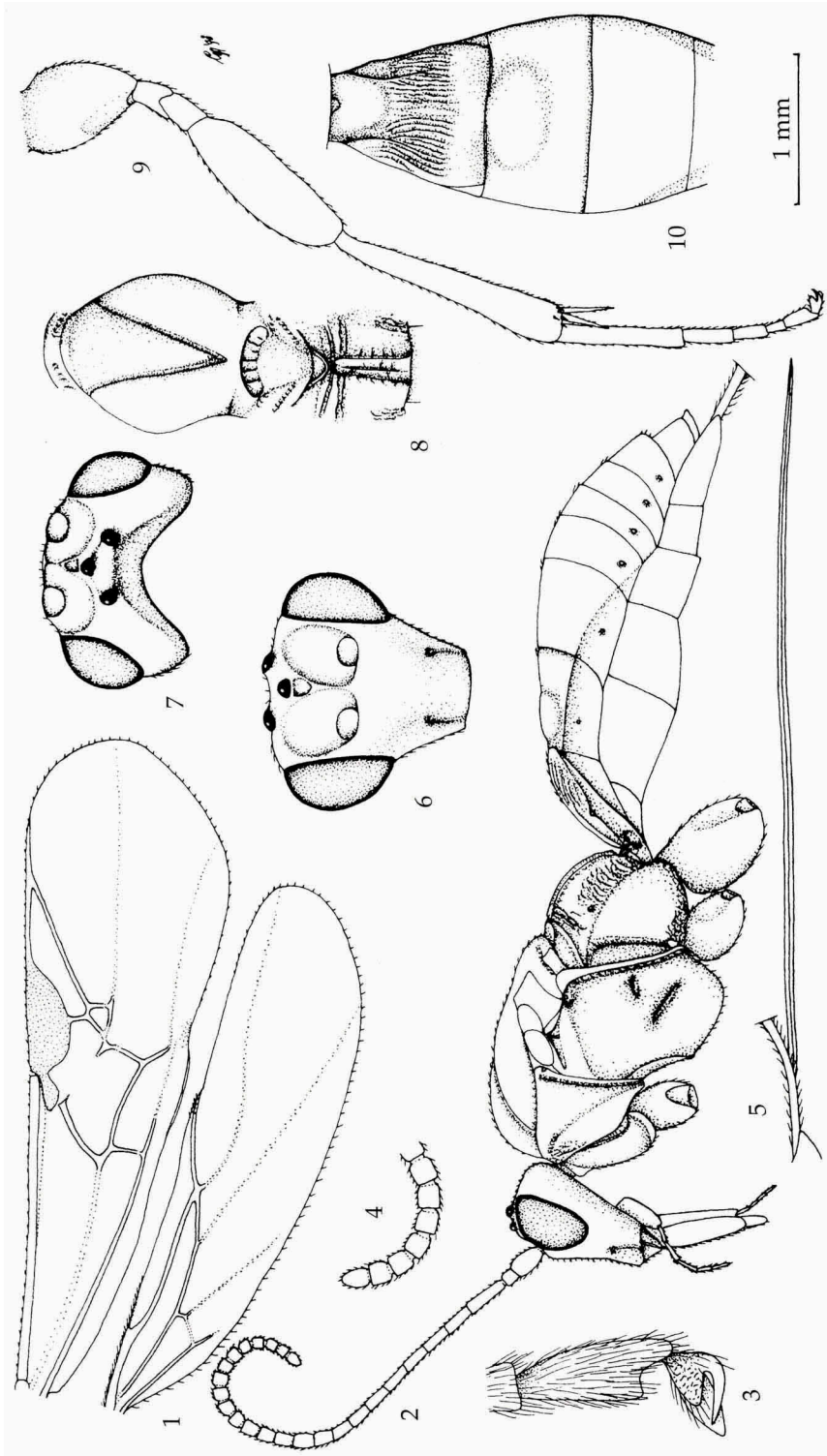
Key words: Braconidae; Agathidinae; *Agathis*; *Bassus*; Europe; North Africa; West Palaearctic; biology; distribution; key.

The West Palaearctic species of the genus *Agathis* Latreille, 1804 (Braconidae: Agathidinae) are revised and keyed. Forty-six species of *Agathis* are treated as valid, of which 29 occur in Europe; three species of the former *Agathis mediator* group (*Bassus brevicaudus* (Reinhard, 1867) comb. nov., *B. mediator* (Nees, 1814), and *B. pumilus* (Ratzeburg, 1844)) are transferred to the genus *Bassus* Nees, 1804. One new species (*A. hemirufa*) from Spain is described. The following species are synonymised: *Agathis longicauda* Kokujev, 1895, *A. albanica* Fischer, 1957, *A. syriaca* Fischer, 1957, *A. caucasica* Tobias, 1963, and *A. taiwanensis* Chou & Sharkey, 1989, with *A. anglica* Marshall, 1885; *A. propinqua* Kokujev, 1895, *A. jakowlewi* Kokujev, 1895, and *A. anchisiades* Nixon, 1986, with *A. assimilis* Kokujev, 1895; *A. achterbergi* Nixon, 1986, with *A. breviseta* Nees, 1814; *A. schmiedeknechti* Kokujev, 1895, *A. meridionellae* Fischer, 1957, *A. albicostellae* Fischer, 1966, and *A. artemisiana* Fischer, 1966, with *A. fuscipennis* (Zetterstedt, 1838); *A. zaykovi* Nixon, 1986, with *A. montana* Shestakov, 1932; *A. kasachstanica* Tobias, 1963, and *A. nixonii* Belokobylskij & Jervis, 1998, with *A. nigra* Nees, 1814; *A. simulatrix* Kokujev, 1895, *A. rufipes* Ivanov, 1899, *A. similis* Shestakov, 1928, *A. glabricollis* Telenga, 1955, *A. serratulae* Tobias, 1963, *A. jederi* Fischer, 1968, and *A. ariadne* Nixon, 1986, with *A. varipes* Thomson, 1895; *A. tenuipes* Tobias, 1963, with *A. gracilipes* Hellén, 1956; *A. tadzhica* Telenga, 1955, and *A. gilvus* Papp, 1975, with *A. syngenesiae* Nees, 1814; *A. genualis* Marshall, 1898, with *A. tibialis* Nees, 1814. The tribe Microdini Ashmead, 1900 (= Eumicrodini Foerster, 1862) is synonymised with the tribe Agathidini Nees, 1814. Neotypes are designated for *Agathis malvacearum* Latreille, 1805, *A. nigra* Nees, 1814, *A. rufipalpis* Nees, 1814, *A. syngenesiae* Nees, 1814, *A. tibialis* Nees, 1814, and *A. umbellatarum* Nees, 1814. *Bassus kaszabi* (Papp, 1971) is a new combination and a new junior synonym of *Bassus linguarius* (Nees, 1814).

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Figs 1-10. *Agathis maltaccarum* Latreille, ♀, neotype. 1, wings, 2, habitus, lateral aspect; 3, inner hind claw; 4, apex of antenna; 5, ovipositor; 6, head, frontal aspect; 7, head, dorsal aspect; 8, mesosoma, dorsal aspect; 9, hind leg; 10, three basal metasomal tergites, dorsal aspect. 1, 2, 5, 9, scale-line (= 1.0 ×); 3: 4.3 ×; 4: 2.0 ×; 6, 7: 1.6 ×; 8, 10: 1.3 ×.

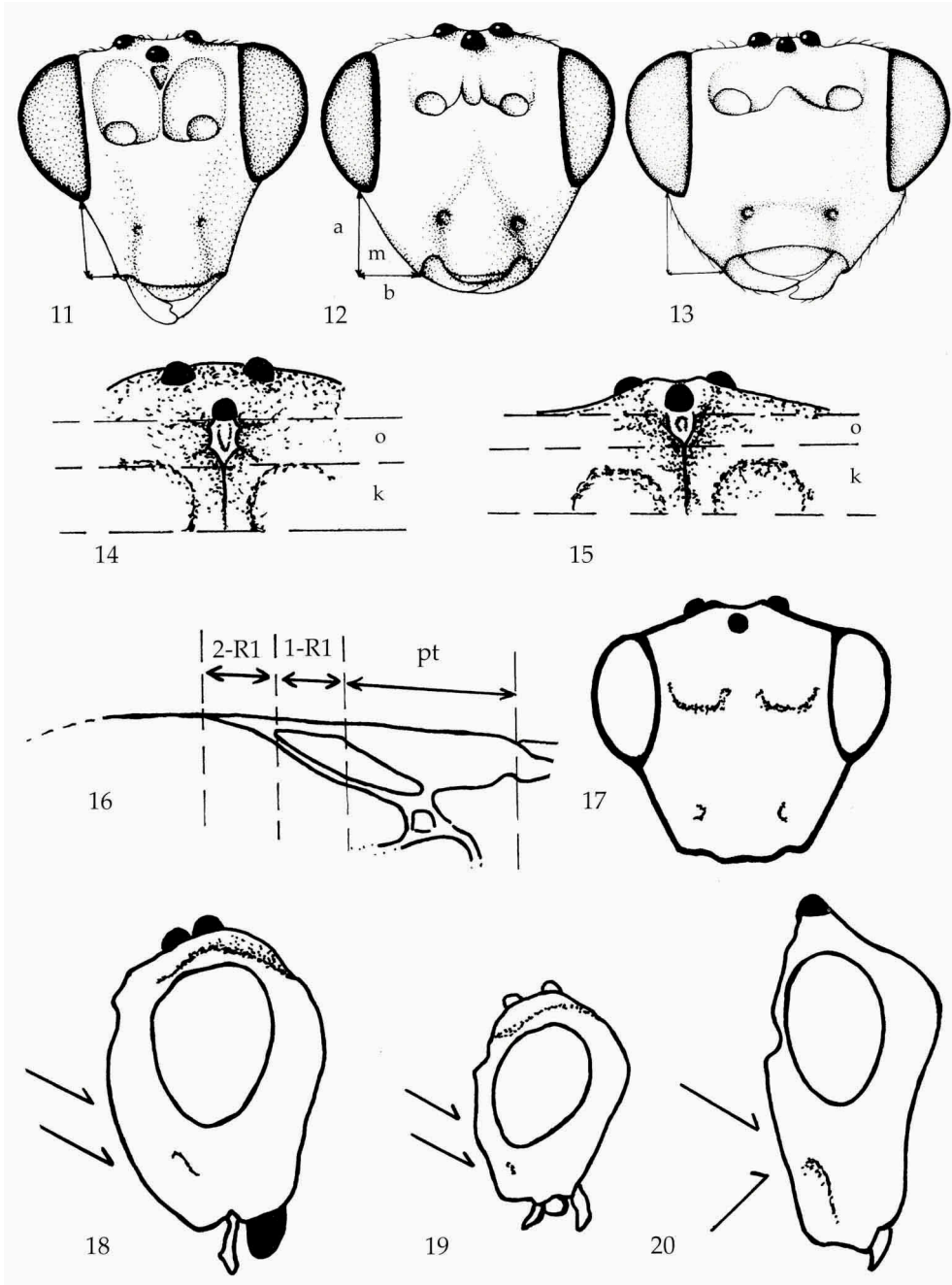
Introduction

In the West Palaearctic region (Europe, Asia Minor, and North Africa) the sub-family Agathidinae Nees, 1814, is represented mainly by two genera: *Agathis* Latreille, 1804, sensu stricto and *Bassus* Fabricius, 1804. Both genera belong to the tribe Agathidini Nees, 1814, characterised by the claws lacking a subapical tooth (van Achterberg, 1990). The genus *Agathis* was established by Latreille in 1804, but the first described species included was *Agathis malvacearum* Latreille, 1805 (which became the type species by this action). Later Latreille (1809) diagnosed the genus again and listed a number of species (*Ichneumon panzeri* Jurine, *Ichneumon purgator* Fabricius, *Bracon rostrator* Spinola), which the author intended to include in *Agathis* either as valid species, or as synonyms of *Agathis malvacearum* (the original text is not clear-cut). Finally, in 1810 Latreille formally designated *Ichneumon panzeri* Jurine, 1807 (being a junior synonym of *A. malvacearum* (Latreille, 1805), as type-species of the genus *Agathis*.

Neither of the most recently published keys (Nixon, 1986; Chou & Sharkey, 1989) satisfactorily separate the genera *Agathis* and *Bassus*, leaving species difficult to assign to one or to the other group. The development of the propodeal foramen and of the metasternal hind coxal cavities is more variable in the European species than was supposed by Nixon (1986) and Sharkey (1992). According to our experience it is less problematical to include all species with a comparatively narrow malar triangle (fig. 11) in the genus *Agathis* Latreille, and those with a comparatively wide malar triangle (figs 12-13) in the genus *Bassus* Fabricius. In this way few species have to be transferred to another genus; species with a moderately convex clypeus remain in *Bassus*, and those with a distinctly convex clypeus, and usually distinctly elongated head in *Agathis* (figs 21-27). The intermediate group of *Agathis mediator* (Nees, 1814) (Simbolotti & van Achterberg, 1992) is divided: one species (*A. lugubris* (Foerster, 1862), remains in *Agathis* and the other three species (*Bassus brevicaudus* (Reinhard, 1867) **comb. nov.**, *B. mediator* (Nees, 1814), and *B. pumilus* (Ratzeburg, 1844)) are transferred to *Bassus*. An unresolved question concerns which group is the sister group of *Agathis* (Simbolotti & van Achterberg, 1992). It remains possible that *Agathis* evolved from a species-group within the genus *Bassus*, and that *Baeognatha* Kokujev, 1903, evolved within the genus *Agathis*.

At the species level, the loss of many types of European *Agathis* species and the extreme variability in colour, venation and sculpture present within some species cause severe complications. What at first appears to be a valid species, proves eventually to be at most a more or less separable form, interconnected by intermediate forms to other more or less separable forms (e.g., species of the *A. malvacearum*-complex). To promote stability neotypes are designated for the species described by Nees (1814, 1834) and Latreille (1805) and in this paper recognised as valid.

Nixon's key (1986) is the most recent key to the West Palaearctic species of *Agathis*; however, the identification of several species is problematical, especially the more common ones! Hopefully the new key given here will facilitate more reliable identification, but in several cases problems will remain until more biological data are known. Nixon (1986) excluded several senior synonyms, however, several types of species described by Tobias, Abdinbekova, and Telenga were not examined, he had seen only



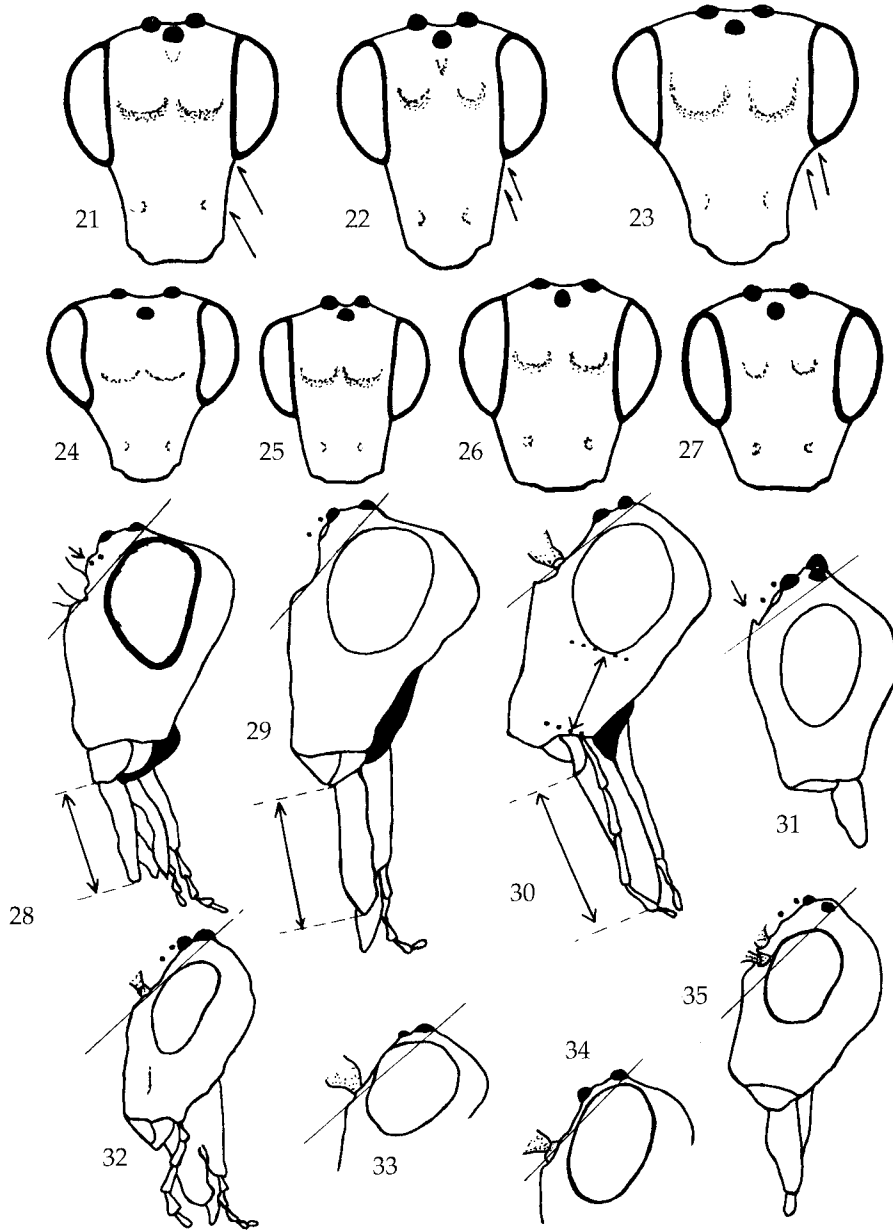
Figs 11-13, malar triangle (= m) of head, its vertical axis (= a) and horizontal axis (= b) of *Agathis varipes* Thomson, *Bassus linguarius* (Nees) and *B. calculator* (Fabricius) respectively, frontal aspect; figs 14-15, ante-ocular area (= o) and frons (= k; with median keel), with area elongate, and short triangular, respectively; fig. 16, measurements of length of pterostigma (= pt), veins 1-R1 (= metacarp) and 2-R1; fig. 17, shape of head in frontal view: distinctly shortened and quadrate; figs 18-20, shape of head in lateral view showing shape of face of *Bassus* (fig. 18) and *Agathis* (figs 19-20) species.

seen only a limited amount of material from the SW Palaearctic region, and he reckoned with less variation than we encountered in the material examined by us for this revision. For some hymenopterous parasitoids it has been shown (Pungerl, 1986; Pintureau & Daumal, 1995), that temperature, season, as well as the species, stage and condition of the chosen host, may strongly affect the morphology of the emerging adult parasitoid, even at the level of changing its body-ratios, but the possible existence of cryptic biological species (especially in case of koinobionts) should be always considered.

External morphological characters useful for the separation of Palaearctic *Agathis* species are limited. Until about the 1950s, the attention of most authors (Nees, 1814, 1834; Wesmael, 1837; Reinhard, 1867; Thomson, 1895; Marshall, 1885, 1888; Fahringer, 1937) has often focused on the following conspicuous characters: the shape of the mouth-parts; the rugulose-rugose or striate sculpture on the propodeum and/or the metasoma of some species; the presence or absence of the precoxal sulcus on the mesopleuron; the length of the ovipositor sheath; the shape of the second submarginal cell of the fore wing; the size of the body and its colour pattern. All of those characters, except the mouth-parts, have been shown (Nixon, 1986; Tobias, 1963), to be often too variable within an *Agathis* species to be of real diagnostic value, although they may have an indicative value to some degree. The mouth-parts are modified to form a beak, and may be strongly elongate. However, the whole structure is, to some degree, retractile, so that depending on the moment and the way the insect died, part of the structure in the prepared specimen may be poorly or not at all visible, and their measured length may be not the real one. Moreover, as the structure is an adaptation for nectar-feeding, the relative mobility of single parts may cause a different orientation, which will result in a differently observed shape of these parts. The galea (figs 28-30), i.e., the part attached to the base of the maxillary palpus, is generally visible and constant in length, but even this part is sometimes not fully visible (figs 146, 281), owing to the condition of the specimen (especially for measuring its width, or - when its length is to be measured - in precisely recognizing its insertion line near the base of the maxillary palpus).

More recently, revisers (Telenga, 1955; Tobias, 1963, 1976; Nixon, 1986) have been focusing on additional characters, such as the structure of the frons, the presence or absence of a tooth or lobe of the tarsal claws, the ratio between the eye diameter and the malar space, the more or less distinct elongation of the head, the ratio between the length of the veins 1-R1 and 2-R1 of the fore wing (= the two abscissae of the post-marginalis, in the terminology of Nixon, 1986), the number of spines on the middle tibia, and the presence of bulging eyes. Unavoidably, most of such characters were unperceived by the former authors and this makes most original descriptions of *Agathis*, dating from before 1950, of limited use to present day revisers. When - as is often the case in *Agathis* - the types are missing, the species are hard to interpret, and this is an obstacle for anyone trying to up-date the taxonomy of the group. Often new species have been described on the base of only a few specimens, sometimes even based on just one or a few males. The identification keys provided in several contributions often prove to be unsatisfactory when confronted with newly collected specimens or, even with material already present in many European museums.

The most recent catalogue (Shenefelt, 1970) is outdated for *Agathis*, and incorpo-



Figs 21-27, shape of head, frontal aspect; 21, 22, elongate and rectangular; 23, elongate and triangular; 24, moderately elongate and triangular; 25, moderately elongate and rectangular; 26-27, distinctly shortened. Figs 28-35, shape of head, lateral aspect, indicating measurements of length of galea (= g), and the shape of the stemmaticum and ante-ocular area (position indicated with pair of dots and line from antennal sockets to posterior ocellus); 28, prominent area, keel not protruding; 29, strongly protruding and keel absent; 30, 33-34, flat, no keel or depression; 31, moderately prominent (including ante-ocular area), and keel tooth-like protruding; 32, moderately flat, no depression or keel; 35, moderately prominent, keel present.

rates the questionable fusion of the genera *Microdus* Nees, 1814 (= *Bassus* Fabricius) and *Agathis*. Even the recent work of Nixon (1986), although pointing out some new useful diagnostic characters, is rather incomplete from the point of view of the reported names, synonyms, and the status of the investigated species. In addition, it does not take into account borderline species of the West-Palaearctic fauna.

The present paper is not a traditional revision of the genus (the state of confusion of its taxonomy seems to be proportional to the relatively high number of workers on the genus), and the key provided in this paper has to be regarded just as a tentative one. The borders of variation of species are investigated and the available names are given; for practical reasons a traditional key is included even though this key does not show all the variation encountered. This genus needs a much better understanding of the ecology and the ethology of both its members and their hosts, until in combination with the results of modern biomolecular research a real understanding of its members is possible. In addition accurate comparative morphological studies on the same parasitoids reared under different conditions and from different host-species has to be carried out. This paper is just a start to unearth the problems and to create a basis for a more reliable recognition of the species. To facilitate the necessary ongoing research we add the original descriptions of all available names.

An asterisk indicates a new distributional record of the species concerned. For the terminology used in this paper, see van Achterberg (1988: 5-11). For the additional literature up to 1969, see Shenefelt (1970).

Methods

For the way the measurements are taken, and the terminology used, see figs 11-16 and 28-30 and van Achterberg (1988). A few specifications concerning *Agathis* may be added here.

The term "stemmaticum" is used for the ocellar triangle encompassing the three ocelli and the triangular area included between them, and "ante-ocellar area" refers to the small and usually triangular area (figs 11, 14-15) in front of the anterior ocellus, which may be occupied by a real (pit-like) depression, but the area may also appear rather flat, with just a very shallow, hardly noticeable impression.

The degree of elongation of the head is defined by the ratio of the facial length and width, the latter measured as the ventral distance between the eyes. Measurements of the malar space are taken as reported in van Achterberg (1988), but, additionally, a second measurement is taken, placing the specimen's head sideways in the horizontal plane (fig. 30): only when both measurements match is the measurement regarded as reliable. Measurements of the galea are, for the reasons given above, always rather difficult: figs 28-30 show how its length was measured. Length of the eye is the longitudinal diameter of the eye in lateral view; length of the head is measured from the top of the vertex to the ventral rim of the clypeus. The height of the mesosoma is taken as depicted in van Achterberg (1988).

Finally the ratio of the "distal and proximal abscissae of postmarginalis" (= the ratio between vein 1-R1 and 2-R1 of fore wing) is often used by Nixon (1986); however, he does not explain the exact way the veins has to be measured. In fig. 16 it is shown how we take these measurements.

A. External factors influencing the diagnostic quality of measurements in *Agathis*.

To evaluate the real diagnostic meaning of measurements of morphological characters poses problems relating to the interpretation of intraspecific variability. In fact, even in present day advanced computer software for species identification, only rarely (Fortuner & Wong, 1984) is the intraspecific variability of the measurement of a given morphological character taken into account. It is well known that external factors, such as food supply (i.e. host species), ecological conditions and geographical origin may produce considerable variation in the size of specimens within a species. Among the external factors which are usually considered there are some which deserve special attention, adding much to the subjectiveness of the measurement, and these may question the reliability of the use of the measurement as a diagnostic tool. Simply the way a specimen is handled may cause distortion of morphometric information.

For *Agathis*, the plane of orientation of the specimen when being measured is crucial. In theory such a plane, usually strictly horizontal, should be exactly the same for the same morphological character under measurement. A slight variation in positioning a specimen will result in extra variation of the measurements, which is especially dangerous when these measurements - as is the case in *Agathis* - are likely to vary slightly between species. Even at the ratio level, ratios relative to the same morphological structure, measured in two different specimens of which the spatial position at the moment of the measure is not standardised, are likely to blur the picture. Unfortunately, the measurer, even with the most advanced devices, cannot have more than an approximate control of the specimen's spatial orientation while being measured. A strict standardization of such a plane for all the measurements of the same character is virtually impossible to achieve for every specimen.

Thus, when data relative to the size of the same morphological character indicates differences between two samples, it is often hard to detect which share of such a difference is ascribable to real interspecific difference, which one to simple intraspecific variation caused by the usual external factors, and which part is attributable to the measuring methodology itself. It is good to remember, in this respect, that in *Agathis* the problem of the constancy of the orientation affects not only quantitative morphological results, but also the qualitative ones. Good comparison between drawings showing differences in one structure (for instance, the median keel in front of the antecellar area; figs 57-58) between two observed samples, is not possible if there is variation in the spatial orientation of the specimens when the drawings were made. As far as *Agathis* is concerned, a special problem is represented also in drawing the head in facial view. In *Agathis* specimens, the shape of the head in facial view is often an essential character for the separation of species. But, in our experience, to make a drawing of the head in facial view that both represents accurately what is observed under the microscope and the morphometric data taken from the specimen in question is almost impossible. The difficulty is the fact that we are trying to draw a structure which, in reality, is more or less convex; convexity which does not appear (or, at least not in the exact way) in a two-dimensional drawing. The final result of the drawing procedure is thus that often even a carefully made drawing may give a false impression of the real head shape of the specimen, e.g., the drawings of *A. zaisanica* Tobias and *A. pappei* Nixon in this paper. Both species are characterized by a peculiar shape of the head, which is striking for its shortness and its broadness, and appears to be quadrate.

shape of the head, which is striking for its shortness and its broadness, and appears to be quadrate. However, when the drawings of the head in facial view for the two species are compared (figs 52, 158), they look very similar to those of other species (e.g., *A. persephone* Nixon, *A. icarus* Belokobylskij & Jervis, *A. rubens* Tobias; figs 11, 121, 280) of which the heads have more or less different morphometric parameters than the heads of *A. zaisanica* and *A. pappei*.

Also the opposite (but no better situation) occurs: under the microscope the shape of the head looks clearly different in two specimens, however, but no proper morphometric differences could be found between them. In cases in which we have to decide that the specimens belong to different species, we have no means available to quantify the observed difference for the non-specialist.

B. Factors inherent to the specimens influencing the diagnostic quality of measurements in *Agathis*.

The condition of the specimen plays an important role because it may restrict the possibilities for measuring or drawing. The condition of the specimen at the moment of the measurement is usually the combined result of:

- the way the specimen has been caught and subsequently prepared;
- the circumstances in which the specimen died (for instance, females of Braconidae may die with the ovipositor fully or only partly extruded, the mandibles may be widely or moderately open, or entirely closed, the mouth parts completely or only partially extruded, the tarsal claws more or less extended, the head more or less sloping forwards in relation to the body, the metasomal segments more or less extended or the metasoma more or less bent, etc.

- the state of conservation of the specimen. Specimens in a bad state of conservation (as is sometimes the case for old holotypes, which present day taxonomists are still obliged to refer to for recognising the valid name of a given species), obviously will cause more difficulties than well preserved ones when measured. Even when the structure to be measured is entirely present and undamaged, sometimes the delicacy of those specimens and the need to avoid any kind of damage whatever, make it difficult or impossible to position the specimen in the right plane of orientation, to compare it with other specimens of the supposed same species.

- the delicacy by which the specimen is caught, and especially the accuracy by which it is subsequently prepared, are highly important in view of future measurements. Again, the right spatial orientation and its standardisation during the measuring process involving the same morphological structure in several specimens, are often difficult to obtain because the way the specimens have been prepared. For *Agathis*, the worse system in this respect is gluing on a card, but also card-pointing is not ideal for taking measurements. Pinning by minutins, when done from the ventral side of the mesosoma behind the insertion point of the fore legs, seems still the best system. Not all specimens, however, are prepared in such a way. As far as wings are concerned, the only measurement to be reliably taken, for most *Agathis* specimens, is often the wing length: measurements and qualitative data of the hind wing are always to be regarded with much caution, because frequently prepared specimens have the hind wings not well enough visible to allow reliable observations or measurements.

The female's ovipositor sheath is usually of diagnostic importance: thus, prepara-

The female's ovipositor sheath is usually of diagnostic importance: thus, preparation should carefully avoid getting it curved, or worse, rolled up entirely. Provided the ovipositor sheath is not extremely curved, measurement may still take place, but as a factor of distortion is obviously introduced, the measurement may only have an approximative value.

Problems created for the measurer or the observer by bad preparation of the specimens, may in part be overcome by re-preparing the specimens. However, this does not hold when the problem is created by the way the specimen died: for instance, between those specimens of *Agathis* which died with their mouthparts extruded and those with their mouthparts retracted or partly so, etc. Measurements or observations on tarsal claws should only come from specimens with fully extended and clean claws: a condition which, in our overview of the existing *Agathis* specimens, is only rarely met.

We intend to point out that even in modern research, an overall standardization of rules and devices in the methodology of data collecting, both at the level of measurements and at the level of qualitative character descriptions, does not exist. Most is still entrusted to the subjective interpretation and initiative of each researcher. We think, on the contrary, that a joint effort should be made towards an overall standardisation of the descriptions within the same group, if we want taxonomy and systematics to become a modern science.

Diagnostic characters of the genus *Agathis*

The genera *Bassus* Fabricius and *Agathis* Latreille have traditionally been separated on the basis of the shape of the head. The traditional division (based on the relative elongation of the head) has been problematic to taxonomists because some species are intermediate. Muesebeck (1927) and Muesebeck & Walkley (1951) united the two genera, but most subsequent authors have separated them by the shape of the head (Telenga, 1955; Nixon, 1986; Chou & Sharkey, 1989; Simbolotti & van Achterberg, 1992), or on biological grounds (restricting *Agathis* to the species from (semi-) arid areas adapted to drinking the concealed nectar of flowers; Tobias, 1976). Such a separation might be based on the convexity of the clypeus, retaining in *Agathis* all species with distinct convex clypeus, and introducing the *Agathis mediator*-group as an intermediate group (Simbolotti & van Achterberg, 1992). However, the present more extensive examination of *Agathis* material has demonstrated that the separation of the two genera, based on head shape, is effective only if attention is paid to the shape of the malar triangle (figs 11-13) formed by the perpendicular intersection between the prolongation of the longitudinal diameter of the eye and the tangent to the base of the clypeus. The malar triangle always has a characteristic elongate and rectangular shape in *Agathis*-like specimens (fig. 11), but is (nearly) equilateral for *Bassus*-like specimens (figs 12-13). In fact, the triangle seems to show a characteristic elongate and rectangular shape (fig. 13) even in those species which, owing to their very short galea, we formerly placed in the genus *Agathis* (e.g., *Bassus mediator* (Nees, 1814)). Our former separation based on the convexity of the clypeus as the only character seems to be insufficient. The clypeus is in fact more pronounced and distinctly protruding in *Agathis* than in *Bassus*, but the difference is sometimes rather difficult to perceive (figs 18-20), which may give rise to incorrect judgements; this is especially true for species with a

Table 1. Comparison of some Palaearctic species of Agathidinae for two possibly diagnostic characters.

| Character Name | sclerotised hind coxal bridge | ratio 3rd/4th segment of labial palp |
|---|-------------------------------|--------------------------------------|
| <i>Agathis glaucoptera</i> Nees, 1834 | distinct | 0.3-0.5 |
| <i>Agathis syngenesiae</i> Nees, 1814 | indistinct | 0.6-0.8 |
| <i>Agathis umbellatorum</i> Nees, 1814 | narrow or inconspicuous | 0.7-0.8 |
| <i>Bassus mediator</i> (Nees, 1814) | distinct to inconspicuous | 0.5 |
| <i>Bassus conspicuus</i> (Wesmael, 1837) | absent or nearly so | 0.3-0.4 |
| <i>Bassus linguarius</i> (Nees, 1814) | narrow | 0.3-0.4 |
| <i>Bassus rugulosus</i> (Nees, 1834) | (very) narrow | 0.5-0.7 |
| <i>Bassus tumidulus</i> (Nees, 1834) | wide to rather narrow | 0.1-0.3 |
| <i>Earinus gloratorius</i> (Panzer, 1809) | narrow, obsolescent or absent | 0.6-0.7 |

N.B. *Agathis glaucoptera* may have vein 1-SR+M of fore wing present and fits then even three tribes as defined by Sharkey (1992) depending on the character states used!

true for species with a short and minute head (fig. 46). Thus, the combination of the typical equilateral shape of the malar triangle (fig. 13), together with the flat and wider clypeus, should provide a simple and effective diagnostic tool to recognize *Bassus* specimens from *Agathis* ones.

Another character which seems to be of some importance is the ratio between the veins 1-R1 and 2-R1 of fore wing (= distal and proximal parts of the post-marginalis, respectively, in Nixon's terminology; fig. 16). Usually, in *Bassus* the vein 2-R1 is longer than vein 1-R1, although rarely e.g. in *B. pumilus* (Ratzeburg), it is shorter than vein 1-R1 (fig. 92 in Simbolotti & van Achterberg, 1992). In *Agathis* the vein 2-R1 is shorter than vein 1-R1, only rarely of equal length or somewhat longer (*A. syngenesiae* Nees and *A. taurica* Tobias).

Surprisingly, Sharkey (1992) in his paper on the phylogeny of the Agathidinae, assigned these two genera, which are difficult to tell apart, to separate tribes: the genus *Agathis* was included in the tribe Agathidini and the genus *Bassus* in the tribe Microdini! Sharkey (1996) renamed the latter tribe to Eumicrodini, a synonym. The main characters to separate these tribes are the presence or absence of a distinctly sclerotised bridge between the insertions of the hind coxae and the ratio of the length of the third and fourth segments of the labial palp. As shown in table 1 (representing a small selection of Palaearctic species of Agathidinae) these characters do not even suffice to separate the genera and certainly do not support the existence of two tribes. Therefore, the tribe Microdini Ashmead, 1900 (= Eumicrodini Foerster, 1862) is synonymised with the tribe Agathidini Nees, 1814 (**syn. nov.**).

Except for the typical shape of the head in facial view (figs 21-27) and of the characteristic ratio of veins 1-R1 and 2-R1, a clear-cut diagnosis of *Agathis* can not be given; other characters show a too high degree of intraspecific variability. Our way of separating the genera *Agathis* and *Bassus* is primarily a practical one; it has still to be checked by comparison of molecular data and internal morphology to ascertain whether our grouping has a sound phylogenetic basis.

For convenience in this paper the species are treated in alphabetical order, but this does not mean that all species are equally well characterised. The Palaearctic species

of the genus *Agathis* are characterised by forming several species-complexes in which the species are difficult to separate. The most complicated is the group around *A. malvacearum* Latreille (including *A. umbellatarum* Nees and *A. varipes* Thomson); the splitting of the complex into species in this paper is provisional and the key has to be used with caution.

Genus *Agathis* Latreille, 1804

Agathis Latreille, 1804: 173; Shenefelt, 1970: 311; van Achterberg, 1982: 133; Tobias, 1976: 207; Nixon, 1986: 192; Tobias, 1986: 280 (transl. 1995: 487); Chou & Sharkey, 1989: 150; Sharkey, 1996: 6. Type species (first species included): *Agathis malvacearum* Latreille, 1805 (type series lost; neotype designated in this paper).

Cenostomus Foerster, 1862: 246; Shenefelt, 1970: 312 (as synonym of *Agathis* Latreille, 1804). Type species (by original designation): *Cenostomus lugubris* Foerster, 1862 [examined].

Aenigmostomus Ashmead, 1900: 128; Shenefelt, 1970: 308; Chou & Sharkey, 1989: 150-151 (as synonym of *Agathis* Latreille, 1804); Sharkey, 1996: 6 (as synonym of *Agathis* Latreille, 1804). Type species (by original designation): *Microdus longipalpus* Cresson, 1865.

Diagnosis.— Face ventrally elongate, either distinctly tapering (shape of malar triangle less acute; fig. 11), or subparallel-sided (figs 21-22); malar space usually at least half as long as height (= longitudinal diameter) of eye (figs 28-31). Stemmaticum in lateral view of the head flat (figs 32-34) or distinctly prominent (figs 28-29, 31), or rarely intermediate (fig. 30); the ante-ocellar area in front of the anterior ocellus usually with a more or less triangular, depression (figs 14-15), being shallow (fig. 151) or deep (fig. 11). In species in which the stemmaticum is flat, this area is usually also flat (figs 32-34). In lateral view the area may be continued, without any break, by a median keel, which may be more or less protruding between the antennal sockets (fig. 31), or not (fig. 29), or no keel present (figs 32-33), and, in lateral view the keel is distinctly sloping and cut down just where the area ends. It is important to remember that in *Agathis*, in the area between the antennal sockets, when viewed frontally, there is nearly always some median protuberance: only very occasionally it may appear as flat, or as shallow or as a deep median groove, as in *Bassus* (Simbolotti & van Achterberg, 1992). Labio-maxillary complex usually distinctly protruding, with galea often much longer than wide.

Propodeum without areolation, but with two or three more or less distinct medio-longitudinal carinae, which run about parallel to each other. These carinae may be continuous, irregular, interrupted, mingled with coarse rugae and punctation, or sometimes diverge from each other posteriorly. Surface on each side of the carinae mostly smooth, shiny, with a moderate amount of rug(ul)osity present more extensively laterally and anteriorly. In *A. glaucoptera*, *A. syngenesiae* and *A. fuscipennis* the propodeum may be completely coarsely reticulate to punctate-reticulate, with the longitudinal carinae virtually wanting. Notauli usually present and complete, resulting in the typical Y-shaped groove, but sometimes notauli completely wanting; the two conditions (and intermediates) may be present even within the same species (*A. nigra*). Vein 2-R1 of fore wing shorter than vein 1-R1, only rarely of equal length or somewhat longer. Hind coxal cavity usually not separated from metasomal foramen, but sometimes separated by distinct sclerite. Hind trochanter and trochantellus flattened ventrally, not widened in dorsal view and without carinae. For the remaining external morphology,

external morphology, see the diagnosis of the genus *Bassus* by Simbolotti & van Achterberg (1992).

Distribution.— Mainly Holarctic, with some species penetrating in the Afrotropical, Oriental and Neotropical regions.

Biology.— *Agathis* species are solitary koinobiont endoparasitoids (Shaw & Huddleston, 1991) of concealed larvae of Gelechiidae, Coleophoridae, Oecophoridae, Tortricidae, Heliodinidae, Pyraustidae, Cochylidae, Momphidae, Epermeniidae, and Incurvariidae, particularly in flowerheads. According to rearing records an *Agathis* species may parasitise species belonging to different genera within the same lepidopteran family, or belonging to different families (Nixon, 1986), when occurring together in the same micro-habitat. However, the possibility that host identity has been presumed rather than proved in some of these cases needs to be born in mind (Dr M.R. Shaw, in litt.).

Key to West Palaearctic species of the genus *Agathis* Latreille

1. Vertical axis of malar triangle 1.8-3.0 times horizontal axis, part of head below eyes only gradually narrowed ventrally (figs 11, 24, 27) or parallel-sided (figs 22, 25, 66); if 1.6-1.8 times then ante-ocellar area present (fig. 45); area between antennal sockets without pair of tooth-like protuberances (fig. 11); clypeus strongly convex (fig. 45); mouth-parts usually lengthened in form of a beak, galea nearly always much longer than 1.3 times its maximum width (figs 43, 58, 62, 94, 302); propodeal foramen not or slightly removed from metasternal hind coxal cavities, at most separated by a narrow sclerotized bridge; vein 2-R1 shorter than vein 1-R1, rarely as long as vein 1-R1 (figs 61, 95) or somewhat longer (figs 260, 262); labrum often slanted inwards, horizontal (fig. 46); (*Agathis* Latreille) 2
 - Vertical axis of malar triangle 1.2-1.5 times horizontal axis, part of head below eyes directly narrowed ventrally (fig. 12-13); if 1.6-2.0 times then area between antennal sockets with pair of tooth-like protuberances (fig. 12; figs 37-40 in Simbolotti & van Achterberg, 1992); ante-ocellar area absent (figs 12-13); clypeus usually at least partly flattened (fig. 13), only in *Bassus mediator*-group distinctly convex (cf. fig. 45); mouth-parts normal, galea not longer than wide, shorter than labial palp, and usually hardly or not visible in lateral view (cf. fig. 46); bridge between propodeal foramen and metasternal hind coxal cavities variable, often distinctly developed; vein 2-R1 usually longer than vein 1-R1, rarely about as long or somewhat shorter than vein 1-R1; labrum usually normal, vertical; (see revision of West Palaearctic species by Simbolotti & van Achterberg, 1992) *Bassus* Fabricius
 2. Clypeus distinctly separated by deep epistomal suture laterally, and more or less protruding, nose-like (figs 37, 38, 43, 44); second metasomal tergite smooth; mesosoma black; notauli deep; hind femur, tibia and tarsus comparatively slender (figs 40, 42); third segment of hind tarsus 3 times as long as wide and fourth segment twice as long as wide (fig. 40); hind tarsal claws comparatively long and slender (figs 39, 41) *A. gracilipes* Hellén
- Note. If tarsal claws are enlarged but clypeus normal, cf. *Baeognatha* Kokujev, 1903.
- Clypeus usually hardly separated by epistomal suture laterally, at most by a rather

rather weak and narrow groove, truncate ventrally, and slightly or not protruding (figs 45-46, 257-258, 313, 315); if with distinct epistomal suture then mesosoma yellowish dorsally and notauli reduced; if clypeus rather protruding (fig. 141) then epistomal suture obsolescent and second tergite distinctly striate (fig. 142); hind femur and tibia robust (figs 96, 126, 176, 304); hind tarsal segments variable, usually more robust (fig. 198, 206); hind tarsal claws usually normal (figs 265, 277, 286, 298), rarely comparatively long (fig. 112) 3

3. Galea hardly protruding, about as long as wide (figs 46, 51), ante-ocellar area differentiated, triangular (fig. 45), **and** body black; length of ovipositor sheath 0.7-0.8 times fore wing; tarsal claws without distinct acute lobe; antennal segments 20-24; length of fore wing 2-3 mm 4

Note. If no distinct triangular depression in front of anterior ocellus is present, cf. *Bassus brevicaudis* (Reinhard, 1867) or *B. mediator* (Nees, 1814).

- Galea distinctly protruding, distinctly longer than wide (fig. 57); if galea rather short (figs 68, 254), then part of body yellowish, ante-ocellar area not developed (fig. 255) and/or ovipositor sheath longer than fore wing; tarsal claws, number of antennal segments, and length of fore wing variable 5
- 4. Head more slender in frontal view (fig. 45), more narrowed ventrally; vein 1-R1 of fore wing about as long as vein 2-R1 (figs 47, 49); wing membrane slightly infuscate; height of eye 1.8-2.1 times malar space (fig. 46); second submarginal cell of fore wing medium-sized (fig. 47); pterostigma and tegulae dark brown; West Palaearctic *A. lugubris* (Foerster)
- Head robust in frontal view (fig. 52), less narrowed ventrally; vein 1-R1 of fore wing more than twice as long as vein 2-R1 (fig. 50); wing membrane slightly yellowish; height of eye about 1.6 times malar space (fig. 51); second submarginal cell of fore wing minute (fig. 50); pterostigma usually and tegulae yellowish(-brown); Central Asia *A. zaisanica* Tobias
- 5. Face and mesopleuron finely granulate; ovipositor sheath about as long as metasoma; hind femur about 2.5 times longer than wide; apical half of fore wing infuscate, contrasting with subhyaline basal half; second metasomal tergite sculptured *A. dichroptera* Alexeev
- Face and mesopleuron (except for precoxal sulcus) smooth; if more or less granulate (aberrant *A. mongolica* Tobias) then ovipositor sheath much longer than metasoma and hind femur about 3.5 times longer than wide; fore wing largely subhyaline or largely infuscate; second tergite variable 6
- 6. Part of head below eyes parallel-sided (fig. 56; but sometimes rather widened dorsally), elongate in frontal view, second metasomal tergite smooth, area in front of anterior ocellus not elevated (fig. 58) **and** tarsal claws comparatively long and slender (fig. 53); height of head about twice maximum width of face (figs 55, 58); galea micro-sculptured, robust and 1.1-1.4 times as long as eye (figs 57-58); stematicum flat (figs 55-56); ovipositor sheath about equal to length of fore wing *A. montana* Shestakov
- In frontal view head below eyes tapering; if parallel-sided then second tergite regularly striate (fig. 142), area in front of anterior ocellus elevated, crest-like (figs 64, 67, 69), or if head about twice as high as width of face then tarsal claws normal (fig. 93); galea usually less robust and its relative length variable (figs 83, 97, 104,

- 254, 302); stemmaticum often more protruding (figs 81, 114, 119); length of ovipositor sheath variable 7
7. Notauli absent or obsolescent; hind tarsal claw with distinct lobe (figs 105, 112, but minute in *A. fischeri*) 8
- Notauli present (fig. 8), at least anteriorly distinctly impressed and frequently with medio-posterior groove; hind tarsal claw variable 14
8. Length of ovipositor sheath 0.8-1.1 times fore wing; clypeus concave medio-ventrally (figs 100, 111); metasoma of ♀ completely yellowish-brown **and** head robust in frontal view, its width below eyes about 1.3 times combined length of face and clypeus (figs 100, 111); Central Asia, Azerbaidzhan 9
- Length of ovipositor sheath 1.1-1.8 times fore wing; clypeus truncate or somewhat protruding medio-ventrally (figs 116, 121, 126, 131); metasoma of ♀ usually black, if completely yellowish-brown, then head elongate in frontal view, its width below eyes about 1.1 times combined length of face and clypeus (fig. 116); Mediterranean 10
9. Length of ovipositor sheath about 1.1 times fore wing, and about as long as body; ante-ocellar area comparatively long and deeply impressed (fig. 101); occiput and vertex yellowish-brown; no median keel of frons, and no straight continuation of triangular area in lateral view (figs 100, 104); precoxal sulcus largely and propodeal carinae (except anteriorly) absent *A. dzulphensis* Abdinbekova
- Length of ovipositor sheath about 0.8 times fore wing, and about 0.7 times body; ante-ocellar area comparatively short and only medio-longitudinally impressed (figs 107, 111); occiput and vertex black; weak median keel of frons present, in lateral view with straight continuation of triangular area (figs 110, 111); precoxal sulcus partly and propodeal carinae completely developed *A. rubens* Tobias
10. Body almost entirely black; head in frontal view rather short (figs 121, 131, but long in *A. polita* (fig. 126)); second submarginal cell of fore wing more or less triangular (figs 118, 123, 134); precoxal sulcus remaining far removed from posterior margin of mesopleuron, sulcus sometimes completely absent 11
- Body almost entirely yellowish-brown; head in frontal view distinctly elongate (fig. 116); second submarginal cell of fore wing quadrangular (fig. 115); precoxal sulcus reaching posterior margin of mesopleuron *A. fischeri* Zettel & Beyerslan
- Note. If propodeum reticulate (smooth in *A. fischeri*) and height of eye about as long as malar space or shorter, cf. *A. syngenesiae* Nees, 1814.
11. Head less robust in frontal view, maximum width below eyes 0.9-1.1 times length of face and clypeus combined (figs 126, 131); triangular depression in front of anterior ocellus more elongate (figs 127, 129); length of ovipositor sheath 1.2-1.3 times fore wing; longitudinal carinae of propodeum normal or largely absent (fig. 124) 12
- Head more robust in frontal view, maximum width below eyes about 1.3 times length of face and clypeus combined (fig. 121); triangular depression in front of anterior ocellus equilateral (fig. 122); length of ovipositor sheath 1.3-1.6 times fore wing; longitudinal carinae of propodeum comparatively far removed from each other *A. persephone* Nixon
12. Propodeum and first metasomal tergite largely smooth (fig. 124); hind femur of ♀ comparatively slender, ventrally nearly straight (figs 125, 133); galea comparative-

- ly long (figs 128, 130); ante-ocellar area comparatively wide posteriorly (figs 127, 129) 13
- Propodeum medially and first metasomal tergite largely sculptured; hind femur of ♀ robust, ventrally convex (fig. 303); galea somewhat shorter (fig. 297); ante-ocellar area comparatively narrow posteriorly (fig. 296); Europe; (aberrant specimens with reduced notauli and precoxal sulcus) *A. rufipalpis* Nees
13. Maximum width below eyes about 0.9 times length of face and clypeus combined (fig. 126); veins 1-M and 1-CU1 of fore wing yellow; vertex narrow in lateral view (fig. 128); Arabian Peninsula *A. polita* Nixon
- Maximum width below eyes about 1.1 times length of face and clypeus combined (fig. 131); veins 1-M and 1-CU1 of fore wing dark brown; vertex wider in lateral view (fig. 130); Caucasus *A. levis* Abdinbekova
14. Keel between antennal sockets distinctly protruding in dorso-lateral view (figs 64, 67, 69, 76, 80), acute; if sometimes rather weakly so, then galea and labrum (fig. 80) with distinct scaly micro-sculpture; length of ovipositor sheath 0.4-0.9 times fore wing; antennal segments (27-)28-31; depression in front of anterior ocellus triangularly elongate, distinct (figs 66, 77, 79); body black; precoxal sulcus long, frequently complete or nearly so (fig. 70) 15
- Note. If two tooth-like protuberances are present between antennal sockets (fig. 12), cf. *Bassus linguarius* (Nees, 1814). If fourth-sixth segments of maxillary palp are whitish-yellow, cf. *A. duplicata* Shestakov.
- Keel between antennal sockets not protruding in dorso-lateral view (figs 94, 110, 130, 310), obtuse or (largely) absent (figs 104, 144, 286, 281, but more or less acute in *A. rufipalpis* (figs 296, 305) and *A. icarus*, which have ovipositor sheath slightly longer and much longer than fore wing, respectively); galea and labrum largely smooth; number of antennal segments variable, usually less than 28; depression in front of anterior ocellus variable, usually much shorter or absent (figs 82, 92, 100, 126); colour of body variable; precoxal sulcus absent anteriorly (figs 5, 251) 17
15. Ovipositor sheath 0.4-0.6 times fore wing, about as long as metasoma or shorter; galea (and usually labrum) with distinct scaly micro-sculpture; hind basitarsus comparatively robust (figs 318, 319) 16
- Ovipositor sheath 0.8-0.9 times fore wing, about 1.5 times length of metasoma; galea and labrum largely smooth or superficially micro-sculptured; hind basitarsus comparatively slender (fig. 317) *A. assimilis* Kokujev
16. In lateral view vertex narrow and inclivous (figs 69, 72, 76); in frontal view head more tapering below eyes (figs 71, 73-75, 77); scutellar sulcus wide, coarsely and regularly crenulate; face largely smooth, at most punctulate; depression in front of anterior ocellus reaching ocellus (figs 71, 74-75); West and Northeast Palaearctic ...
..... *A. breviseta* Nees
- Vertex in lateral view wider and subhorizontal (figs 80, 81); head in frontal view subparallel-sided below eyes (fig. 79); scutellar sulcus shallow and weakly irregularly sculptured; face densely finely punctate (fig. 79); depression in front of anterior ocellus not reaching ocellus (fig. 79); Southeast Palaearctic (Central Asia)
..... *A. brevis* Tobias
17. Galea acute apically, reaching beyond apex of fore coxa (with head in vertical position; fig. 94), its length usually about equal to height of head, and 1.4-1.9 times height of eye (figs 83, 86, 94); if galea 0.7-0.8 times height of head or 1.2-1.4

- times height of eye then hind femur yellowish- or orange-brown 18
- Galea obtuse apically, not surpassing apex of fore coxa (figs 104, 128, 130, 184, 271, 302), its length at most 0.6 times height of head, and up to 1.4 times height of eye (figs 266, 271); if galea 0.6 times height of head or 1.2-1.4 times height of eye then hind femur black or dark brown 20
18. Precoxal sulcus present medially; stemmaticum distinctly protruding (figs 89, 92); outer side of middle tibia with less than 10 pegs, usually 1-2; head less elongate (figs 89, 92) 19
- Precoxal sulcus absent or nearly so; stemmaticum not distinctly protruding (figs 82, 83); outer side of middle tibia usually with 20-30 pegs; head slightly more elongate (fig. 82) *A. taurica* Telenga
19. Height of eye of ♀ 1.8-2.3 times length of malar space fig. 88); body comparatively gracile and smaller *A. genalis* Telenga
- Height of eye of ♀ 1.5-1.7 times length of malar space (fig. 94); body usually less gracile and larger *A. nigra* Nees
20. Malar space robust in lateral view (fig. 96), height of eye 2.1-2.7 times length of malar space; median keel of frons obtuse (figs 98-99); ovipositor sheath slightly shorter than fore wing; basal half of middle and hind basitarsi largely yellowish-brown; length of mesosoma 1.6-1.9 times its height; ante-ocellar area distinctly protruding (fig. 97) and comparatively wide anteriorly, and frequently with a small round convexity in depression submedially (figs 98-99); second metasomal tergite transverse; vein 2-R1 of fore wing distinctly developed *A. fulmeki* Fischer
- Malar space less robust (figs 110, 114, 120, 130, 310), height of eye of ♀ 0.8-2.0 times length of malar space (figs 120, 130, 297, 310; height of eye of ♂ up to 2.5 times); if 1.8-2.5 times then median keel of frons acute (fig. 296), ovipositor sheath at least somewhat longer than fore wing, ante-ocellar area narrow anteriorly (fig. 296), and basal half of middle and hind basitarsi largely dark brown; length of mesosoma usually less than 1.7 times its height; second tergite and length of vein 2-R1 of fore wing variable 21
21. Posterior half of second metasomal tergite completely and densely sculptured (fig. 142); second submarginal cell of fore wing usually quadrate (fig. 135) 22
- Posterior half of second tergite (largely) smooth (figs 157, 224, 241), at most sparsely sculptured (fig. 200); shape of second submarginal cell of fore wing variable 28
22. Medio-basal area of second metasomal tergite flattened and more or less striate or granulate; ovipositor sheath 1.4-1.6 (rarely 1.25) times as long as fore wing, 1.0-1.3 times body, and 2.5-3.0 (rarely 2.0) times metasoma *A. mongolica* Tobias
- Medio-basal area of second tergite distinctly convex and largely smooth (fig. 142), if sculptured then ovipositor sheath shorter than fore wing; ovipositor sheath 0.6-1.5 times as long as fore wing, 1.1 times body or shorter, and about twice length of metasoma or less 23
23. Head comparatively short and subparallel-sided below eyes (fig. 141); second tergite comparatively coarsely and regularly sculptured (fig. 142); height of eye of ♀ 1.1-1.2 (of ♂ 1.3-1.4) times length of malar space *A. semiaciculata* Ivanov
- Head comparatively elongate and distinctly tapering below eyes (figs 145, 148, 188-190); second tergite comparatively weakly and irregularly (striate-)rugulose

- (fig. 241); height of eye 1.1-1.8 times length of malar space 24
24. Antennae with 18-24 segments, comparatively gracile (figs 143, 174); pale parts of hind tibia infuscate; length of ovipositor sheath 0.8-1.1 times fore wing 25
- Antennae with 24-29(-31) segments, comparatively robust (figs 153, 197, 225); pale parts of hind tibia usually pale yellowish or ivory; length of ovipositor sheath 0.6-1.7 times fore wing 26
25. Subapical antennal segments of ♀ much longer than wide (fig. 143); antennal segments 18-22; precoxal sulcus crenulate *A. sculpturata* Tobias
- Subapical antennal segments of ♀ subquadrate or somewhat longer than wide (fig. 174); antennal segments 21-24; precoxal sulcus smooth or finely crenulate *A. tibialis* Nees
26. Length of ovipositor sheath 0.6-0.9(-1.0) times fore wing; height of eye 1.4-1.8 times length of malar space (figs 149, 195, 203, 211); galea less developed (fig. 149); antennal segments 24-26; second submarginal cell often about as wide as high (figs 213, 221, 235, but triangular in *A. transcaucasica* (fig. 152) and in lectotype of *A. fuscipennis* (fig. 223)); small specimens 27
- Note. If median keel of frons is acute dorso-anteriorly and the head distinctly elongate, cf. couplet 15.
- Length of ovipositor sheath 1.1-1.5 times fore wing; height of eye 1.1-1.4 times length of malar space (figs 244, 246); galea more developed (fig. 244); antennal segments 26-31; second submarginal cell usually higher than wide (figs 239, 249); somewhat larger specimens *A. anglica* Marshall
27. Vein 2-R1 (= distal abscissa of postmarginalis) usually largely absent, at most 0.6 times as long as 1-R1 (figs 236, 239, 248, 249); penultimate segments of antenna of ♀ less robust (fig. 225); ante-ocellar area less elongate (figs 222, 230) and slightly protruding (figs 195-196); central areas of propodeum smooth or rugulose (fig. 214); second metasomal tergite black; marginal cell of fore wing comparatively small (figs 213, 223, 236); vein SR1 of fore wing straight or nearly so (figs 213, 221); West and North Palaearctic *A. fuscipennis* (Zetterstedt)
- Vein 2-R1 normal, about 0.7 times as long as 1-R1 (fig. 152); penultimate segments of antenna of ♀ subquadrate (fig. 153); ante-ocellar area more elongate (fig. 151) and distinctly protruding (fig. 149); central areas of propodeum micro-sculptured; second tergite orange; marginal cell of fore wing comparatively large (fig. 152); vein SR1 of fore wing slightly curved distally (fig. 152); Caucasus *A. transcaucasica* Abdinbekova
- Note. Close to *A. anglica* Marshall (which may also have an orange-brown second tergite) but *A. anglica* has the ante-ocellar area less prominent, vein 2-R1 less developed, and subapical antennal segments of ♀ less robust.
28. Basal width of second metasomal tergite equal to its median length (fig. 157); and marginal cell of fore wing comparatively wide (fig. 154); vein SR1 of fore wing curved distally (fig. 154); medio-basal swelling of second tergite circular (fig. 157); ovipositor sheath about 1.7 times fore wing and about 2.5 times metasoma; vein 2-R1 of fore wing about 0.9 times vein 1-R1 (fig. 154) *A. tatarica* Telenga
- Basal width of second tergite 1.2 times its median length or more (figs 10, 200, 224, 241), if 0.8-1.0 times (figs 282, 291) then marginal cell of fore wing slender and vein SR1 straight distally (fig. 283); medio-basal swelling of second tergite usually transverse elliptical (figs 10, 224, 228, 291); length of ovipositor sheath and length

- of vein 2-R1 of fore wing variable 29
29. Head robust in frontal view, maximum width of head below eyes about 1.4 times length of face and clypeus combined (fig. 158); clypeus convex ventrally (fig. 158); ante-ocellar area without depression **and** frons without median keel (figs 158-159); vein 2-R1 of fore wing almost absent; stemmaticum comparatively flat (figs 158-159) *A. pappei* Nixon
 Note. If first metasomal tergite is smooth, notauli are reduced and metasoma is yellowish-brown, cf. *A. rubens* Tobias (specimens with rather developed notauli).
- Head less robust in frontal view, maximum width of head below eyes 1.2 times length of face and clypeus combined or less (figs 160, 167, 188, 212, 255); if 1.1-1.3 times then median keel in front of ante-ocellar area present (fig. 254, 281); clypeus usually truncate ventrally (figs 6, 181, 190, 222); depression of ante-ocellar area, vein 2-R1 of fore wing, and shape of stemmaticum variable 30
30. Vein 2-R1 of fore wing 0.6 times vein 1-R1 or shorter (figs 169, 179, 213, 239; rarely up to 0.7 times), frons without median keel (figs 205, 226, 237, 244) **and** marginal cell comparatively short (figs 169, 223, 249, 253); ante-ocellar area hardly or not protruding (but large specimens rather developed and may be shortly depressed in *A. anglica*), small; second submarginal cell of fore wing often quadrangular (figs 235, 239, 249) or nearly so (fig. 221); apex of middle tibia more or less infuscate; vein 1-R1 of fore wing more or less widened (figs 169, 187, 213); hind tarsal claws without distinct lobe (figs 216, 243) 31
 Note. To perceive the difference of the frons, the orientation of the specimen is crucial. In figs 57-58 the lateral profile of the head of the same specimen is shown, drawn at two different angles.
- Vein 2-R1 of fore wing longer than 0.6 times vein 1-R1 (figs 256, 260) **and** marginal cell comparatively long (figs 278, 283); if 0.6 times or less then frons with distinct median keel near ante-ocellar area (fig. 270) and/or ante-ocellar area distinct, protruding, medium-sized (figs 271, 274, 275); second submarginal cell of fore wing variable, often more or less triangular (figs 300, 308); colour of apex of middle tibia variable; vein 1-R1 usually slender (figs 269, 283); lobe of hind tarsal claws variable 40
31. Body and pterostigma completely yellowish; ovipositor sheath about as long as fore wing; Kazakhstan *A. verae* Tobias
- Body black, or only metasoma reddish; pterostigma dark brown; length of ovipositor sheath variable 32
32. Metasoma largely reddish (but in ♂ dark beyond middle of fourth tergite), contrasting with black mesosoma and head; hind femur orange-brown; antennal segments 25-26; width of head below eyes about 1.4 times height of face and clypeus combined (fig. 274); precoxal sulcus absent posteriorly; length of ovipositor sheath about 0.7 times fore wing *A. hemirufa* spec. nov.
- Body black, at most basal half of metasoma brownish; colour of hind femur variable, if orange-brown then antenna with 30-34 segments, width of head below eyes about 1.1 times height of face and clypeus combined (figs 160, 167, 172, 188, 237); precoxal sulcus present posteriorly and length of ovipositor sheath 0.8-1.0 times fore wing 33
33. Hind femur orange-brown medially (sometimes dark brown or blackish dorsally and ventrally) **and** height of eye 1.3-1.4 times length of malar space (figs 160, 161,

- 165); antennal segments 30-34; galea comparatively robust (figs 159, 161); length of ovipositor sheath 0.8-1.0 times fore wing; face densely and (rather) long greyish setose (figs 160, 164); parasitoid of Pyralidae *A. griseifrons* Thomson
- Hind femur black or dark brown medially, if yellowish then height of eye 1.5-1.7 times length of malar space (fig. 217); antennal segments 24-31; galea less robust (figs 211, 226); length of ovipositor sheath 0.5-1.7 times fore wing; face distinctly setose but not conspicuously so 34
34. Marginal cell of fore wing small (fig. 169); vein 1-R1 of fore wing strongly widened (fig. 169); length of ovipositor sheath about 0.5 times fore wing and distinctly shorter than metasoma; outer side of middle tibia without pegs submedially *A. rostrata* Tobias
- Marginal cell of fore wing larger (figs 171, 179, 187, 194, 213, 235); if small then vein 1-R1 of fore wing either not widened (fig. 171), or sometimes somewhat widened (fig. 248); length of ovipositor sheath 0.5-1.7 times fore wing and at least as long as metasoma; outer side of middle tibia with 2-4 pegs submedially 35
35. Length of ovipositor sheath about 1.7 times fore wing; clypeus distinctly protruding in lateral view (fig. 170), not continuous with face; head comparatively slender in frontal view (fig. 172); maxillary palp comparatively short, not surpassing apex of galea (fig. 175); Kazakhstan *A. gracilentia* Tobias
- Length of ovipositor sheath 0.6-1.3(-1.5) times fore wing; clypeus continuous with face, not or weakly protruding in lateral view (figs 178, 184, 195, 244 ; except in *A. mandarina*: fig. 182); head usually less slender in frontal view (figs 188, 212, 222, 230); maxillary palp longer, surpassing apex of galea (figs 178, 184, 217) 36
36. Antennae with 18-24 segments, comparatively gracile (figs 143, 174, 185); pale parts of hind tibia infuscate; length of ovipositor sheath 0.8-1.1 times fore wing 37
- Antennae with (22-)24-29(-31) segments, and comparatively robust basally (fig. 197); pale parts of hind tibia often pale yellowish or ivory; length of ovipositor sheath 0.5-1.7 times fore wing 39
37. Subapical antennal segments of ♀ much longer than wide (fig. 143); antennal segments 18-22; precoxal sulcus crenulate *A. sculpturata* Tobias
- Subapical antennal segments of ♀ subquadrate or somewhat longer than wide (figs 174, 185); antennal segments 21-24; precoxal sulcus smooth or finely crenulate 38
38. Precoxal sulcus long, reaching posterior margin of mesopleuron; fore femur of ♀ moderately robust (fig. 176); antenna of ♀ hardly or not widened near its apical third (fig. 174) *A. tibialis* Nees
- Note. *A. mandarina* Kokujev, 1895, from China may belong here; it has the ovipositor sheath much longer than the body and the clypeus distinctly protruding in lateral view (fig. 182), but the last condition may also occur in *A. fuscipennis* (fig. 211).
- Precoxal sulcus absent or short, not reaching posterior margin of mesopleuron; fore femur of ♀ distinctly inflated (fig. 186); antenna of ♀ rather widened near its apical third (fig. 185) *A. asteris* Fischer
39. Length of ovipositor sheath 0.5-0.8(-1.0) times fore wing, usually distinctly shorter than body; height of eye of ♀ 1.4-1.8 times length of malar space (figs 195, 203, 211, 217); antennal segments 24-28; galea less developed (figs 195, 203, 211, longer in holotype of *A. schmiedeknechti*: fig. 217); ante-ocellar area nearly always flat (fig.

211, 231); hind femur may be brownish apically and apical quarter of middle femur yellowish; small specimens *A. fuscipennis* (Zetterstedt)

Note. If vein SR1 of fore wing straight and marginal cell of fore wing (fig. 236) and subapical antennal segments (fig. 234) comparatively slender, cf. *A. extinctor* Papp, 1971, from Mongolia.

- Length of ovipositor sheath 0.9-1.3(-1.5) times fore wing, about as long as body; height of eye of ♀ 1.1-1.5 times length of malar space (figs 244, 246); antennal segments 26-31; galea more developed (figs 244, 246); ante-ocellar area somewhat protruding; hind femur nearly always black(ish) apically and apical quarter of middle femur blackish; somewhat larger specimens *A. anglica* Marshall

Note. If vein 1-R1 (metacarp) of fore wing comparatively long (fig. 1), and hind tarsal claws with large lobe (fig. 3), cf. melanistic specimens of *A. malvacearum* Latreille.

- 40. Fourth-sixth segments of maxillary palp whitish-yellow; area around swelling of second tergite scaly-reticulate; marginal cell of fore wing small and length of pterostigma about twice length of vein 1-R1 (= metacarp) of fore wing (fig. 253); precoxal sulcus reaching posterior margin of mesopleuron

..... *A. duplicata* Shestakov

Note. If median keel of frons is largely absent and the ovipositor sheath is distinctly shorter than fore wing (about 1.2 times in *A. duplicata* Shestakov), cf. *A. fuscipennis* (Zetterstedt), and if ovipositor sheath is longer than fore wing, cf. *A. anglica* Marshall.

- Fourth-sixth segments of maxillary palp yellowish-brown, dark brown or black; area around swelling of second tergite smooth; marginal cell of fore wing larger and length of pterostigma 1.2-1.8 times length of vein 1-R1 of fore wing (fig. 256); precoxal sulcus usually remaining far removed from posterior margin of mesopleuron 41

- 41. Height of eye of ♀ 0.8-1.5 (of ♂ up to 1.4) times malar space (figs 254, 258, 266, 270); if 1.2-1.5 times than mesoscutum (partly) yellowish or orange, and with long medio-posterior groove, and temples more rounded posteriorly (fig. 266) 42

- Height of eye of ♀ 1.2-2.1 (of ♂ up to 2.5) times malar space (figs 275, 281, 285, 292, 302); if 1.2-1.5 times then mesoscutum black, medio-posterior groove of mesoscutum short or indistinct (fig. 8), and temples behind eyes subparallel (fig. 7) 45

- 42. Ovipositor sheath distinctly longer than metasoma, and 0.8-1.9 times fore wing; length of body less than 6 mm; antennal segments 21-32; clypeus normal, not protruding in lateral view (figs 258, 266, 271), and its lateral epistomal groove usually indistinct or narrow (figs 257, 261, 270); ante-ocellar area variable (figs 258, 266, 271); scutellum flat

..... 43

- Length of ovipositor sheath 0.8-0.9 times metasoma, and about 0.5 times fore wing; length of body 6-9 mm; antennal segments 31-34; clypeus protruding, nose-like in lateral view (fig. 254), and its lateral epistomal groove distinct, wide (fig. 255); ante-ocellar area rather flat or absent (figs 254-255); scutellum rather convex

..... *A. glaucoptera* Nees

- 43. Frons normal medially (figs 267, 270), and ante-ocellar area present, often more or less prominent (figs 266, 271); propodeum largely smooth dorsally (except for a pair of carinae medially) or micro-sculptured; head shorter in frontal view (figs 267, 270); second submarginal cell of fore wing slender and (sub)sessile (figs 264, 269); outer side of middle tibia usually with more than 4 robust pegs; frons usually black laterally; scutellum smooth medio-posteriorly

..... 44

- Frons short medially (figs 257, 261), and ante-ocellar area not developed (fig. 257)

or nearly so; propodeum (nearly) completely and coarsely (punctate-)reticulate; head comparatively long in frontal view (figs 257-258); second submarginal cell of fore wing slender and (sub)petiolate (figs 260-262); outer side of middle tibia with 1-3 small pegs; frons usually yellow laterally; scutellum distinctly crenulate medio-posteriorly *A. syngenesiae* Nees

Note.— The hind coxae may be yellow: *A. syngenesiae* var. *tadzhica* Telenga, 1955.

44. Length of ovipositor sheath 1.2-1.5 times fore wing, somewhat longer than body; first metasomal tergite and hind femur less robust *A. umbellatarum* Nees
 Note.— If length of pterostigma 1.6-2.0 times vein 1-R1, hind tarsal claws without lobe or with minute lobe, mesoscutum and hind femur black, cf. *A. anglica* Marshall.
- Length of ovipositor sheath 0.8-0.9 times fore wing, and about 0.8 times as long as meso- and metasoma combined; first tergite and hind femur comparatively robust (fig. 273) *A. nachitshevanica* Abdinbekova
45. Width of head below eye of ♀ 1.4-1.6 times median height of face and clypeus combined (figs 274, 280; unknown in ♂); length of ovipositor sheath 0.7-0.8 times fore wing 46
- Width of head below eyes of ♀ 1.0-1.3 times median height of face and clypeus combined (figs 284, 289, 296, 305, 311, 314; in ♂ up to 1.4 times); length of ovipositor sheath 1.0-1.7 times fore wing 47
46. Frons without median keel, but with weak convexity submedially (figs 274-275); tarsal claws without distinct basal lobe (fig. 277); height of eye 1.2-1.45 times length of malar space (fig. 275); metasoma (except narrowly basally and apically) reddish, but in ♂ dark beyond middle of fourth tergite; basal half of wing membrane dark brown; width of head below eyes 1.4 times height of face and clypeus combined (fig. 274); stemmaticum not prominent (fig. 275) *A. hemirufa* spec. nov.
- Frons with median keel (figs 280-281); tarsal claws with distinct basal lobe; height of eye 1.5-1.6 times length of malar space (fig. 281); metasoma (except at most second and third tergites) black; basal half of wing membrane pale yellowish; width of head below eyes 1.6 times height of face and clypeus combined (fig. 280); stemmaticum distinctly prominent (fig. 281) *A. ferulae* Tobias
47. Second metasomal tergite 1.0-1.3 times as long as wide basally (figs 282, 291); first metasomal tergite slender (figs 282, 288); subapical segments of antenna comparatively robust; West Mediterranean 48
- Second tergite 0.6-0.8 times as long as wide basally (fig. 10); first tergite robust (fig. 10); subapical segments of antenna variable; Palaearctic (excluding Mediterranean area) 49
48. Second metasomal tergite 1.2-1.3 times as long as wide basally (fig. 282); length of ovipositor sheath 1.9-2.1 times fore wing and 2.8-3.5 times length of metasoma; first metasomal tergite more elongate (fig. 282), its length usually more than 1.45 times its apical width; antenna of ♀ not widened subapically; hind tibia without subbasal dark brown ring *A. icarus* Belokobylskij & Jervis
- Second tergite about as long as wide basally (fig. 291); length of ovipositor sheath 1.1-1.6 times length of fore wing and less than 2.5 times metasoma; first tergite less elongate (figs 288, 294), its length less than 1.45 times its apical width; antenna of ♀ somewhat widened subapically; dark brown subbasal ring of hind tibia usually distinct *A. pedias* Nixon
- Note. Length of the ovipositor sheath of typical *A. pedias* is 1.1-1.2 times fore wing, but we

have seen specimens from Algeria (Oran) and S. France (Toulon; MNHN) which have a longer ovipositor (1.4-1.6 times fore wing) and subbasal infuscation of hind tibia usually absent. However, because no other differences could be detected we refrain from describing this variety.

49. Ante-ocellar area prominent and with a distinct impression medially (figs 296, 305); median keel of frons more or less developed (figs 6, 296, 305); length of ovipositor sheath 1.0-1.7 times fore wing; hind tarsal claws usually with medium-sized to large lobe (figs 3, 298); colour of hind femur variable 50
- Ante-ocellar area not or scarcely prominent, and with at most a shallow impression (fig. 313); median keel of frons absent or obsolescent; length of ovipositor sheath 0.9-1.3(-1.5) times fore wing; hind femur completely black (except in aberrant specimens of *A. varipes* and *A. anglica*); hind tarsal claws without lobe or lobe rather small (fig. 243)..... 52
50. Hind femur bicoloured, basally blackish and apically yellowish or brownish, rarely dark brown apically or completely yellowish; if completely blackish then ante-ocellar area with short semi-circular depression or shortly triangular (figs 311-312, 314), if triangularly depressed then head less tapered ventrad (fig. 311); outer side of middle tibia usually with less than 6 pegs above apical patch 51
- Hind femur (nearly) entirely black **and** head strongly tapering ventrad in frontal view (figs 296, 305); depression of ante-ocellar area usually long triangular (figs 296, 305); row on outer side of middle tibia with 4-8(-13) pegs above apical patch .
..... *A. rufipalpis* Nees

Note. If vertex is flattened in lateral view and basal half of hind basitarsus largely yellowish, cf. *A. fulmeki*. If hind femur is comparatively slender (fig. 125) and notauli are weakly developed, cf. *A. polita*. If depression of ante-ocellar area short and hind femur narrowly yellowish or orange-brown, cf. *A. anglica*.

51. Head more tapering ventrad in frontal view (fig. 6), maximum width of head of ♀ (including eyes) 2.6-2.9 times minimum width of head near bases of mandibles, (males as low as 2.3 times); antennal segments of ♀ 25-31 (some males as few as 21); in lateral view temple flattened dorsally and somewhat widened (figs 2, 302); hind tarsal claws nearly always with large lobe (fig. 3); second metasomal tergite orange-brown (but may be black in males); depression of ante-ocellar area short, subcircular (fig. 6); malar space less robust in lateral view (fig. 302)
..... *A. malvacearum* Latreille
- Head less tapering ventrad in frontal view (figs 311-312, 314), maximum width of head of ♀ (including eyes) 2.1-2.6 times minimum width of head near bases of mandibles; antennal segments of ♀ ♂ 21-26; in lateral view temple convex dorsally and usually hardly or not widened (fig. 310); hind tarsal claws with medium-sized to small lobe; second tergite often black or dark (reddish-)brown; depression of ante-ocellar area longer, (sub-)triangular (figs 311-312, 314); malar space very robust in lateral view (fig. 307, 310, 315) *A. varipes* Thomson

Notes. Some *A. varipes* (especially from southern Europe) have the metasoma coloured as in *A. malvacearum*. *A. varipes* var. *simulatrix* Kokujev usually has a longer ovipositor sheath (1.4-1.7 times fore wing, but 1.2 times occurs, which is the same as in the lectotype of *A. varipes*), vein 1-R1 of fore wing 1.6-2.0 times vein 2-R1 and somewhat larger body than typical *A. varipes*. *A. varipes* var. *serratae* Tobias is similar to var. *simulatrix* but even larger specimens occur (up to 6.5 mm), with dark subbasal ring of hind tibia present, and second submarginal cell of fore wing comparatively large (fig. 316). If face is densely greyish setose and second tergite black, cf. *A. griseifrons*. Some *A. anglica* may have a rather distinctly developed ante-ocellar area or apex of hind femur yellowish, but they lack the robust malar space of *A. varipes*.

52. Medio-basal swelling of second tergite normal, remaining far removed from lateral margins of tergite (cf. fig. 224); ante-ocellar area more or less developed (figs 247, 312); in lateral view clypeus frequently slightly protruding (figs 246, 310); length of ovipositor sheath 1.0-1.3(-1.5) times fore wing 53
- Medio-basal swelling of second tergite wide, comparatively flat, almost reaching lateral margins of tergite (cf. fig. 241); ante-ocellar area absent (fig. 313); in lateral view clypeus not protruding compared with face (fig. 315); length of ovipositor sheath 0.9-1.0 times fore wing *A. melpomene* Nixon
53. Marginal cell of fore wing comparatively short (figs 239, 248); malar space less robust in lateral view (figs 244, 246); second submarginal cell of fore wing robust (figs 239, 248) *A. anglica* Marshall
- Note. Aberrant specimens of *A. anglica* with rather long vein 2-R1 of fore wing and rather prominent ante-ocellar area will key out here.
- Marginal cell of fore wing comparatively elongate (fig. 308); malar space very robust in lateral view (figs 307, 310); second submarginal cell of fore wing more slender (fig. 308) *A. varipes* Thomson
- Note. Aberrant specimens with reduced ante-ocellar area will key out here.

Notes.— The types of *Agathis tadhica* Telenga, 1955, *A. tatarica* Telenga, 1933, *A. sibirica* Telenga, 1933, and *A. genualis* Marshall, 1898, are lost. Telenga's description of *A. tadhica* is very detailed, although he does not mention much about the length of the mouth-parts of the species. Nevertheless, it is possible to infer, from the whole description, that *A. tadhica* must have been an entirely reddish-yellow species very close to *A. syngenesiae*, mainly differing by the smooth notauli, and the sessile second submarginal cell of the fore wing. Considering the general variability of these characters, we synonymise *A. tadhica* with *A. syngenesiae* Nees.

The cases of *A. sibirica* Telenga and *A. tatarica* Telenga are different. Being aware of the very high degree of intraspecific variability present in the genus *Agathis*, it is obvious to us that the original descriptions provided by Telenga for *A. sibirica* and *A. tatarica* do not present many relevant clues. The most important clue for *A. sibirica* is the rectangular and narrow second submarginal cell, with vein SR1 straight. Hardly enough to characterise an *Agathis* species! It could be a valuable clue, but in the absence of a drawing of the second submarginal cell it is hard to be confident that Telenga's statement that the cell is really rectangular and twice higher than wide is accurately based on a real measurement. Also the other characters given (such as the malar space as long as the eye, the galea as long as the head, palpi black, antenna with 27 segments, the propodeum and the first metasomal tergite rugulose, ovipositor sheath 0.85 times body) are not very discriminating and cannot be interpreted without material from the type locality (types of both nominal taxa are from Siberia (Amur area, and from Leninsk)). *A. tatarica* is recognised on the basis of the lectotype of *A. t. var. kiritshenkoi* Tobias, 1963, which fits the original description of *A. tatarica* Telenga well, especially concerning the shape of the brownish quadrate second metasomal tergite (fig. 157).

According to Marshall's (1898) own statement *A. genualis* Marshall is similar to *A. anglica*, but differs by the lower number of antennal segments, which fits with *A. tibialis* Nees.

Descriptions

Agathis anglica Marshall, 1885

(figs 237-249)

Agathis anglica Marshall, 1885: 265 ("Ater, femorum anteriorum apice late, tibiisque, testaceis, posterioribus apice fuscis, ante basin obsolete fusco annulatis, tarsis fuscis. Alae infuscatae, squamulis, stigmatibus, nervis, nigricantibus. Antennae ♂ ♀ 29-31-articulate. Rostrum quam *A. nigrae* multo brevius. Caput, mesothorax, scutellum, laevia, nitida; metathorax subrugulosus, feminae nonnihil laevior, carinis 2 longitudinalibus approximatis, postice divergentibus. Segmentum 1mum ut in sp. praecedente [i.e. *A. nigra*] conformatum, sed basi laeve, alioquin aciculatum; caetera laevia, nitida; segmentum 2 ut in sp. praecedente. Areola radialis minuta, stigmatibus minor; radii abscissa 2da obsoleta, 3tia nonnihil curvata, introrsum concava; areola cubitalis 2da tenuissima, fere obsoleta, subtriangularis. Terebra corpori longitudine aequalis. So like the preceding [= *A. nigra*] that it will suffice to point out the differences. Posterior tibiae with a dusky ring before the base; wings less deeply tinted; antennae with more joints; rostrum much shorter; segment 1 smooth at the base, aciculated behind; radial areolet shorter; 3rd abscissa of the radius curved; areolet not petiolated; terebra not longer than the body. ♂ ♀. Length $1\frac{2}{3}$; wings, $2\frac{1}{4}$ lin. Commoner than *A. nigra*; I have taken several specimens, though only one male and two females now remains, captured at Milford Haven. W.H.B. Fletcher has bred a ♀ from *Coleophora albitarsella* Zell. or *discordella* Zell., and a ♂ from *Depressaria nervosa* Haw."); Shenefelt, 1970: 316; Nixon, 1986: 200-201, figs 18, 49 (supposed holotype listed); Zettel & Beyarslan, 1992: 124.

Agathis longicauda Kokujev, 1895: 385 (not Boheman, 1853); Shenefelt, 1970: 331 (as synonym of *A. duplicata* Shestakov, 1928). **Syn. nov.**

?*Agathis nigra* var. *marshalli* Fahringer, 1937: 469 ("Rostrum kaum länger als der Kopf. Fühler 26-31-gliedrig. 2. Rcu-zelle sitzend, annähernd viereckig, in dem eine kurze 2. Abscisse des Radius erkennbar ist. Bohrer von Körperlänge. Länge 5 mm. Schwarz; Schenkel rot, mehr oder weniger geschwärzt (an der Basis oder an der Spitze). Die Hinterschienen gelblich mit schwarzer Spitze und mitunter mit schwarzem Ring nahe der Basis. Sonst von *nigra* f. typ. nicht verschieden. Hierher gehört wohl auch die ab. *castanea* m. Endrand des 1. und Basis des 2. Tergites pechbraun. 2. Rc-zelle sitzend. Die Var. *Marshalli* m. samt ihrer ab. *castanea* m. bildet besser eine eigene Art. Da mir aber die Marshallschen Typen nicht bekannt sind, auch die Unterscheidung von *nigra* Nees und *anglica* Marsh. nicht leicht ist, mag sie hier stehen bleiben. Europa."); Shenefelt, 1970: 346 [types lost?].

Agathis albanica Fischer, 1957: 3 ("Weibchen. Kopf: Doppelt so breit wie lang, Hinterhaupt sehr stark gebuchtet, letzteres glatt und nicht behaart; Augenränder und Stirn kurz behaart, Gesicht lang und greis behaart; Ocellen im Dreieck stehend und etwas vortretend; Wangen fast länger als die Augen, Rostrum so lang wie die Wangen; Fühler wenig kürzer als der Körper, 29gliedrig, das dritte Fühlerglied am längsten, von da an nehmen die Fühlerglieder an Länge gegen das Ende zu allmählich ab; Schaft fast doppelt so breit wie das dritte Fühlerglied. Thorax: Mesonotum kurz behaart, Notauli mit eingestochenen Punkten, sie vereinigen sich in einem Längsgrübchen auf der Scheibe, Mesonotalränder von einer Reihe eingestochener Punkte begleitet; Scutellum glatt, Postscutellum fast ganz glatt, Propodeum mit zwei parallelen, nach hinten sehr wenig divergierenden, deutlichen Längskielen, der Raum zwischen den Kielen glänzend und nur wenig uneben, seitlich neben den Kielen gerunzelt, die Seiten des Propodeums breiter und stärker gerunzelt und auch der Vorderrand von einem runzeligen Streifen begleitet, das übrige Propodeum glatt und glänzend; Seiten des Prothorax glatt und glänzend, Vorder- und Hinterrand von einer Reihe eingestochener Punkte begleitet, vorne etwas runzelig; Mesopleuren glatt und glänzend, Sternauli scharf krenuliert und reichen bis an den Hinterrand, hintere Mesopleuralfurche stark krenuliert, vordere schwach krenuliert, obere schwach chagriniert. Beine normal gebaut. Flügel: braun getrübt, Areola viereckig, oben wenig schmaler als unten, r2 etwa gleich lang wie r1, r3 fast gerade; Media fast ganz erloschen, ebenso der erste Cubitalabschnitt, sodaß Cubital- und Discoidalzelle verschmolzen sind; cu3 und n. par. nur als Flügelfalten angedeutet;

Radialzelle im Hinterflügel gestielt, Radius fast erloschen. Abdomen: Erstes Tergit etwa so lang wie hinten breit, vorne um ein Viertel schmaler als hinten, längsrisbig, hinterstes Fünftel glatt, Seitenkiele nur im vorderen Drittel scharf und gut sichtbar, dazwischen ausgehöhlt und glatt, erstes Tergit besonders an den Seiten fein weiß behaart; zweites Tergit um zwei Drittel breiter als lang, ganz glatt, mit flachem Quereindruck, die folgenden Tergite glatt, Bohrer so lang wie der Koper. Färbung: Schwarz. Rot sind: Vorderschenkel mit Ausnahme der Basis, Vorderschienen, Vordertarsen mit Ausnahme der beiden Endglieder, Spitzen der Mittelschenkel, Mittelschienen mit Ausnahme der Spitzen, Basis der Mitteltarsen, Bohrer. Weiß sind: Hinterschienen mit Ausnahme der schwarzen Spitzen und einem ebensolchen Ring nahe der Basis, Basis der hinteren Metatarsen. Flügelernatur braun. Länge: 4.38 mm. Anmerkung: Der Bestimmungsschlüssel von Telenga (l.c.) führt diese Art zu *A. assimilis* Kok. Sie unterscheidet sich von dieser aber durch das stark und lang behaarte Gesicht sowie durch den etwas längeren Bohrer; sonst der *A. griseifrons* Thoms. sehr ähnlich, unterscheidet sich jedoch von dieser Art durch die ganz schwarzen Hinterschenkel und den längeren Bohrer.); Shenefelt, 1970: 315; Nixon, 1986: 200 (as synonym of *A. anglica* Marshall, 1885, having second metasomal tergite smooth.) [examined]. **Syn. nov.**

Agathis syriaca Fischer, 1957: 5-6 ("Weibchen. Kopf: doppelt so breit wie lang, Schläfen fast so lang wie die Augen, Hinterhaupt sehr stark gebuchtet, glatt und glänzend, fein punktiert und behaart, Ocellen wenig vorstehend, Wangen so lang wie die Augen, Gesicht und Wangen ziemlich dicht weisslich behaart; Rostrum etwas länger als die Wangen; Fühler 27gliedrig, etwas kürzer als der Körper, Schaft doppelt so breit wie die Geisselglieder, Fühlerglieder gegen das Ende zu allmählich kürzer werdend, das erste Geisselglied viermal so lang wie dick, das vorletzte nur um ein Viertel länger als dick. Thorax: Mesonotum gleichmässig fein behaart, Notauli scharf und punktiert, Schildchen glatt, Propodeum mit drei Längskielen, alle drei, besonders der mittlere etwas unregelmässig, die beiden äusseren hinten stark divergierend und durch einen Querkiel am Hinterrand des Propodeums verbunden, Propodeum nur ganz unmittelbar neben den Kielen etwas gerunzelt, sonst glatt und nach aussen zu uneben werdend, diese Unebenheit geht am Rande in eine richtige Runzelung über; Seiten des Prothorax glatt, Sterauli schmal krenuliert und reichen bis an den Hinterrand, hintere Mesopleuralfurche kräftig krenuliert, vordere fein krenuliert; Beine von normaler Länge, Hinterschenkel weniger als dreimal so lang wie dick. Flügel: leicht braun getrübt, Arerola deutlich viereckig, sonst vom Typus der Gattung. Abdomen: erstes Tergit um ein Drittel länger als hinten breit, nach vorne gleichmässig verschmälert, deutlich längsgestreift, die Längsstreifung verliert sich gegen den Hinterrand, seitliche Kiele und Höcker fehlen. zweites Tergit mit seichem Quereindruck, der eine geringe Skulptur aufweist, der übrige Hinterleib ganz glatt; Bohrer so lang wie der Körper, Bohrerklappen lang behaart. Färbung: schwarz. Maxillartaster vom 2. Glied an gerötet. Braun sind: Mundwerkzeuge, Flügelernatur, Vorderschenkel mit Ausnahme der Basis, Spitzen der Mittel- und Hinterschenkel, Vorder- und Mitteltibien, Vorder- und Mitteltarsen grösstenteils; Hinterschienen weiss mit breiter schwarzer Spitze und schwarzem Ring nahe der Basis; hintere Tibialsporne und Basis der hinteren Metatarsen weiss, der Rest der Hintertarsen schwarz. Körperlänge: 4,84 mm. Männchen: unbekannt. Fundort: Ladiklye, N. Syrien, Mai 1885, leg. E. Leuthner, 2 ♀♀. Holotypus: 1 ♀ im Naturhistorischen Museum, Wien. Anmerkung: die Bestimmungstabelle von Telenga (l.c.) bringt diese Art in die Verwandtschaft von *A. rufipalpis* Nees. Sie unterscheidet sich von dieser Art jedoch besonders durch die drei Kiele auf dem Propodeum und den viel längeren Bohrer."); Shenefelt, 1970: 359; Zettel & Beyarslan, 1992: 125-126 [examined]. **Syn. nov.**

Agathis caucasica Tobias, 1963: 877 (only described in key), 1964: 64 (full description: "Differs from *A. malvaearum* Latr. as follows: second tergite sculptured around median area, metasoma almost entirely red with hind femur black. Female. Body length 4.5 mm. Height of head equal to its width. Transverse diameter of eye (dorsal view) 3 times length of temple. Ocelli in obtuse triangle, width of its base twice OOL. Frons with longitudinal carina, which is divergent behind middle of 2 carinae towards anterior ocellus. Transverse diameter of eye nearly 0.5 times of longitudinal one. Cheek height 0.5 times longitudinal diameter of eye. Proboscis as long as height of face. Antenna slightly shorter than body, 29-segmented. First flagellar segment 4 times as long as wide. Segments in apical third of antenna almost square. Length of thorax twice its height.

Notauli and sternaui distinct and sculptured. Second radiomedial [= submarginal] cell of fore wing quadrangular. Hind femur 5 times as long as wide. Large spur of hind tibia nearly 0.33 times as long as basitarsus. Fifth tarsal segment equal to third, less than second. Length of first metasomal tergite half longer than its apical width; length of second tergite 0.5 times its width. Ovipositor sheath slightly longer than body. Propodeum smooth, laterally and near both median longitudinal carinae sculptured. First metasomal tergite sculptured, smooth apically. Second tergite smooth, finely sculptured around median area. Black; fore femur (except base), median femur apically, fore tibia entirely and median tibia (except apex) yellowish red. Basal two thirds of hind tibia pale yellow with brown bent in base. Apex of median and hind tibiae and tarsi entirely brown. Metasoma (except its apex and median part first tergite) reddish brown. Wings infusate. Male unknown. Holotype, female, N. Caucasus, Severo-Osetinskaya ASSR, Salgi, 5.viii.1927 (A. Kiritshenko)." Translated from Russian., 1986: 283 (transl. 1995: 494); Shenefelt, 1970: 324. **Syn. nov.**

Agathis taiwanensis Chou & Sharkey, 1989: 150, figs 1, 40, 73, 106, 139, 171, 203, 239, 272 ("Female: head 1.9-2.0 times as wide as long and 1.3 times wider than mesonotum. Vertex sparsely minutely punctate. Inter-ocellar distance 0.70 times ocello-ocular distance and 1.8 times distance between anterior and lateral ocelli. Frons sparsely minutely punctate except frontal depression smooth; frontal depression shallow. Antenna 26-27 segmented; scape 1.8 times as long as wide, first flagellomere 3.1 times as long as wide. Face 1.2 times as wide as eye height and 0.63-0.64 times as wide as head; face and clypeus moderately densely finely punctate, 0.88-0.92 times as high as face width; tentorio-ocular line 0.92-1.0 times intertentorial line; malar space 2.8-3.4 times basal width of mandible and 0.63-0.76 times eye height. Galea 2.1-2.8 times as long as wide, 1.0-1.1 times as long as malar space. Mesosoma 1.6 times as long as high. Pronotum moderately densely minutely punctate to rugulose along anterior margin, moderately densely minutely punctate along dorsal and ventral margins; rest smooth; posterior margin of pronotum weakly carinate. Mesoscutum moderately densely minutely punctate; notauli distinct and complete, weakly crenulate; scutellar furrow with 5 longitudinal carinae; scutellum sparsely minutely punctate, without apical and lateral carinae. Mesopleuron moderately densely minutely punctate along anterior, dorsal and posterior margins and below sternaulus, rest of mesopleuron smooth; sternaulus distinct, crenulate, 0.6 times length of mesopleuron. Metapleuron moderately densely minutely punctate rugulose along ventral and posterior margins. Propodeum weakly rugulose medially, smooth laterally. Propodeum with two distinct longitudinal carinae converging into one carina anteromedially. Propodeal pseudosternite reduced, lacking transverse carina. Hind coxal cavity open. Fore wing 2.8 times as long as wide; stigma 2.5 times as long as wide; vein 2-R1 of fore wing 0.47 times 1-R1 vein 1cu-a of fore wing postfurcal. Outer side of middle tibia with 3-4 spines; inner middle tibial spur 0.50-0.61 times basitarsomere; hind coxa sparsely minutely punctate; hind femur 3.1-3.3 times longer than wide; inner hind tibial spur 0.42 times as long as basitarsomere. First tergum weakly to strongly costate; 1.0-1.1 times as long as wide apically; second tergum raised anteromedially, almost smooth to weakly costate around raised area, 0.56 times as long as wide; third tergum 0.43-0.47 times as long as wide. Ovipositor sheath 1.0 times as long as fore wing. Color: black. Antenna dark brown; scape and pedicel black. Wings hyaline, with brownish ting[e]; stigma and veins brown to dark brown. Legs dark brown; coxae black, apical half of fore femur, fore tibia and tarsus, and apex of middle femur yellowish brown, middle tibia and tarsus lighter, hind tibia pale yellow on basal 0.6, with brown basal ring, hind tarsus lighter. Ovipositor sheath dark brown. Measurements: body 3.4-3.5 mm, antenna 3.0-3.3 mm, fore wing 2.4-3.0 mm, ovipositor sheath 2.5-2.9 mm. Male: similar to female. Holotype: ♀, Tungpu, 28.iv.-2.v.1981 (TL & CJL). Paratypes: Lushan, 1 ♂, 27-31.v.1980 (KSL & LYC). Ouluapi, 1 ♀, 26.v.1982 (KCC & CCP). Tungpu, 1 ♂, 28-29.vi.1978 (LYC); & 1 ♂, 28.iv.-2.v.1981 (TL & CJL). Distribution: Taiwan. Host: unknown. Remarks: this species differs from most other species of *Agathis* in the following characters: antenna 26-27-segmented, galea 2.1-2.8 times long as wide, body length 3.4-3.5 mm and ovipositor sheath shorter than body. Etymology: named after Taiwan."). **Syn. nov.**

Material.— Holotype of *A. albanica*, ♀ (NMW), “Albanie exped., Kula Ljums 7-14.vi.[19]18”, “*Agathis albanica* det. Fischer”, “*Agathis griseifrons* Th., det. Dr. Fahringer”, “Holotype”; holotype of *A. syriaca*, ♀ (NMW), “N. Syrien, Lâkikyè, v.1885, Dr. E. Leuthner”, “*Agathis*, det. Dr. Fahringer”, “Holotype”, “*Agathis syriaca* n. sp., det. Fischer”; holotype of *A. caucasica*, ♀ (ZISP), “[Russia, N. Caucasus], Salgi, Ingutsiya, 54 62', Tersk. obl., 5.viii.[1]927, [A.] Kiritschenko”, “Holotypus *Agathis causicum* Tobias”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi [Mts], Bojno, 6.vii.1976, A. Zaykov”, “*Agathis glabricula* Th., det. G.E.J. Nixon, 1984”; 1 ♀ (RMNH), “[Bulgaria], S. gora, P. colonii, 2.vii.[19]94, [A.] Zaykov”; 3 ♀ ♀ (RMNH), “[Bulgaria], Rhodopi, Bojno, 24.vii.1975, A. Zaykov”; 4 ♀ ♀ + 1 ♂ (RMNH), id., but 6.vii.1970 (1 ♀ “*Agathis glabricula* Th. det. G.E.J. Nixon, 1984”); 1 ♂ (RMNH), id., but 27.vii.1975; 3 ♀ ♀ (RMNH), “[Bulgaria], Rhodopi, Sh. poljana, 22.v.1977, A. Zaykov”; 1 ♀ (RMNH), id., but 11.vi.1976; 1 ♀ (RMNH), id., but 13.vii.1977; 1 ♀ (RMNH), “[Bulgaria], Semkovo, 6.viii.1985, [A.] Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Manora, 20.vii.1976, [A.] Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, h. Aida, 5.vi.1976, A. Zaykov”; 2 ♀ ♀ (RMNH), “[Bulgaria], Rhodopi, Popsko, 21.v.1977, A. Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, Shepelare, 25.vi.1977, A. Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, Ivailovgrad, 19.v.1978, A. Zaykov”; 1 ♀ (RMNH), id., but 20.vi.1976; 1 ♀ (RMNH), id., but 30.vi.1976; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, Konush, 3.vi.1976, A. Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Nikolovo, 30.v.1977, [A.] Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Bojkovo, 24.vii.1975, [A.] Zaykov”; 1 ♀ (RMNH), id., but 5.vii.1977; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, D. Lukovo, 20.v.1977, A. Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, n. Zdravets, 30.vii.1978, A. Zaykov”, “*Agathis glabricula* Th., det. G.E.J. Nixon, 1984”; 2 ♀ ♀ (RMNH), “[Bulgaria], Mandrisa, 19.vi.1976, A. Zaykov”; 1 ♂ (BC), “Bolgarija, 30 km SV G. Deltsev, 950 m, lug, 20.vii.[1]978, Balevski”; 2 ♀ ♀ (RMNH), “SW Bulgaria, Melnik, near Petric, Mal[aise] tr[ap] 6, c. 450 m, 11.v-12.vi.1998, C. v. Achterberg, R. de Vries, P.V. Atanassova, RMNH'98”; 1 ♀ (RMNH), id. but 12.vi-14.vii.1998; 1 ♀ (RMNH), id. but 15.viii-24.ix.1998; 1 ♀ (RMNH), “France, Limoux, 27.vi.[19]96, E.A.M. Speijer”; 1 ♀ (MNHN), “[France], Chartrettes, 26.viii. [19]45”; 1 ♀ (MNHN), “[France], H[au]te Savoie, Megève, 24.vii.[19]76, [J. de Gaulle]”; 1 ♀ (MNHN), “[France], Col de Vars, 7.viii.[19]50, B.A. Granger”; 1 ♀ (RSM), “France: H[au]te Alpes, Briançon distr., Prelles, col. 21.vii. [19]91/178, banded [larva] ?*Depress[ia]*. on spindly Umbel., PLE vii.[19]91, [M.R. Shaw]”, “em. 6.viii.[19]91”; 1 ♀ (RSM), id., but 19.vii.1991, M.R. Shaw; 1 ♀ (RSM), “[England], Oxon, Goring, ex *Synopacma taeniolella* [on] *Lotus corniculatus*, 4590, em. 7.vi.1990, M.F.V. Corley”; 1 ♀ (RSM), “[England], Wilts, Tilshead, ex *Agonopterix pallorella* [on] *Centaurea scabiosa*, [coll.] 28.vii.[19]91, em. viii.1991, J.R. Langmaid”; 1 ♂ (RSM), Tilshead, but em. 23.v.1985, from unidentified larva in spinning on *Lotus corniculatus*, coll. 4.v.1985, E.C. Pelham-Clinton”; 2 ♀ ♀ (RMNH), “[Netherlands], Bergen a[an] Zee, vii-viii.1977, from flowers of *Anthyllus vulneraria*, A. Duijkeren”, “Ex *Aproaerema anthyllidella* [(Hübner, 1813; Gelechiidae)] (= *Anacamptis a.*) in seeds of *Anthyllis* and its flower petals”, “*Agathis glabricula* Th., det. G.E.J. Nixon, 1984”; 1 ♀ (ZIL), “[Sweden], Ihr, 1817, [Thomson]”; 1 ♀ (ZIL), “[Sweden], Drp [?], [Thomson]”; 2 ♀ ♀ + 1 ♂ (RMNH), “German Dem. Rep., NSG Wernsdorfer See (nr Berlin), i.vii.1979, G.N. Wendt”; 1 ♀ (RMNH), “[?Germany], Birkf.”, “Tischb[ein]”; 5 ♀ ♀ (RMNH), “[Poland], Stettin, Zeller”; 1 ♀ (MNHN), “[Austria], Vienne, ii.[18]58, Mus. Giraud, *Agathis tibialis*”; 1 ♀ (RMNH), “France, Gironde, Andernos les Bains, 19.viii.1974 (D106), M. & T. Simon Thomas”; 1 ♀ (RMNH), “France, Dépt. Gard, M.J. Gijswijt”, “Crepian, 6.vii.1977, wegkant [= roadside]”, “*Agathis glabricula* Th., det. G.E.J. Nixon, 1984”; 2 ♀ ♀ (RMNH), “France, Var., Montauroux, 1.vii.1970, J. v. d. Vecht”; 1 ♀ (RMNH), “Frankrijk, Loire inf., 1 km N van St. Mars de Courtais, 30.v.1955, excursie Museum Leiden”; 1 ♀ (RMNH), “[E]spana, La Garganta (Cac.), 5.vi.1983, H. Teunissen”; 1 ♀ (MNHN), “[Greece], Macédoine, Vakoufkeny, NE de Florina, vii.1917, H. Marcelet”; 1 ♀ (RMNH), “Greece, Peleponn., Chelsos, 900 m, 19.v.1987, H. Teunissen”; 1 ♀ (MNHN), “Grèce, Thasos, v.[19]25”; 1 ♀ (RMNH), “Greece, Samos, 25-30.iv.1977, H. Teunissen”; 1 ♀ (RMNH), “[Greece], Samos, Kokkari, 2.v.1977, H. Teunissen”, “*Agathis anglica* Marshall, det. G.E.J. Nixon, 1984”; 1 ♀ (RMNH), “Greece, Thassos, Theologos, 23.v.1990, H. Teunissen”; 2 ♀ ♀ + 1 ♀ (RMNH), “Greece, Thassos, Maries, 17 & 28.v.1990, H. Teunissen”; 1 ♀ (RMNH), “Cyprus, Amathus, 31.iii.1978, H. Teunissen”; 1 ♀ (RMNH), “Cyprus, Stavros Tis, Psokas, 2500 ft, 12.vi.[19]60, Mavroumoustakis”; 1 ♀ (RMNH), “Cyprus, Yermasoyia River, 1.v.[19]57, Mavroumoustakis”; 1 ♀ (RMNH), “Cyprus bei Limassol, 5.v.[19]58, Mavroumoustakis”; 1 ♀ (RMNH), “Cyprus, Akrotini Mag, 6.v.[19]58, Mavroumoustakis”; 1 ♀ (RMNH), “Cyprus bei Lania, 1800 ft, 30.vi.[19]61, Mavrou-

moustakis"; 1 ♀ (RMNH), "Turkey: Bursa, Bursa, 225 m, 24.viii.1985, R. Hensen"; 1 ♀ (RMNH), "Turkey: Konya, Karaman, 1100 m, 19.vi.1985, C.J. Zwakhals"; 1 ♀ (RMNH), "Turkey, Hakkari, S. Yüksekova, Vargös, 1650 m, 30.vi.1985, C.J. Zwakhals" (22 antennal segments); 1 ♂, (RMNH), "T[ur]k[ey], Edirne, Lalapasa, Callidese, 4.vi.1992, F. Inanc"; 1 ♀ (RMNH), "Mongolia: UVS aimak, sandgebiet Altan els, 35 km WNW von Somonies, 1400 m, exp. Dr Z. Kaszab, 1968", "Nr. 10007, 23.vi.1968", "*Agathis serratulae* Tob., ♀, det. Papp J., 1976" "*Agathis anglica* Marshll, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "Marocco, 5 Azrou, Aïn Leuh, 17.iii.1990, H. Teunissen".

Length of body: holotype of *A. caucasica* 3.9 mm, holotype of *A. syriaca* 4.4 mm, holotype of *A. albanica* 4.3 mm, mean: 4.4 mm, and of fore wing: holotype of *A. caucasica* 3.3 mm, holotype of *A. syriaca* 3.7 mm.

Head.— Head rather robust in frontal view (figs 237, 247), its width below eyes 1.1 times height of face and clypeus combined (1.0-1.2 times in other types examined), its length 1.6 (mean: 1.6) times width of face, (holotype of *A. albanica* 1.5 times); face with some short pilosity, largely smooth, and sparsely punctulate, but in holotype of *A. caucasica* rather densely and finely punctate; clypeus not or indistinctly protruding in lateral view (figs 244, 246), smooth, but laterally with some punctures; length of eye 1.3 (mean: 1.36; 1.2 times in holotype of *A. syriaca*) times malar space; stemmaticum rather prominent; ante-ocellar area slightly developed, no median keel (only a wide obtuse elevation medially), depression of ante-ocellar area shallow, triangular (figs 237, 247); galea obtuse apically, shiny, more or less superficial scaly micro-sculptured, its length equal to (= mean; 1.2 times in holotype of *A. syriaca*) malar space, and 0.8 (1.0 times in holotype of *A. syriaca*) times height of eye, and 0.4 (0.5 in holotype of *A. syriaca*) times height of head; antenna with 29 (26-31) segments.

Mesosoma.— Length of mesosoma 1.5 times its height (some specimens 1.4 times); side of pronotum smooth, shiny, crenulation along posterior edge rather narrow; mesoscutum and scutellum finely punctate or punctulate; notauli distinctly impressed, narrow, complete and crenulate; medio-posterior groove comparatively short and narrow triangular; mesopleuron smooth, shiny; precoxal sulcus long, reaching posterior mesopleural edge, deep and regularly crenulate; metapleuron punctate; propodeum (fig. 238) largely smooth, with some sculpture (punctures, fine rugulae) between the two very distinct, parallel longitudinal carinae.

Wings.— Fore wing (figs 239, 248): marginal cell rather small, with SR1 usually straight; r:3-SR:SR1 = 2:9:45; second submarginal cell distinctly quadrangular and somewhat oval, rather large; length of vein 2-R1 less than 0.5 (0.45 in holotype of *A. caucasica*) times vein 1-R1. Hind wing: M+CU:1-M = 40:30.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.8, 6.6 and 9.1 times their maximum width, respectively; length of hind tibial spurs 0.30 and 0.25 times hind basitarsus; tarsal claws robust, without distinct acute lobe (fig. 243); middle tibia usually with a row of 4-5 pegs above apical patch of pegs.

Metasoma.— Length of first tergite (figs 238, 241) 1.1 times its apical width, its basal third irregularly sculptured, finely striate laterally, distinctly striate medially, with some scaly reticulation medially; second and following tergites smooth, shiny (but some specimens have second tergite superficially sculptured); length of second tergite 0.6 times its basal width; length of ovipositor sheath: mean = 1.34 times fore wing, 1.15 in holotype of *A. syriaca*; 1.34 in holotype of *A. caucasica*, and 1.44 times in holotype of *A. albanica*, about as long as body or slightly longer (1.1 times body in

holotype of *A. caucasica*), and 2.3 times metasoma (= mean, as in holotype of *A. caucasica*) -2.8 (in holotype of *A. albanica*)).

Colour.— Black; fore leg, middle tibia and apical quarter of middle femur, and part of hind tibia between subbasal dark band and apical dark part, yellowish-brown. Sometimes first and second metasomal tergites, or nearly the whole metasoma in holotype of *A. caucasica*, dark-yellowish brown or brown.

Distribution.— Albania, Austria, Bulgaria, Cyprus, *France, Great Britain (England, Wales), *Germany, Greece, Italy, *Mongolia, *Morocco, *Netherlands, *Poland, *Spain, *Sweden, *Turkey.

Biology.— Reared from *Syncopacma taeniolella* Zeller, 1839, *Aproaerema anthyllidella* (Hübner, 1813) (both Gelechiidae), and *Agonopterix pallorella* Zeller, 1839 (Oecophoridae). Reported by Nixon (1986) as parasitoid of *Epinotia mercuriana* (Frölich, 1828) (Tortricidae). The hosts reported by Marshall (1885) need reconfirmation.

Notes.— The frontal shape of the head of *A. anglica* is similar to that of *A. malvacearum*, (figs 6, 247), but it has the second metasomal tergite dark brown or black (which may also be dark in males of *A. malvacearum*), the ante-ocellar area not distinctly prominent, and not distinctly depressed medially, and the temples are normally convex dorsally.

The holotype of *A. syriaca* is morphologically not well differentiated from that of *A. anglica*; only the yellowish hind trochantellus (contrasting with the blackish hind trochanter and base of hind femur) and the narrowly yellowish apex of the hind femur are deviating. However, this colour variation occurs also among European specimens of *A. anglica*, e.g. we have seen two specimens from Poland (RMNH: Stettin) with a similar colouration of the hind leg.

Agathis assimilis Kokujev, 1895
(figs 61-68, 70, 317)

Agathis assimilis Kokujev, 1895: 387 ("♀. Nigra, nitida. Maxillis labioque capitis brevioribus, palpis nigris, maxillaribus articulis 3 apicalibus testaceis. Antennis plus quam 28-articulatis (in specimine meo unico incompletis). Mesonoto fere laevi. Metanoto rugoso, utrinque spatio minuto elongato laevigato nitidoque ornato carinulisque duabus minus approximatis, subdivergentibus longitudinalibus instructo. Alis infuscatis, stigmatibus nigris, excepta basi nervi medii multo dilutiore; cellula secunda cubitali quadrangula (nervis crassis figurata); abscissa 3a radii leniter curvata. Segmento primo abdominis valde longitudinaliter rugoso, basi profunde excavato, medio inflato, ante apicem transversim impresso, utrinque distinctissime carinato, carinis acutis, brevibus, a basi remotis, medium segmenti attingentibus; segmento secundo rugoso, apice tumoreque basali laevibus; segmento tertio in medio transversim impresso, unicum reliquis laevissimo. Terebra corpore longiore. Pedibus nigris; femoribus anticis apice late, intermediis summo apice, tibiis anticis intermediisque rufo-testaceis, his apice fuscis, posticis dilute testaceis apice late nigris maculaque prope basin lateris externi ornatis; tarsis anticis testaceis unguiculis versus infuscatis, intermediis posticisque nigris, articulis primis basi plus minusve rufescentibus."); Shenefelt, 1970: 318-319; Nixon, 1986: 198, figs 2, 19, 25 [examined].

Agathis propinqua Kokujev, 1895: 384 ("♀. Nigra, nitida. Maxillis labioque capite multo brevioribus; palpis testaceis. Carina frontalis inter antennis angulatim elevata. Antennis 30-articulatis. Mesonoto (praesertim lobis lateralibus) distincte punctulato; scutello laevi. Metanoto tenuiter rugoso, utrinque spatio minuto nitidior, subtilius sculpturatum ornato; in medio bicarinato, carinulis postice valde divergentibus. Alis infuscatis, cellula 2a cubitali quadrangula; abscissa 3a radii recta. Segmento primo abdominis toto striato, haud carinato, vel carinis vix indicatis; segmento

secundo, praesertim in sulco transverso, rugoso. Terebra corpore brevior. Pedibus nigris, femoribus anticis, basi excepta, intermediis summo apice tibiisque totis testaceis, tibiis posticis dilutioribus, albidis, apicem versus nigris et macula prope basin ornatis. Long. 4 mm, expl. alar. 7.5 mm. L'unique individu (♀) que je possède a été trouvé sur les herbes dans le district de Jaroslav, le 9 Juin 1894.”); Shenefelt, 1970: 349; Tobias, 1986: 285 (as possible synonym of *A. duplicata* Shestakov; transl. 1995: 497). **Syn. nov.**

Agathis jakowlewi Kokujev, 1895: 381 (“♂. Nigra, nitida. Maxillis labioque capite multo brevioribus; palpis testaceis; carina frontali inter antennis angulatim elevata. Antennis 31-articulatis. Mesonoti lobo medio indistincte, lateralibus distincte punctulatis, scutello fere laevi. Metanoto rugoso, utrinque spatio minuto levigato nitidoque ornato, in medio longitudinaliter sulcato, imo sulco carinato. Alis infuscatis; stigmatibus testaceo, nervis alarum anticarum plerisque testaceis, exceptis nervo cubitali obscuriore et basi nervi medii fere decolore; abscissa 3a radii ante apicem curvata; cellula secunda cubitali quadrangula. Segmento primo abdominis longitudinaliter striato, solum apicem versus laevigato, hoc in medio foveola distincta notato; spiraculis valde prominulis, corniformibus; segmentis ceteris abdominis laevibus, sed sulco transverso segmenti secundi rugoso. Pedibus nigris, femoribus anticis apice late, intermediis summo apice testaceis; tibiis testaceis, posticis apicem versus nigris maculaque prope basin lateris externi ornatis; tarsis anticis testaceis, articulo ultimo nigro, intermediis nigris basi testaceis, posticis totis nigris. Long. 2¹/₂ mm, expl. alar. 6¹/₂ mm.”); Shenefelt, 1970: 338; Tobias, 1986: 283 (transl. 1995: 492). **Syn. nov.**

Agathis anchisiades Nixon, 1986: 207, figs 6, 22 (“♀, ca 4.5 mm long (excluding ovipositor. Black. Gaster with no hint of paler colouring on tergites 2+3. Hind femur blackish with a small suffusion of paler colouring at extreme apex; hind tibia obscurely reddish-yellow, infuscate in apical two-fifths and virtually no trace of a darkened prebasal ring. Head in facial view characteristically elongate; from above rather strongly produced backwards behind the rather large eyes. A sharp keel between antennal insertions and a distinct, narrow, V-shaped cavity in front of anterior ocellus. Antenna long, tapering, 29-segmented. Galea a little shorter than malar space, slightly more than 2.5 times longer than wide. Malar space two-thirds as long as longer diameter of eye. Thorax in profile rather short, of generalised form. Notaulices well defined but not sharply costate. Sternaulus sharply defined, reaching posterior corner of mesopleurum. Dorsal surface of side panels of propodeum showing much intricate rugosity. Areolet of fore-wing almost triangular; distal abscissa of post-marginalis almost as long as proximal abscissa. Segments 3-4 of middle tarsus very short, 4 being not longer than wide; segment 4 of hind tarsus about 1.33 times longer than wide; inner spur of hind tibia reaching middle of basal segment of hind tarsus; this spur is margined with a particularly distinct row of short bristles on its inner side; hind claw with strong lobe and deep cleft between lobe and claw proper; outer side of middle tibia with 7 thick teeth, very irregularly spaced. Gaster of generalised form. Tergite 1 about as long as its apical width, markedly triangular, striate all over. Ovipositor sheath about as long as propodeum plus gaster and, seen from above, as bristly at apex as at middle. Host: unknown. Comments. *A. anchisiades* is remarkable for the shortness of certain tarsal segments; because of this feature it is distinct from all the other species included in this revision, with the exception of *achterbergi*. It is also to some extent characterised by the appearance of the head in facial view and also by the bristly apex of the ovipositor sheaths.”). **Syn. nov.**

Material.— Holotype of *A. assimilis*, ♀ (ZISP, “Berditzino, Jaroslav”; holotype of *A. anchisiades*, ♀ (TMA), “Hungaria, Hortobágy, Zám”, “21-23.v.1975, leg. Kaszab”, “*Agathis assimilis* Kok., det. Papp J., 1977”, “*Agathis anchisiades* Nixon, 1986. Holotype, ♀”; 1 ♀ (RMNH), “Nederland, Rockanje (Z-H), Stekelhoekduin”, “wet *Salix* dunes, 23.vi-15.vii.1976, C. v. Achterberg”, “*Agathis assimilis* Kok., det. G.E.J. Nixon, 1984”; 1 ?♀ (heavily damaged; RMNH), “[Netherlands], Meiendel [= Meijendel dunes near the Hague], 23.vi.[19]24”, “*Agathis assimilis* Kok., det. G.E.J. Nixon, 1984”; 2 ♂♂ (RMNH), “[Germany], Saxon., Reinh[ard]”, “*Agathis assimilis* Kok., det. G.E.J. Nixon, 1984”; 1 ♂ (RMNH), “Frankrijk, Loire inf., 1 km N van St. Mars de Courtais, 30.v.1955, excursie Museum Leiden”; 1 ♀ (RMNH), “Austria, Tirol, Aschbach, 1400 m, 6.vii.1976, C.J. Zwakhals”, “*Agathis assimilis* Kok., det. G.E.J. Nixon,

1984"; 1 ♂ (RMNH), "Hungary, Hortobágy, Zám", "21-23.v.1975, leg. Kaszab", "*Agathis assimilis* Kok., ♂, det. Papp J., 1977"; 1 ♀ (RMNH), "[Hungary], Gyula Pósteleki-e", "28.v.1963, leg. Móczár", "*Agathis schmiedeknechti* Kok., det. Papp, 1976"; 3 ♂♂ (RMNH), "[Bulgaria], Rhodopi, V. pole, 17.v.1978, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, V. Persenk, 2.viii.1978, A. Zaykov"; 3 ♂♂ (RMNH), "[Bulgaria], Rhodopi, Sh. poljana, 15.v.1976, A. Zaykov"; 3 ♀♀ + 2 ♂♂ (RMNH), id., but 11.vi.1976; 3 ♂♂ (RMNH), id., but 18.v.1976; 1 ♂ (RMNH), id., but 12.v.1976; 1 ♂ (RMNH), id., but 27.vii.1977; 1 ♀ (RMNH), id., but 13.vi.1977; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Erquprea, 15.vii.1980, J. Kolarov"; 2 ♀♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Mezar gidig, 21.vi.1977, A. Zaykov"; 1 ♀ (RMNH), id., but 2.vii.1978; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, v. Rogen, 17.vi.1978, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Tankovo, 19.v.1977, A. Zaykov"; 1 ♂ (RMNH), id., but 28.iv.1977; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, n. Izgrev, 14.vii.1977, A. Zaykov"; 1 ♂ (RMNH), id., but 4.vii.1977; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Radalo, 19.vi.1976, A. Zaykov"; 1 ♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Boykovo, 25.v.1977, A. Zaykov" (♂ identified as *A. ?rufipalpis* by Nixon, 1984); 1 ♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Nikolovo, 30.v.1977, A. Zaykov"; 1 ♂ (RMNH), id., but 10.v.1976; 1 ♂ (RMNH), id., but 10.vi.1977; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Bega, 4.v.1978, A. Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Petelovo, 15.vi.1976, A. Zaykov"; 1 ♂ (RMNH), id., but 12.v.1976; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, n. Ravnishta, 4.vi.1978, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Dospat, 24.vi.1981, J. Kolarov"; 1 ♀ (RMNH), "[Bulgaria], Gornoslav, 4.vii.1985, [A.] Zaykov"; 1 ♀ (RMNH), "Bulgaria, Rila Mts", "v. Jastrebits, 23.vii.1982, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Panagurski Kolonii, 7.vii.1982, J. Kolarov"; 1 ♀ (RMNH), "C. more, Primorsko, 15.vi.[19]93, S. Petrov".

Length of body of holotype of *A. assimilis* 3.5 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 66), width of head below eyes 0.9 times median height of face and clypeus combined, its length in frontal view 1.9 (= mean) times maximum width of face; face nearly smooth, with rather dense medium-sized greyish pilosity; lateral epistomal suture largely absent; height of eye 1.7 (= mean)-1.9 times length of malar space; stemmaticum and ante-ocellar area distinctly prominent (fig. 68), ante-ocellar area elongate triangular and deeply impressed (fig. 66), protruding, sloping ventrad, with distinct median keel, acute and dorsally protruding near antennal sockets (figs 64, 67); antenna with 29 (= mean; according to Nixon (1986) with 28-31 segments); galea obtuse apically, (largely) smooth or with superficial scaly micro-sculpture, 0.4 (mean) times height of eye, and 0.24 (mean) times height of head; labrum superficially sculptured or largely smooth.

Mesosoma.— Length of the mesosoma 1.4 times its height; side of pronotum rugulose-punctate (and more or less finely crenulate) medio-anteriorly, smooth medially, and distinctly crenulate near posterior margin; mesoscutum largely sparsely punctate; scutellum smooth; notauli rather deep, complete, narrow, crenulate or completely smooth, and with a long and narrow smooth medio-posterior groove; mesopleuron largely smooth, with some punctures ventrally and laterally; precoxal sulcus only anteriorly absent, reaching posterior margin (but sometimes absent posteriorly or complete), narrow, and finely crenulate; metapleuron punctate medially, rugulose-reticulate ventrally; propodeum with small smooth central areas, which may be micro-sculptured, and remainder of propodeum rugose-punctate, especially near rather weak and regular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 61); r:3-SR:SR1 = 4:4:42; second submarginal cell subtriangular (but may be quadrangular); 2-R1 0.7-0.8 times 1-R1 (but up to 1.1 times in *A. anchisiades*; fig. 61). Hind wing: M+CU: 1-M = 30:25.

Legs.— Length of femur and tibia of hind leg, 3.2 and 6.5 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.45 and 0.40 times hind basitarsus, respectively; tarsal claws robust, with distinct acute lobe; hind basitarsus slender (fig. 317).

Metasoma.— Length of first tergite 1.3 times its apical width, its surface completely finely striate; second tergite and remainder of metasoma smooth; ovipositor sheath 0.83 (= mean) times fore wing, 1.6 (= mean) times metasoma, and about as long as body.

Colour.— Black; only hind tibia pale; entirely similar to colour of *A. breviseta*.

Distribution.— Austria; Bulgaria; France; *Germany; Great Britain; Hungary; Kazakhstan; Mongolia; Netherlands; Russia (including Siberia); Tadzhikistan; Uzbekistan.

Biology.— Unknown.

Notes.— Together with the holotype of *A. assimilis* we received a female specimen identified by Dr V.I. Tobias as *A. assimilis*. This was useful because the holotype is in rather bad condition, missing the antennal tips, wings and legs (except one hind leg). The holotype and the specimen identified by Dr Tobias are conspecific.

The interpretation of *A. propinqua* is problematical because most of the holotype is missing, the only parts left being the mesosoma, one hind wing and one hind leg. However, the original description contains four important clues: a) with a protruding carina between the antennal sockets (only in *A. breviseta*-group); b) antenna with 30 segments (only a few species of *Agathis* have 30 or more antennal segments); c) the ovipositor is shorter than the body; d) the mouthparts are short. Within the *A. breviseta*-group the description fits only *A. assimilis* of which the type was also collected at Jaroslav in the same month. There remains the aberrant long precoxal sulcus of the holotype of *A. propinqua*, but we have seen several specimens of *A. assimilis* with (nearly) complete precoxal sulcus (e.g., from The Netherlands (Meijndel) and Bulgaria (Padalo; Sh. polljiana; Mezar gidig)). Therefore, nothing seems to contradict the synonymy of *A. propinqua* with *A. assimilis*. That *A. propinqua* Kokujev is a synonym of *A. semiaciculata* Ivanov, as supposed by Fahringer (1937), is unlikely considering the remnants of the holotype and the differences in the original descriptions of both species.

The holotype of *A. anchisiades* Nixon is (considering the shape of the frons, of the stemmaticum and the area between the antennal sockets) entirely equal to *A. assimilis*. Nixon separated his *anchisiades* on the shortness of the middle tarsal segments, especially the fourth one. However, the middle tarsus is very short in the great majority of *Agathis* species, having its segments always rather quadrate.

According to the original description *A. jakowlewi* is a largely black-coloured species with galea much shorter than the head, a high carina between the antennal sockets, the first metasomal tergite striate and spiracles of first tergite strongly protruding. The protruding spiracles of the first tergite, combined with the strong median keel of the frons might be diagnostic for the species. In general, however, specimens of Braconidae may have the basal part of the first tergite (including the spiracles) more or less protruding as an individual variation (figs 124, 132), and we do not consider it of any diagnostic significance, even in extreme cases. Considering that *A. jakowlewi* was described from a single male specimen, the combination of the protrud-

ing keel of the frons and the high number of the antennal segments make it likely to be only an unusually small specimen of *A. assimilis*.

Agathis asteris Fischer, 1966
(figs 183-187)

Agathis asteris Fischer, 1966: 395 ("♀ Kopf: Doppelt so breit wie lang, glatt, Augen vorstehend, hinter den Augen gerundet, Augen zweimal so lang wie die Schläfen, Hinterhaupt tief ausgeschnitten. Ocellen vortretend, in einem Dreieck stehend, dessen Basis wenig länger ist als eine Seite, das ganze Ocellarfeld etwas erhoben, Abstand zwischen den Ocellen zweimal so groß wie ein Ocellusdurchmesser, der Abstand der hinteren Ocellen vom inneren Augenrand halb so groß wie die Breite des Ocellarfeldes, letzteres liegt nahe am Hinterhaupt. Fühlergruben voneinander weiter entfernt als ihr Durchmesser, Abstand vom Augenrand halb so groß wie ihr Durchmesser. Augen in Seitenansicht um zwei Drittel höher als lang, um zwei Drittel höher als die Länge der Wangen. Fühlergruben liegen in halber Augenhöhe. Kopf 1.7mal so breit wie das Gesicht. Gesicht glatt, glänzend, gleichmäßig und recht kurz, hell behaart, die Haarpunkte fein 1.7mal so breit wie die Entfernung zwischen Fühlergruben und Paraclypealgruben bzw. nur eine Spur länger als Gesicht plus Clypeus-höhe. Clypeus vom Gesicht fast nicht getrennt, vorn gerade abgestutzt, Paraclypealgruben voneinander nur eine Spur weiter entfernt als vom Augenrand. Maxillen so lang wie die Augenhöhe, Labium überragt die Maxillen beträchtlich, Maxillar und Labialtaster überragen die Spitze des Labiums etwas. Fühler von drei Viertel Körperlänge, 21- bis 23-gliedrig; erstes Geißelglied viermal so lang wie breit, die folgenden rasch kürzer werdend, die Glieder des apikalen Drittels höchstens eine Spur länger als breit; die sieben basalen Glieder überhaupt nicht voneinander abgesetzt, die übrigen nur schwach; die anliegende Behaarung und die spärlichen apikalen Borsten bedeutend kürzer als die Breite der Geißelglieder. Thorax: Zweimal so lang wie hoch, in Seitenansicht rechteckig, Oberseite flach, mit der Unterseite parallel. Mesonotum so breit wie lang, glänzend, mit feinen Haarpunkten schütter besetzt, die Haare recht kurz, in der Nähe der Vorderecken dicht haarpunktiert; Notauli vollständig, tief eingeschnitten, gekerbt, nähern sich auf der Scheibe einander stark, ohne sich jedoch ganz zu berühren, enden weit vor dem Hinterrand, etwa im hinteren Drittel des Mesonotums; Seiten nur sehr fein gerandet. Praescutellarfurche schmal, gebogen, mit zahlreichen radiären Kerben. Scutellum glatt. Postaxilla und Metanotum gekerbt. Propodeum mit zwei unregelmäßigen Längskielen, zwischen diesen und seitlich von ihnen mit zahlreichen quergelagerten Grübchen oder Zellen, der Rest des Propodeums unregelmäßig, eng maschenartig runzelig, jederseits mit einer unebenen, glänzenden Stelle; Spirakel unscheinbar, liegen im vorderen Viertel. Seite des Prothorax glatt. Mesopleurum glatt, hintere Randfurche fein gekerbt, geht im bogen in die ebenfalls gekerbte Epiknemialfurche über, diese setzt sich in die gleichfalls gekerbte vordere Mesosternalfurche fort; Praecoxalfurche fehlt ganz oder nur als schwacher Eindruck ausgebildet, aber niemals gekerbt. Metapleurum glänzend, haarpunktiert, an den hinteren Rändern runzelig oder krenuliert, vor der Mitte mit einer tiefen, gekerbten Querfurche. Beine ohne besondere Auszeichnungen. Flügel: Vom Typus der Gattung; Cu2 viereckig, nach vorn verjüngt, r1 kürzer als r2, r3 gerade, am Ende nach einwärts gebogen, n.rec. nicht interstitial, doppelt so lang wie n. rec. Abdomen: Erstes Tergit so lang wie hinten breit, hinten ein Drittel breiter als vorn, knapp vor den Hinterecken etwas abgerundet, Seiten nach vorn konvergierend, im vorderen Viertel etwas stärker als in der Mitte; fast das ganze Tergit nicht ganz regelmäßig, aber dicht längsgestreift, der basale ausgehöhlte Raum punktiert, Basalkiele nicht erkennbar, Tuberkel überhaupt nicht vortretend. Der Rest des Abdomens ganz glatt. Bohrerklappen um zwei Drittel länger als das Abdomen bzw. gut zweimal so lang wie die Hinterschiene. Färbung: Schwarz. Braun sind: Anellus, Beine und die Flügelnervatur. Alle Hüften, Trochanteren, Basen der Vorderschenkel, Mittel- und Hinterschenkel, Hinterschienen spitzen, alle Tarsenendglieder und die Taster schwarz. Flügel stark gebräunt. Körperlänge 3.5 mm. ♂ Fühler so lang wie der Körper, Geißelglieder etwas länger, auch die apikalen Glieder fast zweimal so lang wie breit. Sonst vom ♀ nicht verschieden. Wirt : *Coleophora linosyris* M. Hering

(Lep., Coleophoridae) an *Aster canus*. Untersuchtes Material: Austria, Burgenland, Zitzmannsdorfer Wiesen (südlich Weiden/See), leg. Dr. F. Kasy, 2♀♀, 3♂♂. Ein ♀ wurde als Holotype bezeichnet und wird im Naturhistorischen Museum in Wien aufbewahrt.- Vom gleichen Fundort, 17.ix.1957, 1 ♂.- Vom gleichen Fundort, 19.ix. 1957, aus *Aster canus*-Blüten 1 ♀, 1 ♂. Taxonomische Stellung: Die nächstverwandten Arten sind *Agathis assimilis* Kok., *A. rufipalpis* Nees, *A. albantica* Fi. und *A. syriaca* Fi. Von den genannten Formen ist die neue Art durch die fehlende bzw. ganz glatte Praecoxalfurche unterschieden."); Shenefelt, 1970: 319; Nixon, 1986: 209, figs 31, 37 (redescription) [examined].

Material.— Holotype, ♀ (NMW), "[Austria], Bgld, Zitzmannsdorfer Wiesen, südl. Weiden am See/ 8 Exx. aus *Coleophora linosyres*, Mittering", "ex *Coleophora* auf *Aster canus*, Zitzmannsdorfer Wiese", "Holotype", "*Agathis asteris* n. sp., ♀, det. Fischer".

Length of body 3.4 mm, and of fore wing 3.0 mm.

Head.— Head rather robust in frontal view (fig. 183), its width below eyes 1.15 times height of face and clypeus combined, its length 1.8 times width of face; face with some short pilosity, largely smooth, and sparsely punctulate; clypeus not protruding in lateral view (fig. 184), smooth, but laterally finely punctate; length of eye 1.6 times malar space; stemmaticum rather prominent; ante-ocellar area hardly developed, no median keel (area only obtusely elevated), depression of ante-ocellar area absent (fig. 183); galea obtuse apically, shiny, smooth or nearly so, its length equal to height of eye, 1.6 times malar space, and 0.5 times height of head; antenna with 23 segments (21-23 in type series), distinctly widened subapically and subapical segments subquadrate (fig. 185).

Mesosoma.— Length of mesosoma 1.65 times its height; side of pronotum smooth, shiny, finely crenulate anteriorly, ventro-anteriorly punctate, smooth dorsally and distinctly crenulate along posterior edge; mesoscutum and scutellum sparsely punctate; notauli distinctly impressed, narrow, complete and crenulate; medio-posterior groove absent; mesopleuron largely smooth, below precoxal sulcus punctulate and with some distinct punctures posteriorly, shiny; precoxal sulcus short, only medially developed, narrow, remains far removed from posterior mesopleural edge, shallow and somewhat crenulate; metapleuron punctate, and coarsely punctate-rugose ventrally; propodeum narrowly smooth basally, with small smooth central areas, and remainder coarsely vermiculate-rugose, anteriorly without longitudinal carinae, but posteriorly with pair of diverging carinae.

Wings.— Fore wing: marginal cell rather small, robust, with SR1 straight (but somewhat curved apically); r:3-SR:SR1 = 2:1:20; second submarginal cell wide quadrangular (fig. 187; length of vein 2-R1 rather widened, 0.4 times vein 1-R1; length of pterostigma 1.9 times vein 1-R1. Hind wing: M+CU:1-M = 20:13.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.5, 5.5 and 7.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.50 and 0.45 times hind basitarsus, respectively; tarsal claws rather robust, with tiny lobe; middle tibia with a row of 6 robust and short pegs above its apex; fore femur inflated (fig. 186).

Metasoma.— Length of first tergite equal to its apical width, its basal 0.8 (including medio-basally) irregularly striate-rugulose, with some finer sculpture among striae; second tergite smooth and with distinctly convex medio-basal swelling; second

metasomal suture obsolescent; following tergites smooth, shiny; length of second tergite 0.6 times its basal width; length of ovipositor sheath 0.93 times fore wing, 0.8 times body, and 1.7 times metasoma, sheath distinctly widened apically.

Colour.— Black; apical 0.4 of fore femur, fore tibia, fore tarsus narrowly basally, basal half of middle and hind tarsi, middle tibia (but subbasal ring and apical 0.4 dark brown), and hind tibia (except apical quarter and subbasal ring) rather dark yellowish-brown; remainder of tarsi, humeral plate, pterostigma and veins dark brown; wing membrane distinctly infuscate.

Distribution.— Austria.

Biology.— Parasitoid of *Coleophora linosyres* Hering, 1937 (Coleophoridae) on *Aster*.

Notes.— All examined specimens identified by the late Dr Nixon as *A. asteris* belong to *A. fulmeki* Fischer.

Agathis brevis Tobias, 1963

(figs 72-77, 319)

Agathis brevis Tobias, 1963: 881 ("Close to *A. assimilis* Kok., from which it differs by the considerably shorter ovipositor. From females of *A. breviseta* with similar length of ovipositor it differs by the more elongated eyes, by the longer malar space, by the distinct crest on the frons, which is branched basally, and by the sharp stemmaticum. Female. 4-4.5 mm. Head higher than wide; temples 0.5 times width of eyes; stemmaticum sharp anteriorly; width between posterior ocelli twice distance of posterior ocellus to eye; frons with distinct longitudinal crest, almost from its base branched; longitudinal diameter of eye twice as long as its transverse diameter, and 1.5 times longer than malar space, length of the face equal to its width, twice height of clypeus; rostrum as long as malar space. Antenna slightly shorter than body, 27-28 segmented; first antennal segment 3 times longer than wide; segments of apical third of antenna slightly longer than wide or almost quadrate; thorax 1.5 times longer than high or slightly longer; notauli and precoxal sulcus deep and sculptured; second cubital cell of the fore wing triangular or quadrangular, considerably shorter than width of pterostigma; hind femora 4 times longer than wide; inner hind tibial spur slightly longer than 0.3 times hind basitarsus; fifth segment of hind tarsus as long as second segment and longer than third segment, first tergite of metasoma slightly longer than its apical width; second tergite twice wider than long; ovipositor as long as metasoma; propodeum largely smooth, laterally sculptured and with two crests, sometimes almost fused apically; first metasomal tergite sculptured and second tergite weakly sculptured around its convexity. Black, fore femora (except basally), apex of middle femora, fore and middle tibiae (except apical part) yellowish-red; apical part of middle and hind tibiae brown; most of hind tibia yellow, with its basal third brownish; wings weakly infuscate. Male unknown. Material: Kirgizija: Kirgizkij, pass Tsai-Sandik, 25.vi.1910, 1 ♀ (A. Kiritsenko); Terskei-Alatau, river Taldy-bulak, 25.vii.1910, 1 ♀, holotype (A. Kiritsenko)." Translated from Russian.); Tobias, 1966: 122; Shenefelt, 1970: 321 [examined].

Material.— Holotype, ♀ (ZISP), "[Kyrgyzstan], Semirtsen. obl., r [= river] Taldy-bulak, 29.vii.[19]10, A. Kiritsenko", "*Agathis brevis* sp. n., Tobias det.", "Holotypus".

Length of body of holotype 4.2 mm, of fore wing 3.9 mm.

Head.— Length of head in frontal view twice width of face (fig. 79); face densely finely punctate; height of eye 1.6 times malar space; frons as in *A. breviseta*; labrum with dense scaly micro-sculpture (fig. 80); galea superficially scaly micro-sculptured,

0.4 times height of eye, and 0.2 times length of the head in frontal view clypeus largely smooth, not protruding in lateral view, truncate apically; antenna with 27 segments.

Mesosoma.— Length of mesosoma 1.4 times its height; precoxal sulcus absent anteriorly and largely smooth; scutellar sulcus shallow and weakly irregularly sculptured.

Wings.— Fore wing (fig. 78): r:3-SR: SR1 = 11:5:104; second submarginal cell broad quadrangular; vein 2-R1 0.8 times vein 1-R1; pterostigma 1.7 times vein 1-R1. Hind wing: M+CU:1-M = 38:30.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.5, 5.3 and 5.2 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.55 and 0.50 times hind basitarsus, respectively; hind basitarsus rather robust (fig. 319); tarsal claws rather robust, with distinct acute lobe; middle tibia without pegs above apical patch of pegs.

Metasoma.— First tergite as long as its apical width, and 2.2 times its basal width; second tergite transverse, smooth, with transverse elliptical medio-basal swelling; length of ovipositor sheath 0.58 times fore wing, about equal to length of metasoma, and 0.5 times body.

Distribution.— Kyrgyzstan.

Biology.— Unknown.

Notes.— Examination of the holotype of *A. brevis* shows, as the only difference compared with *A. breviseta*, a slightly more pronounced elongation of the head and a slightly different shape of the head (fig. 79), being more rectangular, rather than elongate triangular. In frontal view the length of the head of the holotype of *A. brevis*, is twice the length of the width of the face. As shown in figs 73-75, 77, the shape of the head of some *A. breviseta* specimens is similar to that of *A. brevis*, with the same ratios. Nevertheless, for the moment we consider the shape of the head sufficiently different to retain *A. brevis* as valid, being the eastern sibling species or perhaps a subspecies of *A. breviseta*.

Agathis breviseta Nees, 1814
(figs 69, 71-77, 318)

Agathis breviseta Nees, 1814: 194 ("Nigra, tibiis rufis, posterioribus apice annuloque prope basin nigris; terebra longitudine abdominis; alis obscure fuscis. Long. lin. 2. Structura solita reliquarum. Caput totum, os, antennae, nigra punctulata. Thorax idem. Metathorax carinulis duabus mediis parallelis, approximatis, areaque utriusque lateris trapeziformi, in ambitu depressa, rugulosa, disco laeviore. Abdomen longitudine vix capitis thoracisque (brevius, quam in sequente) obcuneiforme; primo segmento longiori, conico-angustato, subtilissime rimuloso, basi depresso; reliquis laevissimis, secundo antrorsum tuberoso. Terebra crassior, quam in caeteris, vix abdominis longitudine, valvulis nigris, pilosis. Pedes nigri, femoribus anterioribus apice oblique rufis, tibiis rufis, posterioribus annulo prope basin, in posticis distinctiore, apiceque fuscis; tarsi omnes fuscis. Femora postica subclavata. Alae nigricantes, nervis et stigmatibus nigrofuscis, area cubitali secunda subquadrata. Fem. Cepi semel die 20. Maji 1811 in Rhamno Frangula, locis humidiusculis [prope Sickershausen]. Obs[ervatio]. Obiter adspecta Microdonti cingulipedi, in sequentibus exponendo, haud absimilis videtur, a quo, notas generaliores ni spectes, jam terebrae brevitate satis eum discrepare cognosces."); 1834: 131; Shenefelt, 1970: 321; Tobias, 1976: 211; 1986: 285 (transl. 1995: 498); Nixon, 1986: 197-198, fig. 52 ("The type of *breviseta* is presumably lost. My

interpretation of the species is based on that of Wesmael, the first reviser; I have examined two females (IRSNB), both bearing Wesmael's identification label but with no indication of locality."); Zettel & Beyarslan, 1992: 124; Papp et al., 1996: 123. [Holotype lost; neotype here designated].

- A. achterbergi* Nixon, 1986: 208, fig. 14 ("♀, ca 4-5 mm long (excluding the ovipositor). Black. Hind femur entirely black; hind tibia obscurely yellowish on apical half but with heavily blackened apex; a distinct prebasal, infusate band present. Wings brownish but less so than in the related *anchisiades*. Head in facial view only moderately elongate. Malar space about 0.66 times as long as longer diameter of eye. Galea short, slightly less than twice as long as wide, dull, coriaceous. Between antennal insertions a rather sharp keel that is sharply angled before it extends upwards, on a lower level, and unites with a deep, narrowly V-shaped cavity in front of anterior ocellus. Antenna long, thin, tapering towards apex, 31-segmented; flagellum distinctly more bristly than in *anchisiades*; segment 4 from apex about 1.66 times longer than wide. Thorax in profile like that of *anchisiades*. Notaulices deeply impressed. Sternaulus reaching posterior corner of mesopleurum. Side of pronotum anterior to oblique trough coarsely rugose-reticulate, especially on upper half. The two longitudinal keels of propodeum obscured by longitudinal rugosities; side panels in greater part smooth, polished. Areolet of fore wing markedly 4-sided; radial cell rather long; distal abscissa of post-marginalis fully 0.75 times as long as proximal abscissa. Middle tarsus short, segment 4 hardly longer than wide; outer side of middle tibia with 5 rather weak teeth arranged more or less in a row; inner spur of hind tibia reaching middle of basal segment of hind tarsus; hind claw with strong, pointed lobe. Gaster of generalised form. Tergite 1 about as long as apically wide, rugulose but becoming smooth across apical quarter; rest of gaster highly polished. Ovipositor sheath hardly longer than gaster, bristly at apex as in *anchisiades*; ovipositor itself straight, rather thick. Host: unknown. Comments. This species, as noted under *anchisiades*, is characterised by the shortness of the middle tarsus. The two species are in fact remarkably alike but the difference in the shape of the head in a facial view and in the length of the galea is too strong to fall within the range of specific variation. It is probable that *anchisiades* and *achterbergi* are representatives of a species-group which is characterised essentially by the shortness of the middle tarsus and the strong lobe of the hind claw."). **Syn. nov.**

Material.— Neotype of *A. breviseta* here designated, ♀ (RMNH), "Netherlands: N.-B., Udenhout, "de Brand", 23.v.-1.vii.1990, UTM FT 476225, Mal. Trap, Ins., W.G. KNNV-Tilburg"; holotype of *A. achterbergi*, ♀ (RMNH), "[Netherlands], Waarder (Z.-H.), Oosteinde 34, 18.v.1970, C. van Achterberg", "*Agathis achterbergi* Nixon, 1987. Holotype"; 1 ♀ (RMNH), same data as neotype; 1 ♀ (RMNH), "Nederland, Oostvoorne Z.-H.), Biol. Station, 1-25.vi.1975, C. v. Achterberg"; 1 ♀ (RMNH), "Nederland, Wijster (Dr.), opposite Biol. Stat., 15-21.vi.1972, C. v. Achterberg"; 2 ♀♀ (RMNH), "Museum Leiden, Netherlands, Wageningen (Meent), vi.1978, H. Vlug"; 1 ♀ (RMNH), "France: Savoie, Valmeinier, 1500 m, 12-19.vii.1984. Mal. tr[ap], C.J. Zwakhals, RMNH'84"; 1 ♀ (RSM), "[England], Ashford Hill Meadow, Hants., SU 56 1620, Mal. trap, 6-29.vi.[19]89, K. Porter, NMSZ 1994.010"; 1 ♀ (RSM), "[England], Somerset, Owen, 18.vi.[19]83, L.M. Drake"; 1 ♀ (RSM), "[England], Tainish NNR, Argyll, NR 730845, Malaise trap, clearing in oak/alder wood, J.C. Christie, 27.vi-9.vii.[19]84, RSM 1984-048"; 1 ♀ (RMNH), "[?Germany], Birkenf., Tischb[ein]"; 2 ♀♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Sh. poljana, 15.v.1976, A. Zaykov"; 2 ♀♀ (RMNH), id., but 18.v.1976; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Pestera, 1.v.1977, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rodopi, Nikolovo, 19.v.1976, A. Zaykov"; 4 ♀♀ (RMNH), "[Bulgaria], Trakia, Trud, 1.v.[19]94, [A.] Zaykov"; 1 ♀ + 4 ♂♂ (RMNH), id., but 5-6.v.1994; 1 ♀ + 4 ♂♂ (RMNH), "[Bulgaria], Trakia, Proslav, 28.iv.[19]94, [A.] Zaykov"; 4 ♀♀ + 9 ♂♂ (RMNH), "[Bulgaria], Trakia, Plovdiv, 29.iv.[19]94, [A.] Zaykov"; 1 ♀ (RMNH), "Greece, Peloponn., Melano Mts, 1600 m, 14.v.1987, H. Teunissen"; 1 ♀ (RMNH), "Turkey, Rize, 20 km S. Rize, 1400 m, 10.vii.1985, C.J. Zwakhals".

Length of body 3.4 (mean) mm, of fore wing 3.2 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (figs 71, 73-75), width of head below eyes about equal to median height of face and clypeus com-

bined, its length in frontal view 1.8 (mean= 1.96) times maximum width of face; face nearly smooth (but punctulate in holotype of *A. achterbergi*), with rather dense and rather long greyish pilosity; clypeus convex, not protruding in lateral view, and largely smooth, except some punctulation; lateral epistomal suture narrow; anterior tentorial pits medium-sized; height of eye 1.9 (mean ♂: 1.8, of ♀: 1.7) times length of malar space; stemmaticum and ante-ocellar area distinctly prominent (fig. 69), area elongate triangular and deeply impressed (figs 73-75), reaching anterior ocellus, protruding, not sloping ventrad, with distinct acute median keel, distinctly protruding anterodorsally (fig. 76); antenna with 29 (others: 28-31) segments, apical segments slender; galea obtuse apically, with distinct scaly micro-sculpture, rather mat, 0.5 (mean: 0.44) times height of eye, equal to malar space, and 0.3 (mean: 0.25) times height of head; labrum distinctly scaly micro-sculptured.

Mesosoma.— Length of the mesosoma 1.5 (mean: 1.4) times its height; ventral half of side of pronotum coarsely punctate, narrowly crenulate medio-anteriorly, hardly setose and with some coarse punctures postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, with some sparse punctures; scutellum rather convex; notauli deep, complete, rather narrow, distinctly crenulate, and with long and narrow smooth medio-posterior groove (extending on middle lobe); scutellar sulcus wide, deep and coarsely crenulate; mesopleuron largely smooth, with some punctures dorsally; precoxal sulcus complete, reaching posterior and anterior margins, rather wide medially, and distinctly crenulate; metapleuron sparsely punctulate medially, coarsely rugose ventrally; subbasally propodeum with irregular transverse carina, with small smooth central areas and remainder of propodeum coarsely punctate-rugose, especially between strong and irregular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell medium-sized, with SR1 straight; r:3-SR:SR1 = 5:3:38; second submarginal cell quadrangular; 2-R1 0.9 times 1-R1; pterostigma 1.7 times as long as 1-R1; 1-R1 slender. Hind wing: M+CU:1-M = 10:9.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.7, 5.7 and 5.6 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.5 and 0.4 times hind basitarsus, respectively; hind basitarsus robust (fig. 318); tarsal claws robust, with rather large acute lobe; middle tibia with a row of 4 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 1.1 times its apical width, rather flat, its surface completely finely (rugose-)striate (other specimens may have apex smooth); length of second tergite 0.5 times as long as its basal width, smooth (except for some rugulosity laterally), with transverse elliptical medio-basal swelling; second metasomal suture narrowly developed; remainder of metasoma smooth; ovipositor sheath 0.48 (mean: 0.44) times fore wing, equal to length of (mean: 0.7 times) metasoma, and 0.45 (mean: 0.35) times body.

Colour.— Black; palpi, tegulae, pterostigma, veins, subbasal band of middle tibia, basal 0.7 of fore femur, middle femur (except apically), apical half and subbasal band of hind tibia, and tarsi dark (blackish-)brown; remainder of middle tibia fussy brownish; remainder of legs hind tibia fussy pale brownish-yellow; remainder of legs (including spurs) yellowish-brown; wing membrane rather infusate.

Distribution.— Belgium, Bulgaria, France, Germany, Great Britain (England),

*Greece, Netherlands, Turkey; according to Nixon (1986) also Ireland, and Slovenia. The examined specimens from Bulgaria identified by Dr Nixon as *A. breviseta* belong to *A. assimilis* Kokujev or *A. fuscipennis* (Zetterstedt).

Biology.— Unknown. The list of hosts given by Tobias (1986) at least partly refers to *A. fuscipennis* (Zetterstedt) and it is not clear if the genuine *A. breviseta* has ever been reared.

Notes.— The median keel of the frons may be hardly protruding antero-dorsally (e.g. in a female from Wageningen), but these specimens can be recognised by the distinctly sculptured galea.

Neither the structure of the frons, nor the shape of the head are mentioned in the original description of *A. breviseta* by Nees (1814). The length of the ovipositor sheath, in relation to the length of the metasoma, is the only described character which has some diagnostic value. Since Nees' time, however, other species with ovipositor sheath as short as the metasoma (e.g. the much more common *A. fuscipennis* (Zetterstedt)) have been described. Nixon (1986) was the first author to describe in *A. breviseta* the presence of a distinct tooth ("a knife-edged keel") between the antennal sockets, to fix his interpretation we designate a neotype for the species in this paper.

The holotype of *A. achterbergi* Nixon is, considering the shape of the frons, of the stemmaticum, the length of the ovipositor sheath, and the area between the antennal sockets, not different from *A. breviseta*. Nixon (1986) based his new species on the shortness of the middle tarsal segments, especially the fourth one. However, our measurements of the fourth segment of the middle tarsus of the holotype of *A. achterbergi* do not show values substantially different from those in *A. breviseta*. The fourth tarsal segment of the middle leg is 1.3 times its length in the neotype of *A. breviseta* and 1.4 times in the holotype of *A. achterbergi*. According to Nixon the fourth segment of the middle basitarsus of *A. achterbergi* is "hardly longer than wide", but it is actually even slightly longer than in *A. breviseta*. The holotype of *A. achterbergi* has the ante-ocular area very slender, almost parallel-sided (as in most *A. assimilis*), but this character is too variable to have any diagnostic value in this group.

Agathis dichroptera Alexeev, 1971

Agathis dichroptera Alexeev, 1971: 411, fig. 11 ("Differs from *A. brevis* Tobias by the long segments of apical third of antenna, wider face, weakly elongate eyes, largened ocelli, propodeum with 2 longitudinal carinae, which are converging basally, second metasomal tergite sculptured, wing irregularly infusate. Female. Body length 6 mm. Height of head distinctly more than its width. Length of temple 0.5 times width of eye. Width of base of ocular triangle almost twice OOL; POL slightly larger than ocellar diameter. Longitudinal diameter of eye nearly 1.5 times transverse diameter of eye and length of cheek. Height of face 0.7 times its width, almost twice height of clypeus. Proboscis nearly as long as cheek (fig. 11). Antenna slightly longer than head and thorax combined, 25-segmented. Length of first flagellar segment 4 times its width, length second and following flagellar segment of basal half of antenna less than 3 times longer than its width, in its apical third less than twice. Length of thorax 1.5 times its height. Notauli and sternaui deep, sculptured. Second radiomedial [= submarginal] cell of fore wing quadrangular, its width slightly less than width of pterostigma. Length of hind femur 2.5 times its width. Large spur of hind tibia almost 0.5 times as long as basitarsus. Fifth segment of hind tarsus slightly shorter than second, as long as third. First metasomal tergite almost as long as its apical width. Width of second metasomal tergite twice its length. Ovipositor sheath as long as metasoma. Propodeum with 2

longitudinal carinae, which are converging basally; almost entirely sculptured, two areas dorsally between carinae and sides of propodeum smooth. First metasomal tergite entirely sculptured, second tergite sculptured, only median convex area smooth. Black; fore femur (except its basal third), tibia and tarsus yellowish-red, median and hind tibiae yellowish with darkened apex. Apical half of wings infuscate, contrasting with light basal half. Holotype: ♀, Turkmenia, Ashkhabad, 20.ix.[19]69 (Ju. Alexeev)." Translated from Russian.); Tobias, 1986: 285 (transl. 1995: 498).

No material available; the only known specimen is the holotype of this Central Asian species. The interpretation is based on the original description and on the interpretation by Tobias (1986).

Distribution.— Turkmenia.

Biology.— Unknown.

Agathis duplicata Shestakov, 1928
(figs 250-253)

Agathis duplicata Shestakov, 1928: 223 ("Nigra. Maxillae et labium longitudine (a margine clipei anteriore ad insertionem antennarum) breviores. Articuli tres ultimi palporum maxillarum albi. Carini frontalis inter antennas haud angulatim elevata. Facies subnitida punctulis dispersis instructa. Thorax nigrum, mesonotum nitidum, sine punctis pilis brevibus dispersis tectum, parapsidis crenulatis; scutellum ut mesonotum. Epicnemia in angulo posterior prothoracis nitida, polita. Mesopleura supra politae, sine punctis, sternauli laeves. Metanotum obliterate sculpturatum tenuiter punctatum, antice apud scutellum et lateraliter grossius punctatum, utrinque spatio laevigato ornatum, medio tenuiter bicarinatum, carinis postice divergentibus, utraque dupliciter instructis, spatio intercarinali tenuiter disperseque punctulato. Alae tenuiter infuscae, fere hyalinae. Cellula cubitalis secunda quadrangularis, abscissa radii tertia fere recta, nervus medianus translucidus hyalinatus ceteri stigmati similiter nigrobrunneus colorati. Pedes nigri, femoribus (posterioribus exceptis) apicibus testaceis, tibiis testaceis, mediis solum apice infuscatis, posterioribus praeterea prope basim fusco maculatis. Segmentum abdominis primum haud carinatum, antice et in lateribus longinaliter striatum postice foveolatum. Tergitum secundum nitidum, lateraliter striatum et sulcum transversum praebens. Tergitum tertium sulco transverso haud profundo instructum. Terebra longitudine corporis nonnihil longior. Long. 5 mm. Habitat Armenia, prope Eriwan, 12.v.1925, Shelkovnikov. *Agathis duplicata* is easy to recognise from the other species because of the diverging longitudinal carinae of the propodeum. From *A. propinqua* Kok. it differs by the shape of the frontal crest, by the longitudinal striation of the second tergite, by the longer ovipositor and by the transparent medial vein. From *A. rufipalpis* Nees it differs by the length of the ovipositor and the sculpture of the second tergite, from *A. tibialis* Nees by the colour of the palpi, the sculpturing of the second tergite and the depression of the third tergite." English part translated from Russian.); Shenefelt, 1970: 331; Tobias, 1986: 285 (lectotype des.; transl. 1995: 497).

Material.— Lectotype, ♀ (ZISP), "Lectotypus *Agathis duplicata* Shest., design. Tobias 1982", "*Agathis duplicata* spec. nov. typ. aut., det. Shestakov", "Armenia, A. Shelkovnikov"; with a fourth label in Russian [near Erivan, 12.v.1925].

Length of body 4.4 mm.

Head.— Head moderately elongate, width below eyes equal to length of face and clypeus combined (fig. 252), its length in frontal view 1.7 times maximum width of face, minutely punctate, with fine short pilosity; height of eye about 1.5 times length

of malar space; stemmaticum and ante-ocellar area distinctly prominent (fig. 250), area in front of anterior ocellus sloping anteriorly, with rather high median keel, not protruding near antennal sockets; antenna incomplete; galea stout (fig. 250), 0.93 times height of eye, and 0.46 times height of head

Mesosoma.— Length of the mesosoma 1.5 times its height; side of pronotum largely smooth, but distinctly finely rugulose antero-dorsally and minutely and densely crenulate near posterior margin; mesoscutum and scutellum punctate or punctulate; notauli well impressed, distinctly crenulate; mesopleuron largely smooth, with some punctation mainly anteriorly and medially; precoxal sulcus as regularly crenulated groove, about half as long as mesopleuron, reaching posterior margin of mesopleuron (fig. 251); metapleuron punctate; anteriorly propodeum punctate and mingled with very fine rugulosity, remainder of propodeal surface smooth, shining, especially near both medio-longitudinal carinae, and carinae distinct, although not continuous.

Wings.— Fore wing: marginal cell rather small, short, with SR1 slightly curved distally (fig. 253); r:3-SR:SR1 = 2:9:40; second submarginal cell quadrangular; 2-R1 much shorter than 1-R1 (fig. 253); pterostigma about twice as long as 1-R1. Hind wing largely invisible.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.0, 6.0 and 7.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.34 and 0.30 times hind basitarsus, respectively; hind tarsal claws with a tiny lobe.

Metasoma.— First tergite about as long as wide apically, its surface distinctly and entirely striate; second tergite with very fine scale-reticulation behind medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.20 times fore wing and about as long as body.

Colour.— Black; fore leg and part of tibiae between darkened parts, yellowish-brown; one apical third of hind tibia darkened, and with a distinct darker ring sub-basally; three last segments of the maxillary palp whitish-yellow.

Distribution.— Armenia.

Biology.— Unknown.

Notes.— From the original description it is clear that this species has the last three segments of the maxillary palp yellowish-white, the median keel of the frons not strongly protruding, the precoxal sulcus smooth, the first metasomal tergite striate, and the second tergite with only some vague traces of sculpture. The lectotype has a very prominent median keel (fig. 250) near the antennal sockets, the sculpture on the second metasomal tergite is almost absent, the precoxal sulcus ("sternauli" of Shestakov) is long, and distinctly crenulate (fig. 251), and the last segments of the maxillary palpus are conspicuously yellowish-white. The morphological term "precoxal sulcus" (e.g. Richards (1956, 1977) does not refer to the same structure as "sternaulus" in Ichneumonidae and some Braconidae-Opiinae. The two terms both refer to mesopleural structures, but the first structure is situated much higher anteriorly than the other one and the terms are not synonymous (van Achterberg, 1994). In the past many authors (including Shestakov) used the term "sternauli" for what actually is the precoxal sulcus. The precoxal sulcus of the lectotype obviously disagrees with the original description, also the frons near the antennal sockets is different. However, so far, we did not find any other *Agathis* specimen showing that same colour of the palpi

and provisionally we consider *A. duplicata* to be a valid species. Other character-states are highly variable within the genus *Agathis*. *A. anglica* may have pale yellowish maxillary palp segments, but it lacks the distinct median keel of the frons of *A. duplicata*.

Two species described by Kokujev, *A. propinqua* and *A. longicauda* (the latter is pre-occupied by Boheman, 1853) have been synonymized with *A. duplicata* by Tobias (1963). This synonymy seems to be doubtful: the holotype of *A. longicauda* Kokujev has neither a part of the maxillary palp yellowish-white, nor a keel on the frons and it fits much better with *A. anglica* (**syn. nov.**). The poor remnants of the holotype of *A. propinqua* do not allow a clear opinion, but it is clear from the description that it fits well with *A. assimilis* (**syn. nov.**), a species which may have a complete precoxal sulcus as is observed in the holotype.

Agathis dzhulphensis Abdinbekova, 1970
(figs 100-106, 108)

Agathis dzhulphensis Abdinbekova, 1970: 1881 ("Near *A. rubens* Tobias, from which it differs by the long ovipositor (as long as the length of the thorax and metasoma combined), and by the absence of the precoxal sulcus. Female, 5.2 mm. Head as long as wide; length of temple 0.5 times width of eye; ocellar triangle obtuse anteriorly; crest on frons developed, medially branched into two branches; width of face three times its width; height of clypeus 0.5 times height of face; longitudinal diameter of eye 1.3 times its transverse diameter, and slightly longer than length of malar space; rostrum as long as height of face; antenna slightly longer than length of head and thorax combined, first flagellar segment 3.5 times longer than wide; antenna with 25 segments; thorax 1.5 times longer than high; notauli not clearly developed; precoxal sulcus obsolescent; second radio-medial cell of fore wing triangular; hind femora 4 times longer than wide; inner hind tibial spur 0.3 times hind basitarsus; fifth tarsal segment 1.5 times shorter than second and as long as third segment; first metasomal tergite 1.3 times longer than its apical width; second tergite almost 5 times wider than long; ovipositor sheath slightly shorter than body; propodeum smooth, only laterally and along carinae sculptured, with two longitudinal carinae; metasoma smooth. Brownish-red; antenna (except basally), rostrum, lower part of mesothorax, postero-lateral part of scutellum, metathorax, propodeum medio-apically and ovipositor sheath black; wings infusate; pterostigma and veins brown. Male unknown. Material: Azerbaidzhan, Nachitshevanskaja ASSR, Dzhulpha, Dash-Arch, 26.v.1967, 1 ♀ (holotype), steppe, on xerophyt." Translated from Russian.); Abdinbekova, 1975: 195; Tobias, 1976: 209; 1986: 282 (transl. 1995: 489, as *A. adzhulphensis*!).

Material.— Holotype, ♀ (ZISP), "Azerb. SSR [= Azerbaidzhan], Dzhulpha, Dash-Arch, 26.v.[19]67, [A.] Abdinbekova", "step, ka kserophitsch", "Holotypus *Agathis dzhulphensis* Abdinbekova, sp. nov.".

Length of body 5.1 mm, of fore wing 4.4 mm.

Head.— Head robust, distinctly tapering ventrad (fig. 100), width of head below eyes 1.3 times median height of face and clypeus combined, its length in frontal view 1.3 times maximum width of face; face nearly completely smooth, with rather dense medium-sized greyish pilosity; clypeus convex, medio-ventrally concave, and largely smooth, except for some punctulation; lateral epistomal suture present, narrow; anterior tentorial pits large (fig. 100); height of eye 1.2 times length of malar space; stemmaticum not prominent (fig. 102), ante-ocellar area large and wide triangular and deeply impressed (fig. 101), area distinctly protruding and weakly sloping ventrad, its side not oblique wing-like, frons without median keel, in front of triangular area depressed in lateral view (fig. 102); antenna incomplete (according to original

description with 25 segments); galea smooth and rather stout (fig. 104), 0.55 times height of eye, 0.76 times malar space, and 0.3 times height of head.

Mesosoma.— Length of the mesosoma 1.5 times its height; side of pronotum largely smooth, somewhat crenulate medio-anteriorly, narrowly densely setose postero-dorsally, and indistinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, with some sparse punctulation; scutellum weakly convex; notauli completely absent anteriorly, very faintly indicated posteriorly, smooth; medio-posterior groove obsolescent, smooth; mesopleuron smooth; only medially precoxal sulcus present, short, smooth; metapleuron sparsely punctulate medially, narrowly rugose ventrally; propodeum largely smooth, both medio-longitudinal carinae only anteriorly distinct, largely absent on posterior half of propodeum.

Wings.— Fore wing: marginal cell medium-sized, with SR1 straight (fig. 108); r:3-SR:SR1 = 6:1:47; second submarginal cell sessile, subtriangular (fig. 108); 2-R1 0.7 times 1-R1 (fig. 108); pterostigma 1.6 times as long as 1-R1; 1-R1 hardly widened (fig. 108). Hind wing: M+CU:1-M = 10:7.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.9, 6.3 and 7.2 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.4 and 0.3 times hind basitarsus, respectively; tarsal claws rather slender (fig. 105), with small acute lobe; probably middle tibia with 1 peg submedially (tibia not well visible because of glue); hind tibia somewhat swollen subbasally.

Metasoma.— Length of first tergite equal to its apical width, rather convex (medio-posteriorly somewhat flattened), its surface smooth; length of second tergite 0.7 times as long as its basal width, its surface smooth, with rather flat and transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.13 times fore wing, 1.9 times metasoma, and 0.97 times body.

Colour.— Yellowish-brown; mesopleuron ventrally, mesosternum and ovipositor sheath black; frons medially, lateral parts of epistomal suture, humeral plate partly, palpi, antenna, scutellum posteriorly, metanotum largely, propodeum (except pair of medial areas), metanotum laterally, pterostigma and veins dark brown; apically hind tibia slightly infuscate; wing membrane rather infuscate.

Distribution.— Azerbaidzhan, Kazakhstan.

Biology.— Unknown.

Notes.— Closely related to *A. rubens* Tobias, but it differs by the much larger ante-ocellar area, the absence of a distinct median keel of the frons (in *A. rubens* the keel is also weak and obtuse dorsally, but present and straight dorsally in lateral view), the longer ovipositor sheath, the reduced precoxal sulcus, the reduced dorsal carinae of the propodeum, the yellowish-brown occiput and vertex, the subbasally somewhat more swollen hind tibia, and the partly dark brown humeral plate.

Agathis ferulae Tobias, 1963
(figs 280-281)

Agathis ferulae Tobias, 1963: 879 ("Close to *A. laticarpa* Tel., from which it differs by the shorter malar space, by the smaller number of antennal segments, by the pale basal part of the wing, and by the smooth metasoma. Female, 5-6 mm. Head as wide as long, temple 0.5 times width of eye, stemmaticum obtuse, frontal crest developed, branched in two branches; longitudinal diameter of eye 1.7 times its transverse diameter, and 1.5 times malar space; height of face 0.5 times its width, and

1.5 times height of clypeus, rostrum as long as malar space; antenna considerably shorter than body, with 24 (6), 25 (17), or 26(6) segments, first flagellar segment 4 times longer than wide, segments of apical third of flagellum slightly longer than wide, rarely up to 1.5 times; thorax twice as long as high; second cubital cell quadrangular or petiolate; hind femur 4-5 times longer than wide; inner hind spur 0.3 times hind basitarsus, fifth hind tarsal segment as long as second and longer than third segment; first metasomal tergite slightly longer than wide apically, second tergite 1.3-1.7 times wider than long; ovipositor as long as combined length of metasoma and thorax up to tegulae, propodeum smooth, only laterally and along carinae sculptured, usually with two longitudinal carinae, rarely three. Black; legs (except base of middle femur and sometimes of hind femur) brownish-red; apex of middle and hind tibiae and tarsi brown; basal 0.7 of hind tibia yellowish, apical part of wings slightly darker, basally pale yellowish, sometimes this contrasting colouration is not well developed. Male: antenna with 23 (3), 24 (19), 25 (9), or 26 (1) segments, colour darker than in female; hind femur sometimes completely, middle (except apex), and fore (except apical half) femora black; in series of specimens hind femur shows gradual darkening, and get more darkened than fore and middle femora; antenna slightly shorter than body; segments of apical third of antenna 1.5-2.0 times as long as wide; malar space 0.5-0.7 times transverse diameter of eye. Material. Karagandinskaya oblast, 30-50 km west of Mt. Kesil-Zhar, *Ferula songorica*, 23.vi.1958 (36 ♀♀ + 43 ♂♂ (including ♀ holotype); 6-8 km of Mt. Kesil-Zhar, 22.vi.1958, 1 ♀ + 1 ♀." Translated from Russian.); Shenefelt, 1970: 333; Tobias, 1986: 285 (transl., 1995: 499) [examined].

Material.— Holotype, ♀ (ZISP) "[Kazakhstan], 30-50 km west of Mt. Kesil-Zhar, 23.vi.1958, [on *Ferula songorica*], V.I. Tobias", "*Agathis ferulae*, det. V. Tobias"; "Holotypus *Agathis ferulae*"; 2 ♀♀ (ZISP), topotypic paratypes.

Holotype, ♀, length of body 5.7 mm.

Head.— Head robust, weakly tapering ventrad (fig. 280), width of head below eyes 1.55 times median height of face and clypeus combined, its length in frontal view 1.5 times maximum width of face; face nearly smooth, with rather dense medium-sized greyish pilose, but less than in *A. griseifrons*; height of eye 1.6 times length of malar space; stemmaticum distinctly prominent (fig. 281), ante-ocellar area short and rather rounded, shallowly impressed, rather protruding, with distinct median keel, straight dorsally; antenna with 23 segments (in other specimens 23-26); galea obtuse apically (fig. 281), 0.6 times height of eye, and 0.3 times height of head.

Mesosoma.— Length of mesosoma 1.6 times its height; side of pronotum largely smooth, distinctly crenulate near posterior margin; mesoscutum punctate and scutellum punctulate; notauli deep, complete, distinctly crenulate; mesopleuron largely smooth; precoxal sulcus only anteriorly absent, reaching posterior margin, deep, and crenulate; metapleuron punctate laterally; propodeum largely smooth, with both medio-longitudinal carinae strong and regular.

Wings.— Fore wing: marginal cell rather large, with SR1 straight; second submarginal cell subtriangular; 2-R1 about 0.7 times 1-R1. Hind wing: M+CU:1-M = 3:2.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.2, 7.1 and 8.3 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.36 and 0.32 times hind basitarsus, respectively; tarsal claws robust, with medium-sized acute lobe.

Metasoma.— First tergite as of *A. griseifrons*, but its surface largely smooth, only some striae basally; second and following tergites smooth; ovipositor sheath 0.78 times fore wing, 1.2-1.3 times metasoma, and 0.68 times body.

Colour.— Black; legs largely yellowish-brown (see original description); two examined paratypes have also second and third metasomal tergites yellowish-brown; wing membrane pale yellowish basally

Distribution.— Kazakhstan.

Biology.— Unknown.

Notes.— *Agathis ferulae* is rather close to *A. griseifrons*, but it is well separable if attention is paid to the structure of the area between the stemmaticum and the level of the antennal sockets in lateral view and to the number of antennal segments. Although some *A. griseifrons* specimen may have the ante-ocellar area rather protruding, this prominence is characterised by declining very shortly in front of the anterior ocellus and becoming distinctly flat. On the contrary, in *A. ferulae* the stemmaticum is distinctly protruding, connected without interruption to the ante-ocellar area and to the median keel. To perceive these differences it is important to position the specimens correctly. The two drawings of figs 164-165, show the head in lateral view of the same *A. griseifrons* specimen under two different angles: it is evident (fig. 164) that a false impression of a very prominent stemmaticum and ante-ocellar area can be given in *A. griseifrons*, comparable to that in *A. ferulae* (fig. 281). The correct figure of the *A. griseifrons* specimen is instead fig. 165. Sometimes it is even necessary to remove the antennae (as for fig. 165).

Agathis fischeri Zettel & Beyarslan, 1992
(figs 114-116)

Agathis fischeri Zettel & Beyarslan, 1992: 123-124, figs 1-5 ("Beschreibung (♀): Kopf von oben gesehen quer; Augen flach gewölbt; Schläfen abgerundet, 0.7mal so breit wie das Auge; Malarraum 0.8 mal so hoch wie das Auge lang; Galea so lang wie der Malarraum hoch (1.0) und etwas 3mal so lang wie breit (Fig. 1); Kopf in Frontalansicht nach unten stark verlängert und verschmälert (Fig. 2); Gesicht nur sehr spärlich behaart; die Antennensockel vereinigen sich auf der Stirn, jedoch ist auf der Stirn hinter der Vereinigung kein Kiel ausgebildet; vor dem vorderen Ocellus ein unscheinbares, kleines Grübchen; POL = OOL = 1.5 Ocellendurchmesser. Antenne 22-gliedrig, alle Glieder länger als breit; 3. Glied 1.8mal so lang wie das 4.; vorletztes Glied 1.35mal so lang wie breit. Thorax relativ schlank, 1.7mal so lang wie hoch, durchwegs glatt und stark glänzend; Notauli fehlen vollständig; Sternauli stark reduziert, als sehr feine, nicht gekerbte Linie ausgebildet, welche in der hinteren Ecke des Mesopleuron entspringt und ca. 2/3 dessen Länge durchzieht; auch das Propodeum glatt. Flügel vom Typus der Gattung (Fig. 5): R am Vorderrand viel kürzer als Stigma und etwas länger als der distale Abschnitt des Metacarpus; Cu2 sitzend, stumpf dreieckig oder viereckig. Beine: Dornen an der Außenseite der Mitteltibia sehr dünn und schwer erkennbar; Hinterfemur 3.6 mal so lang wie breit; Klauen der Hinterbeine mit kleinem, spitzen Basalzahn. Metasoma völlig glatt; 1. Tergit gewölbt, 1.5mal so lang wie breit; Bohrerscheiden viel länger als der Körper. Färbung: rotgelb, Vertex, Mundwerkzeuge samt Palpen, Labrum, Ventralseite des Thorax, Ende des Propodeums, Bohrerscheiden und die Beine außer den distalen 2/3 der Femora und den proximalen 2/3 der Tibien dunkelbraun bis schwarz; Flügel braun getrübt, Geäder schwarzbraun. Körperlänge 4.6 mm; Vorderflügelänge 4.6 mm; Bohrerlänge 7.6 mm. Diagnose: *A. fischeri* ist an der Färbung, dem Fehlen der Notauli, den reduzierten Sternauli und dem sehr langen Legebohrer eindeutig erkennbar. Sie unterscheidet sich von *A. umbellatarum* Nees, 1814 durch den roten Kopf, fehlende Notauli und dem Fehlen eines deutlichen präocellaren Grübchens, von *A. glaucoptera* Nees, 1834 durch etwas längere Augen, sitzende Cu2 und viel längeren Legebohrer, von *A. rubens* Tobias, 1963 durch schlankere Geißelglieder, glatte Sternauli und viel längeren Legebohrer.") [examined].

Material.— Paratype, ♀ (NMW), "TR [= Turkey], Adiyaman, Atatürk Baraji, 16.vii.1985, [A.] Beyarslan", *Agathis fischeri* n. sp., ♀, PT, det. H. Zettel, 1991", "Paratypus".

Length of body 4.8 mm, of fore wing 4.1 mm.

Head.— Head elongate, distinctly tapering ventrad (fig. 116), width of head below eyes 1.1 times median height of face and clypeus combined, its length in frontal view 1.7 times maximum width of face; height of eye 1.3 times length of malar space; stemmaticum moderately prominent (fig. 114), ante-ocellar area small, equilateral triangular and very shallowly impressed, not protruding, almost flat, frons without median keel, flat (fig. 116); antenna with 22 segments; galea obtuse apically, 0.7 times height of eye, 0.34 times height of head; lateral epistomal suture indistinct.

Mesosoma.— Length of the mesosoma 1.7 times its height; side of pronotum largely smooth, crenulate near posterior margin; mesoscutum and scutellum smooth; scutellum flat; notauli completely absent; scutellar sulcus narrow and indistinctly crenulate; mesopleuron smooth; only posterior half of precoxal sulcus present, superficially impressed and reaching posterior margin of mesopleuron, narrow, and smooth; propodeum nearly completely smooth, with some punctures medially.

Wings.— Fore wing: marginal cell medium-sized (fig. 115), vein SR1 straight; r:3-SR:SR1 = 2:1:22; second submarginal cell slender quadrangular (fig. 115); 2-R1 0.8 times 1-R1. Hind wing: M+CU:1-M = 4:3.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.3, 6.8 and 9.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.3 and 0.2 times hind basitarsus, respectively; tarsal claws with tiny lobe.

Metasoma.— Length of first tergite 1.4 times its apical width, its surface smooth; median length of second tergite 0.8 times its basal width; remainder of metasoma smooth; ovipositor sheath 1.83 (of holotype 1.65) times fore wing, 1.6 times body and 3.1 times metasoma.

Colour.— Bright yellowish-brown; mouthparts, mesopleuron ventrally, mesosternum, coxae largely, trochanters, trochantelli (except yellowish hind trochantellus), fore femur narrowly basally, basal half of middle femur, basal 0.4 of hind femur, apices of tibiae, tarsi, humeral plate (but tegula yellowish), metapleuron largely, propodeum medially and posteriorly, apices of sternites (except of hypopygium), pterostigma and veins dark brown; wing membrane distinctly infusate.

Distribution.— Turkey.

Biology.— Unknown.

Note.— Similar to *A. rubens* Tobias, 1963, but *A. rubens* has a much shorter head (fig. 111), the frons with a median keel, and the ovipositor sheath about 1.5 times the metasoma and 0.8 times the fore wing.

Agathis fulmeki Fischer, 1957
(figs 97-99, 103)

Agathis fulmeki Fischer, 1957: 6-7 ("Weibchen. Kopf: doppelt so breit wie lang, Schläfen halb so lang wie die Augen, Hinterhaupt sehr stark gebuchtet, Ocellen vortretend; der ganze Kopf glatt; Schläfen hinter den Augen und Wangen schütter behaart, Gesicht fast unbehaart, nur in der Nähe der Grubchen an der Basis des Clypeus mit spärlicher Pubeszenz; Wangen halb so lang wie die Augenhöhe, Rostrum von zwei Drittel Kopfhöhe; Fuhler 27gliedrig, sehr wenig kürzer als der

Körper, fadenförmig, die Glieder gegen das Ende zu an Länge allmählich abnehmend, das dritte Fühlerglied viermal so lang wie dick, das vorletzte fast nicht länger als dick. Thorax: um zwei Drittel länger als hoch, so breit wie der Kopf, von der Seite gesehen fast rechteckig; Pronotum fein und weitläufig punktiert, Notauli tief und punktiert, münden vorne in eine verlängerte, ebenfalls punktierte Längsgrube hinten auf der Scheibe, Seitenränder scharf, von einer Reihe eingestochener Punkte begleitet; Praescutellargrube ziemlich flach, in der Mitte etwas nach vorne gebogen, scharf krenuliert; Schildchen ganz glatt; Propodeum glatt, in der Mitte mit zwei parallelen, nach hinten nur äußerst schwach divergierenden, vollständigen Längskielen, zwischen diesen nur ganz hinten einige wenige Querleisten, sonst nur etwas uneben, neben den Längskielen mit einer Reihe grober Porenpunkte, Propodeum an den Seiten runzelig; Seiten des Prothorax und Mesopleuren ganz glatt, Sternauli krenuliert, kurz, reichen weder an den Vorder-, noch an den Hinterrand, vordere Mesopleuralfurche als Porenpunktreihe ausgebildet, hintere krenuliert; Thoraxunterseite fein, schütter weißlich behaart; Beine verhältnismäßig gedrunken gebaut, Hinterschenkel etwa zweieinhalbmal so lang wie breit, Mittelschienen außen an der unteren Hälfte mit einigen kleinen Dörnchen. Flügel: Dunkel braun getrübt; Stigma breit, Radius entspringt etwa aus der Mitte, erster Radialabschnitt etwa so lang wie cuqu 2, r2 fehlt, r3 fast gerade, nur am Ende wenig nach innen gebogen, Basalnerv nach innen gebogen, cu1 fast ganz erloschen, Cu1 und D daher verschmolzen, Areola dreieckig, cu3 stark ausgeblaßt, nur als Flügelfalte angedeutet, Nervulus deutlich postfurkal, B außen unten offen, n. par. fast erloschen. Abdomen: erstes Tergit so lang wie hinten breit, vorne um ein Drittel schmaler als hinten, nach vorne gleichmäßig verschmälert, mit zwei seitlichen Kielen in den vorderen zwei Dritteln, längsstreifig skulptiert, hinten mehr chagriniert, vorne zwischen den Kielen fast glatt; Hinterleib vom zweiten Tergit an ganz glatt, das zweite Tergit mit flachem Quereindruck, Hinterleibstergite vom dritten angefangen am Endrand einreihig behaart; Bohrer so lang wie der Körper ohne Kopf. Färbung: Schwarz. Rot sind: Vorderschenkel mit Ausnahme ihrer Basis, Mittelschienen, Mittelschenkel an der Spitze, Basis aller Metatarsen; Hinterschienen rötlich bis weißlich, am Ende schwarz, nahe der Basis ein schwarzer Halbring. Länge: 3.06 mm. Fundort: Mödling- Vorderbrühl/ Niederösterreich, 4 ♀♀, 16.vii.1955, leg. Fulmek. Anmerkung: Die Bestimmungstabelle von Telenga (l.c.) bringt diese Art in die Verwandtschaft von *A. tibialis* Nees, von welcher sie sich durch die Skulptur des Propodeums und die Färbung der Hinterschienen unterscheidet.); Shenefelt, 1970: 334; Nixon, 1986: 198-199, figs 10, 35, 42, 51 [examined].

Material.— Holotype, ♀, "Vorderbrühl/Niederösterreich, 16.vii.1955, Fulmek"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, n. Arda, 13.vii.1976, A. Zaykov"; 2 ♀♀ + 4 ♂♂ (RMNH), "[Bulgaria], Trakia, Radnevo, 17.vi.[19]94, [A.] Zaykov"; 2 ♀♀ + 1 ♂ (RMNH), "[Bulgaria], Rodopi, Bojkovo, 18.vii.[19]94, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], S. gora, P. colonii, 7.vii.[19]94, [A.] Zaykov"; 1 ♀ (RMNH), id., but 2.vii.1994; 1 ♀ (RMNH), "[France], Aude III, Antugnac, 11.vii.1992, Th. Noblecourt"; 2 ♀♀ + 3 ♂♂ (RMNH), "France, Chateaubourg, 11.vi.1953, G.L. Spoek", 1 ♀: "*Agathis fulmeki* Fischer, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "France, dépt. Gard, M.J. Gijswijt", "Crespian, 6.vii.1977, weggant [= roadside]", "*Agathis asteris* Fi., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "France, dépt. B. du Rhône, M.J. Gijswijt", "Camargue, 9.vii.1980, in rietveld [= reedfield]", "*Agathis asteris* Fi., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "Spanje, prov. Murcia, 200 m, Totana-Aledo, 22.v.1960, exc. Museum Leiden", "*Agathis fulmeki* Fischer, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "Spanje, prov. Badajoz, 700 m, ten Z. van Monasterio, 7-8.v.1960, exc. Museum Leiden", "*Agathis fulmeki* Fischer, det. G.E.J. Nixon, 1984"; 1 ♂ (RMNH), "Fr[ench] Marocco, Djeman de M. Brit., 31.v.1953, G.L. Spoek".

Length of body 3.4 mm (= mean).

Head.— Head very short in frontal view, weakly tapering ventrad (figs 98-99), width of head below eyes 1.1-1.3 times median height of face and clypeus combined, its length in frontal view 1.6 times maximum width of face; face nearly smooth, with rather dense medium-sized greyish pilosity; clypeus convex and largely smooth,

except some punctulation; lateral epistomal suture absent; height of eye 2.1-2.7 (mean: 2.4 times) length of malar space; stemmaticum and ante-ocellar area distinctly prominent (fig. 97), area rather wide triangular, more or less with a (often flat) plateau posteriorly and pit-like impression anteriorly, frequently with round convexity on plateau (figs 98-99; see notes), with distinct median keel, straight dorsally; antenna with 25-27 segments; galea robust, obtuse apically (fig. 97), mean length 0.8 times height of eye, 0.55 times height of head.

Mesosoma.— Length of the mesosoma 1.9 (variation: 1.6-1.9) times its height; side of pronotum largely smooth, and distinctly crenulate near posterior margin; mesoscutum and scutellum sparsely punctate; scutellum flat; notauli deep, complete, narrow, crenulate, and with long medio-posterior groove; mesopleuron largely smooth; precoxal sulcus only medially distinct, often very short and with a few crenulae, not reaching posterior margin; metapleuron (coarsely) punctate medially, rugose ventrally; subbasally propodeum with some transverse punctate-rugosity, with large smooth central areas and with usually strong medio-longitudinal carinae.

Wings.— Fore wing: marginal cell moderately large, with SR1 straight; r:3-SR:SR1 = 5:3:45; second submarginal cell (sub)triangular; 2-R1 about as long as 1-R1. Hind wing: M+CU:1-M = 7:5.

Legs.— Length of femur, and tibia and of hind leg 2.6, and 5.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.40 and 0.35 times hind basitarsus, respectively, spurs robust (fig. 103); hind tarsus as long as hind tibia; outer side of middle tibia with 6-7 pegs; tarsal claws robust, with distinct lobe.

Metasoma.— Length of first tergite 1.1 times its apical width, its surface superficially striate, obsolescent near apex of tergite, sometimes smooth apically; second tergite robust, smooth, with transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 0.95 (mean: 0.94) times fore wing, and 1.7 times metasoma.

Colour.— Black; pale parts of legs as of *A. rufipalpis*, but usually apex of middle tibia yellowish, and basal half of middle and hind basitarsi largely brownish-yellow.

Distribution.— Austria; Bulgaria; *France; *Morocco; *Spain.

Biology.— Unknown.

Notes.— Luckily, both Fischer (1957) and Nixon (1986) described the head of the holotype in detail, because the holotype now has its head missing. The head of *A. fulmeki*, if carefully examined, is distinctive enough for recognition the species because of the robust malar space and the relatively flat vertex in lateral view (fig. 97). *A. fulmeki* is a medium-sized species, probably locally very common in Central Europe, with a rather constant morphological pattern (but the shape of the ante-ocellar area is rather variable); the degree of intraspecific variation is limited compared with most other *Agathis* species.

No other *Agathis* species gives such a striking impression of shortness of the head in frontal view (figs 98-99). However, such a shortness is difficult to express in morphometric terms: the relative length of the head of *A. fulmeki* is higher than in other short-headed species (e. g., *A. pappei*, or *A. zaisanica*). The impression of robustness in lateral view of the head of *A. fulmeki* is in fact the result of the disproportion between the comparatively large eyes and the short malar space, the eyes being more than twice the length of the malar space (fig. 97). No other European *Agathis* species has

such a short malar space, except males (and to a lesser degree also females: fig. 297) of *A. rufipalpis*. Some other species have the malar space almost as short; however, these species have the mesosoma less elongate than in *A. fulmeki*. Also the structure of the stemmaticum and of the ante-ocellar area is peculiar (figs 98-99): in lateral view the head shows a massive median keel connected to the ante-ocellar area, forming together a compact and prominent structure, but sometimes it is reduced. The triangular ante-ocellar area is rather wide (compared with the very similar *A. rufipalpis*) and the median keel is obtuse; the cavity inside is deep anteriorly; submedially the depression is uneven because it has a sort of flat surface (a kind of small plateau as if there is a step inside the ante-ocellar area, and it may extend posteriad if no depression is present in front of the anterior ocellus). Frequently there is a small convexity (as if a little marble has been left in the depression) on the submedial flattened area. Because of the peculiar shape of the head *Agathis fulmeki* may be confused with *A. zaisanica* Tobias, but the length of eye compared with the malar space clearly differentiates that species from *A. fulmeki*. The four apical segments of the maxillary palp may be pale yellowish or yellowish-brown; frequently, the hind basitarsus and tibial spurs are rather robust (figs 103, 299), if compared with *A. rufipalpis*.

Agathis fuscipennis (Zetterstedt, 1838)
(figs 188-232, 235)

Microgaster fuscipennis Zetterstedt, 1838: 404 ("Niger, alis infuscatis, geniculis tibiisque rufo-testaceis, his posticis apice tarsisque nigricantibus. ♂ ♀. Hab. in Lapponia sylvatica Kemensi et Tornemense Augusto passim; ad Kihlangi die 21. Aug. frequentiore vidi. (Lapp.-Ostrog. pass. Gottland, freq.). Fem. Priori paullo minor. Laevis, subnitidus, niger; antice subpubescens. Caput infra oculos subconico-descendens, partibus scilicet oris rostrum simulantibus. Antennae, thorax, abdomen et cauda ut in priori. Metathorax convexus, subrugosus et striatus. Alae fusco-hyalinae, nervus ut in praecedente. Pedes femoribus brevibus validis, nigris; antici femoribus apice late, tibiis tarsisque luteus; intermedii geniculis tibiisque rufo-testaceis, his apice tarsisque fuscis; postici tibiis flavis aut albidis; annulo intra basin apiceque, tarsisque, fuscis."); Shenefelt, 1973: 708 [examined].

Agathis fuscipennis; Papp, 1994: 308 (lectotype designation).

Agathis glabricula Thomson, 1895: 2228 ("Nigra, pedibus pallide variis, terebra corpore fere brevior, alis griseo-subfumatis, cubito basin versus fere deleto, areola parva, subtriangulari, sternaulis postice haud abbreviatis. ♀ ♂ Long. $1\frac{1}{4}$ - $1\frac{1}{2}$ lin. A. varipedi pedum colore simillima, sed paullo minor, alis minus fumatis, cubito basin alae versus deleto, cellula radialis brevior, radii basi fere punctiformi, appendice brevissima, terebra paullo brevior distincta."); Shenefelt, 1970: 335; Nixon, 1986: 209-210, figs 28, 41, 46; Papp, 1994: 303-310 (as synonym of *A. fuscipennis*); Zettel & Beyarslan, 1992: 125 [examined].

Agathis schmiedeknechti Kokujev, 1895: 389 ("Nigra, nitida. Facie pube densa vestita, tenuiter punctulata. Maxillis labioque capite multo brevioribus; palpis nigris, maxillaribus articulis 3 apicalibus testaceis. Antennis 26-articulatis. Mesonoto subtilissime et sparsim punctulato. Metanoto fortiter rugoso, bicarinato, postice inter carinas divergentes carinula areviata instructo. Alis leniter infuscatis, nervo medio fere decolorato; cellula 2a cubitali triangulari, abscissa 3a radii recta. Segmento primo abdominis rugoso, basi profunde excavato et distincte carinato; segmento 2° in sulco transverso rugoso. Pedibus nigris, femoribus anticis basi excepta, intermediis dimidio apicali, posticis summo apice tibiisque anticis rufo-testaceis; tibiis intermediis albidis, apice infuscatis et prope partem mediam laterum externorum serie spinarum fuscicarum ornatis; tibiis posticis albidis apice infuscatis. ♂."); Shenefelt, 1970: 354 [examined]. **Syn. nov.**

Agathis tibialis Nees, 1814, var. *annulata* Fahringer, 1937: 477 ("Hintertibien mit einem klaffenden,

schwarzen Ring nahe der Basis. 2. Rcu-querader [= vein r-m of fore wing] z. T. erloschen.“).

Agathis meritionellae Fischer, 1957: 1 (“Weibchen: Kopf: Stirn und Hinterhaupt glatt und glänzend, sehr spärlich punktiert, Ocellen im Dreieck stehend, ein wenig vortretend, Hinterhaupt sehr stark gebuchtet; Gesicht, Wangen und Clypeus dicht weiß behaart (ähnlich wie bei *A. griseifrons* Thoms.), Schläfen fast unbehaart; Wangen so lang wie die Augen, Rostrum fast so lang wie die Wangen, fein behaart; Fühler fadenförmig, so lang wie der Körper, 24 bis 25gliedrig, der Schaft um die Hälfte dicker als das erste Geißelglied, dieses viermal so lang wie breit, die folgenden allmählich an Länge abnehmend, das vorletzte nur um ein Drittel länger als breit, alle Fühlerglieder dicht behaart. Thorax: Mesonotum mäßig weiß behaart, Notauli tief und vollständig, haarpunktiert, münden auf der Scheibe vorne in eine ebenfalls haarpunktierte Längsfurche ein; Ränder des Mesonotums etwas aufgebogen und krenuliert, Praescutellargrube krenuliert, Schildchen glatt. Propodeum mit zwei parallelen Längskielen, die sich an der Spitze vereinigen, dazwischen in der Tiefe in verhältnismäßig großen Abständen einzelne Querleistchen; vorne mit 2-3 unregelmäßigen Querwülsten, hinten und an den Seiten unregelmäßig gerunzelt, längs der Mittelkiele und der vorderen Querrunzeln mit einer Reihe tief eingestochener Punktgrübchen, der Rest des Propodeums glatt und glänzend. Seiten des Prothorax glatt und glänzend, nur ganz vorne runzelig punktiert, hinterer Rand von einer krenulierten Furche begleitet; Mesopleuren sehr wetläufig punktiert, Sternauli scharf krenuliert und reichen bis an den Hinterrand der Mesopleuren; hintere Mesopleurfurche ebenfalls krenuliert; Metapleuren glatt und mäßig behaart. Flügel: Etwas braun getrübt; erster Abschnitt der Media größtenteils erloschen, ebenso der erste Abschnitt des Cubitus, Discoidalzelle und erste Cubitalzelle daher fast ganz verschmolzen, dritter Abschnitt des Cubitus wieder erloschen und nur durch eine Flügelfalte angedeutet. Die Länge des ersten Radialabschnittes etwa ein Drittel der Stigmbreite, r2 fehlt, r3 fast gerade, nur an der Spitze leicht nach innen gebogen; Areola klein und dreieckig; Nervulus stark postfurkal, Brachialzelle außen unten offen, der Brachialquernerv geht in flachem Bogen in den nur durch eine Flügelfalte angedeuteten Parallelnerv über. Radialzelle im Hinterflügel gestielt, in der Mitte etwas eingeschnürt, Medialnerv vollständig und reich bis an den Flügelrand. Abdomen: 1. Tergit hinten mehr als doppelt so breit wie vorne, etwa so lang wie hinten breit, sehr kräftig längsstreifig gerunzelt, die Längsstreifen hinten gegen die Mitte zu gebogen; 2. Tergit trapezförmig, hinten um zwei Drittel breiter als lang, mit einem Quereindruck, der sich seitlich bis an den Vorderrand erstreckt, größtenteils längsstreifig, die Streifen vorne seitlich symmetrisch nach außen geschwungen, indem sie sich an die flache Aufwölbung, die vom Quereindruck umgeben ist, anpassen; Hinterleib vom 3. Tergit an ganz glatt, in der vorderen Hälfte des letzteren am breitesten. Bohrer so lang wie der Hinterleib und Thorax bis zu den Flügelschuppen. Färbung: Körper ganz schwarz. Die drei letzten Kiefertasterglieder hell, Fühler schwarz, Flügelschuppen schwarz, Flügelnervatur braun, alle Hüften und Trochanteren, Hinterschinken ganz, Vorder- und Mittelschienen mit Ausnahme der Spitzen schwarz, Vorderschienen und drei Glieder der Vordertarsen rötlich, Mittel- und Hinterschienen weiß mit Ringen an der Basis und den Enden geschwärzt, ebenso Mittel- und Hintertarsen sowie die Bohrerklappen. Bohrer rot. Länge: 2.8 mm. Fundort: Loiblal, Karawanken, Anfang Mai, 14 ♀♀ ex *Coleophora meritionella* Klim. i.l. Holotypus: 1 ♀, Zoologische Sammlung des Bayerischen Staates, München. Anmerkung: nach der Tabelle von Telenga (Fauna S.S.S.R. V.-4, 1955) müßte diese Art als *A. anglica* Marsh. oder *A. minuta* Niez. bestimmt werden. Sie unterscheidet sich aber von *A. anglica* Marsh. abgesehen von der geringeren Zahl der Fühlerglieder durch das gestreifte zweite Tergit und von *A. minuta* Niez. durch das vorwiegend glatte Propodeum, sowie die langen, bis an den Hinterrand reichenden Sternauli.“); Shenefelt, 1970: 344; Nixon, 1986: 210, fig. 27. **Syn. nov.**

Agathis albicostellae Fischer, 1966: 399 (“♀ Kopf: doppelt so breit wie lang, 1.3 mal so breit wie das Mesonotum, Augen vorstehend, gut zweimal so lang wie die Schläfen, Hinterhaupt breit und tief ausgeschnitten. Oberseite glatt, nur mit spärlichen Haaren, Ocellarfeld kahl. Ocellen in einem Dreieck stehend, dessen Seiten fast gleich lang sind deutlich vortretend, ihr Abstand voneinander zweimal so groß wie ein Ocellusdurchmesser, der Abstand des äußeren Ocellus vom inneren Augenrand zwei Drittel so groß wie die Breite des Ocellarfeldes. Abstand der Fühlergruben voneinander so groß wie ihr Durchmesser, ihr Abstand von den Augen kleiner als ihr

Durchmesser. Kopf 1.6mal so breit wie das Gesicht. Fühlergruben liegen in halber Augenhöhe. Gesicht glänzend, fein punktiert und fein, hell behaart, Augenränder parallel, 1.5mal so breit wie der Abstand der Fühlergruben von den Paraclypealgruben. Paraclypealgruben voneinander ganz wenig weiter entfernt als vom Augenrand. Clypeus vom Gesicht durch eine schwache Einschnürung abgetrennt, kaum haarpunktiert. Wangen zwei Drittel so lang wie die Augenhöhe. Maxillen höchstens eine Spur länger als die Wangen. Labium überragt die Maxille nur ganz wenig, Taster überragen die Spitze des Labiums. Fühler so lang wie der Körper, 26gliedrig; erstes Geißelglied viermal so lang wie breit, die folgenden deutlich kürzer werdend, die mittleren Glieder zweimal so lang wie breit, die letzten fünf Glieder etwa um ein Drittel länger als breit, die Glieder des apikalen Drittels etwas schmaler werdend; die Glieder der basalen Hälfte kaum, die anderen, besonders aber die letzten acht, deutlich voneinander abgesetzt; Behaarung kurz, mit deutlichen apikalen Borsten, letztere zum Teil so lang wie die Breite der Geißelglieder. Thorax: gut um die Hälfte länger als hoch, in Seitenansicht rechteckig, Ober- und Unterseite parallel. Mesonotum so breit wie lang, glänzend, ziemlich dicht punktiert und hell, kurz, nach hinten gerichtet behaart, nur oben auf der Scheibe hinter dem Rückengrübchen kahl; Notauli vollständig, tief, gekerbt, fast gerade, treffen sich auf der Scheibe und bilden hier in einiger Entfernung vom Hinterrand einen tieferen Eindruck, seitlich überall gerandet und schwach gekerbt. Praescutellarfurche fast gerade, mit mehreren Längsrippen, seitlich nicht abgekürzt. Rand des Mesonotums bildet mit dem Seitenrand der Axilla einen stumpfen Winkel. Scutellum glatt. Postaxilla glatt bis fein runzelig. Metanotum in der Mitte mit V-förmiger Figur, Seitenfelder gekerbt. Propodeum mit zwei parallelen Kielen, die nur gegen die Spitze konvergieren, jederseits mit einer glatten Stelle, der Rest des Propodeums grob runzelig; Spirakel klein, unscheinbar. Seite des Prothorax in der Mitte glatt, vordere Furche runzelig, hintere gekerbt, ein Streifen am oberen Rand feinst haarpunktiert. Mesopleurum glatt, Praecoxalfurche lang und schmal, gekerbt, reicht von der Mittelhüfte bis nahe an den Vorderrand, hintere Randfurche gekerbt, Subalarfeld dicht runzelig punktiert. Metapleurum in der Mitte glänzend, nur haarpunktiert, an den Rändern runzelig, im vorderen Drittel mit einer senkrechten Ffurche. Beine ohne besondere Auszeichnungen, der längere Sporn der Hintertibien halb so lang wie der hintere Basitarsus. Flügel: vom Typus der gattung; r1 so lang wie r2, r3 gerade, nur am Ende ganz schwach nach innen gebogen, cu2 viereckig, nach oben nur schwach verengt, d zweimal so lang wie n.rec., nv um die halbe eigene Länge postfurkal, entspringt aus dem basalen Fünftel von B. Abdomen: erstes Tergit so lang wie hinten breit, hinten um die Hälfte breiter als vorn, Seiten nach vorn schwach und fast geradlinig konvergierend, das Tergit nur an den äußersten Ecken wenig abgerundet, an der äußersten basis stärker verjüngt; Basalkiele fehlen ganz, das ganze Tergit ziemlich gleichmäßig und dicht längsgestreift. Zweites Tergit im Eindruck und seitlich von der basalen Schwellung fein gestreift, der Rest des Abdomens glatt. Bohrerklappen so lang wie der Hinterleib bzw. um die Hälfte länger als die Hinterschiene. Färbung: Schwarz. Braun sind: Anellus, distale zwei Drittel des Vorder-schenkels, Vorder- und Mittelschiene, Vorder- und Mitteltarsus, Spitze des Mittelschenkels und die Flügelnervatur. Hinterschiene schmutzig weißlich, nur das apikale Viertel und ein Fleck in der Nähe der Basis dunkel; Basis des hinteren Basitarsus und die Sporne heller. Flügel gleichmäßig gebräunt. Körperlänge: 2.6 mm. ♂ Unbekannt. Wirt: *Coleophora albicostella* Dup. (Lep., Coleophoridae) an *Potentilla*. Untersuchtes Material: Niederösterreich, Braunsberg bei Hainburg, leg. Dr. F. Kasy, 1 ♀, Holotype, im Naturhistorischen Museum in Wien. Taxonomische Stellung: In der Bestimmungstabelle von Telenga läuft diese Art zu *A. breviseta* Nees und *A. Schmiedeknechti* Kok. Sie unterscheidet sich von *A. breviseta* Nees wie folgt: *A. breviseta* Nees. Propodeum glatt, die letzten fünf Geißelglieder gut um die Hälfte länger als breit, 4 mm. *A. albicostellae* n. sp. Propodeum runzelig, nur mit kleineren glänzenden Stellen jederseits, die letzten fünf Geißelglieder um ein Drittel länger als breit, 2.6 mm. *A. Schmiedeknechti* Kok. wurde an dieser Stelle wohl unrichtig eingeordnet, denn sie gehaart zu den Arten mit dreeckiger Areola (siehe Originalbeschreibung.); Shenefelt, 1970: 315; Nixon, 1986: 209 (as synonym of *A. glabricula* Thomson). **Syn. nov.**

Agathis artemisiana Fischer, 1966: 397 ("♀ Kopf: Doppelt so breit wie lang, 1.25 mal so breit wie das Mesonotum, Augen merklich vorstehend, Schläfen gerundet, halb so lang wie die Augen, Hinter-

haupt breit und tief ausgeschnitten. Oberseite glatt, fein und schütter, kurz behaart, Ocellarfeld kahl. Ocellen in einem Dreieck stehend, dessen Basis länger ist als eine Seite, deutlich vortretend, ihr Abstand voneinander zweieinhalbmal so groß wie ein Ocellusdurchmesser, der Abstand des äußeren Ocellus vom inneren Augenrand halb so groß wie die Breite des Ocellarfeldes. Abstand der Fühlergruben voneinander so groß wie ihr Durchmesser, ihr Abstand von den Augen kleiner als ihr Durchmesser. Kopf 1.6mal so breit wie das Gesicht. Fühlergruben liegen in halber Augenhöhe. Wangen zwei Drittel so lang wie die Augenhöhe. Gesicht um die Hälfte breiter als der Abstand der Fühlergruben von den Paraclypealgruben. Paraclypealgruben voneinander eine Spur weiter entfernt als von den Augen. Gesicht glänzend, ziemlich dicht, hell, gleichmäßig behaart. Clypeus vom Gesicht kaum getrennt. Maxillae so lang wie die Wange. Labium überragt die Maxille etwas, Taster überragen die Spitze des Labiums. Fühler so lang wie der Körper, 26gliedrig; erstes Geißelglied viermal so lang wie breit, die folgenden merklich an Länge abnehmend, die mittleren Glieder um die Hälfte länger als breit, das vorletzte nur eine Spur länger als breit, die Glieder der apikalen Hälfte werden auch etwas schmaler; Glieder der Basalhälfte undeutlich, die restlichen deutlich voneinander abgesetzt, kurz behaart, die apikalen Borsten deutlich ausgebildet und so lang wie die Breite der Geißelglieder. Thorax: um die Hälfte länger als hoch, in Seitenansicht rechteckig, Ober- und Unterseite parallel. Mesonotum eine Spur länger als breit, mäßig dicht behaart, nur je eine ausgedehnte Stelle auf den Seitenlappen kahl, die Haare kurz, nach hinten geneigt, hell, die Haarpunkte oben schwach, vorn am Absturz viel stärker und dichter; Notauli vollständig, tief eingeschnitten, gekerbt, fast gerade, treffen sich ein Stück vor dem Hinterrand; Seiten überall gerandet und fein punktiert. Praescutellarfurche tief, schwach gekrümmt, mit zahlreichen radiären Rippen, seitlich nicht abgekürzt. Axilla deutlich ausgebildet, aber vom Mesonotum nicht getrennt, Seitenrand des Mesonotums und der Axilla bilden von oben gesehen einen deutlichen, stumpfen Winkel. Scutellum glatt, mit zerstreuten, haartragenden Punkten. Postaxilla glatt. Metanotum gekerbt, in der Mitte mit breiter, V-förmiger Figur. Propodeum mit zwei parallelen längskielen, diese nur vorn konvergierend, nahe der Basis ein schwacher, gerader, vollständiger Querkiel; das ganze Propodeum glatt, glänzend, nur vorn und in der Nähe der Längskiele stark uneben; Spirakel unscheinbar. Seite des Prothorax glänzend, hinterer Rand und vordere Furche fein gekerbt, in der Nähe des oberen Randes mit allerfeinsten Härchen dicht besetzt. Mesopleurum auf der Scheibe glatt, glänzend, kahl, oben schütter haarpunktiert, Subalarfeld dicht haarpunktiert, Praecoxalfurche schmal und schwach gebogen, scharf gekerbt, reicht an die Hinterhüfte und fast an den Vorderrand, hintere Randfurche gekerbt. Metapleurum glänzend, dicht haarpunktiert, mit einer senkrechten, gekerbten Furche im vorderen Drittel. Beine ohne besondere Auszeichnungen, der längere Sporn der Hinterschiene halb so lang wie der Basitarsus. Flügel: vom Typus der Gattung; r1 punktförmig, kürzer als r2, Cu2 viereckig, nach oben nur wenig verengt, r3 gerade, nur knapp vor der Spitze schwach nach einwärts gekrümmt, nv um zwei Drittel seiner eigenen Länge postfurkal, entspringt aus dem basalen Fünftel von B. Abdomen: erstes Tergit so lang wie hinten breit, hinten zweimal so breit wie vorn, Seitenränder nach vorn geradlinig konvergierend, das Tergit nur an der äußersten Basis stärker verengt, Basalkiele schwach ausgebildet; der größte Teil der Tergites fein, dicht, unregelmäßig runzelig, seitlich längsrunzelig. Der Rest des Abdomens ganz glatt. Bohrer von zwei Drittel Körperlänge bzw. die Hälfte länger als das Abdomen. Färbung: schwarz. Braun sind: Anellus, distale Hälfte der Mittelschenken, Mittel- und Hinterschienen, beide mit Ausnahme des apikalen Drittels und eines Fleckes nahe der Basis, Basis des hinteren Basitarsus, alle Sporne und die Flügelnervatur. Flügel stark, gleichmäßig gebräunt. Körperlänge: 3.1 mm. ♂ Unbekannt. Wirt: *Coleophora artemisiae* Mühlig (Lep., Coleophoridae). Untersuchtes Material: Niederösterreich, Schloßhofer Platte, Marchfeld, ix.1965, leg. Dr. F. Kasy, 1 ♀, Holotype, im Naturhistorischen Museum in Wien. Taxonomische Stellung: Die Art läuft in der Bestimmungstabelle von Telenga am ehesten zu *A. assimilis* Kok., eine Form, die dort zweifellos unrichtig beurteilt wurde, da nach der Urbeschreibung die Taster rot sind und der Bohrer so lang wie der Körper ist. Durch diese beiden Merkmale ist sie auch von der neuen Art zu trennen. Außerdem fällt *A. albanica* Fi. in diese Verwandtschaft, doch ist bei letzterer der Bohrer länger als der Körper, und die Wangen sind so lang wie die Augenhöhe, während bei *A. artemisiana* der

Bohrer so lang wie zwei Drittel des Körpers ist, und die Wangen so lang wie zwei Drittel der Augenhöhe sind."); Shenefelt, 1970: 318; Nixon, 1986: 210-211, fig. 24 (as *artemesiana*). **Syn. nov.** *Agathis breviseta* auctt. p.p. (e.g. Nixon, 1986).

Material.— Lectotype of *A. fuscipennis*, ♀ (ZIL), "Finland, Lapponia sylvatica Kemensi et Tornensi mense Augusto passim/ teste Papp, J., 1975", "Lectotypus ♀ *Microgaster fuscipennis* Zetterstedt, 1838", "*Agathis fuscipennis* (Zett.), det. Papp, J., 1993", "Type No. 2525: 1-2, Zool. Mus. Lund, Sweden, Braconidae"; paralectotype of *A. fuscipennis*, ♀ (ZIL), "*M. fuscipennis* ♀, Kihlangi", "Finland, Lapponia, ad Kihlangi die 21. Aug. / teste Papp, J., 1975", "Paralectotypus *Microgaster fuscipennis* Zetterstedt, 1838 ♀ / des. Papp, 1975", "*Agathis fuscipennis* (Zett.), det. Papp, J., 1993", "Type No. 2525: 2"; lectotype of *A. glabricula*, ♀ (ZIL), "Jbh [?], 15.viii.", "*Agathis glabricula* Th., Type, det. Fischer", "*Agathis glabricula* Th., lectotype ♀, 1983, G.E.J. Nixon"; paratypes of *A. meridionellae*, 3 ♀ ♀, "Paratype", "Loiblital Karawanken, anfang Mai, leg. Thurner, Staatssamml. München", "*Agathis meridionellae* n.sp. det. Fischer"; 1 ♀, "Loiblital Karawanken 27.4.51, leg. Thurner, Staatssamml. München", "*Agathis meridionellae* n. sp. det. Fischer", "Paratype"; 1 ♂ (RMNH), "Netherlands, Putten, Gld., 15.viii.1973, J. v.d.Vecht", "Malaise-trap", "*Agathis glabricula* Th., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "[Netherlands], Holl[andse] Rading, e.l. *Coleophora troglodytella*, 1.viii.1942, C. Doets", "Museum Leiden, verzameling C. Doets", "*Agathis glabricula* Th., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "Nederland, St. Pietersberg, 31.viii.1985, B. v. Aartsen" (middle tibia blackish, except its pale base); 1 ♀ (RMNH), "[Netherlands], den Haag, viii.1923, coll. Blöte", "*Agathis breviseta* Ns, det. G.E.J. Nixon, 1984"; 1 ♂ (RMNH), "[Netherlands], Egmond, 15.vi.[19]76, gev. 24.viii.[19]76"; 1 ♂ (RMNH), "Netherlands, St. Pietersberg, 16.viii.1986, C.J. Zwakhals"; 1 ♀ (RMNH), id., but 3.ix.1987; 1 ♀ (RMNH), "[Netherlands], exc. St. Pietersberg, grenspaal 57-58, 14.viii.1950"; 1 ♀ (RMNH), "[Netherlands], Amerongen, on window, 13.ix.19??, H.E. Müller"; 1 ♀ (RMNH), "Holland, Z.H., n[ea]r Ypenburg airport, 2.ix.1961, Ph. Pronk"; 1 ♂ (RMNH), "[Netherlands], Melissant, vii.1979, ex *Coleophora salicorniae* Walt., K.J. Huisman"; 1 ♀ (RMNH), "[Netherlands], Oostvoorne, Z.-H., Biol. Station, 2-14.viii.1974, C. v. Achterberg"; 1 ♀ (RMNH), id., but 20-29.viii.1973; 1 ♀ (RMNH), "[Germany], Aschersleben, 7.vii.[19]73, Patzak/ ex *Coleophora artemiseolella* Brd.", "*Agathis meridionella* Fi., det. G.E.J. Nixon, 1985"; 1 ♀ (RMNH), "Deutschland, Rhld-Pfalz, Bornich, e.p. 11.viii.1996, H.W. v. d. Wolf", "leg. 21.vi.1996 [on] *Aster linos*.", "*Coleophora conspicuella* Z., det. H.W. v. d. Wolf, e. *Aster linosyris*"; 1 ♀ (RMNH), id., but e.p. 1.viii.1996; 1 ♂ (RMNH), id., but e.p. 18.vii.1996; 1 ♀ (RMNH), id., but e.p. 12.viii.1996; 1 ♂ (RMNH), id., but e.p. 2.viii.1996; 1 ♂ (RMNH), id., but e.p. 14.vii.1996, "*Coleophora linosyridella* Fuchs, det. H.W. v. d. Wolf, 1996"; 1 ♂ (RMNH), "[?Germany], Birkenfels, Tischb[ein]", "*Agathis rostrata* Tobias, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "[?Germany, Thüringen], ex coll. Schmiedeknecht", "Museum Leiden, coll. J.A. Snyder, 20.iii.1931", "*Agathis tibialis* Nees ♀ [det. O. Schmiedeknecht], "*Agathis glabricula* Th., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "België, Liège, Comblain au Pont, 110 m, 28.vii.[19]64, Ent. Exc. Zoöl. Mus."; 1 ♂ (RSM), "[England], Botley Wood, Hants, [ex] *Coleophora inulae* [on] *Inula dysenterica*, 14.vii.[19]77, em. viii.1977, J.R. Langmaid"; 5 ♀ ♀ + 1 ♂ (RSM, RMNH), id., but ex *Coleophora* spec., coll. vii.1996, em. vii.1996; 1 ♂ (RSM), "[England], Kent, Orpington, ex *Coleophora inulae* on *Pulicaria dysenterica*, em. vii.[19]77, P.A. Sokoloff"; 2 ♀ ♀ (RSM, RMNH), "[England], Worcester City, [ex] *Chrysoesthia hermannella*, coll. x.[19]79, em. 1980, A.N.B. Simpson"; 1 ♂ (RSM), "[England], Kent, Faversham Creek, Faversham, 22.vii.1977, host: *Chrysoesthia hermannella* F., E.S. Bradford"; 1 ♂ (RSM), "[England], Kent, Dething, nr Maidstone, 25.vii.1984, host: *Reuttia subocellea* Steph., E.S. Bradford"; 2 ♀ ♀ (RSM), "[England], Thingley Junction, Wilts., VC7, [ex] *Scrobipalpa atriplicella* [on] *Chenopodium album*, coll. 28.v.[19]76, em. 11.viii.[19]96, G. Smith"; 1 ♀ + 1 ♂ (RSM), "[England], Southsea, Hants, ex *Scrobipalpa ocellatella*, 27.iv.[19]96, em. viii.1996 (♂),/vi.1996 (♀), M.S. Parsons"; 1 ♂ (RSM), "[England], Cornwall, Tregantle, ex ?*Teleiopsis diffinis*, coll. Sorrel, 16.viii.[19]86, em. ix.[19]86, R.J. Heckford"; 1 ♂ (RSM), "[England], Challaborough, Devon., ex *Aproaerema anthyllidella* [on] *Anthyllis*, coll. 8.i.[19]89, em. 1989, R.J. Heckford"; 1 ♀ (RSM), "[England], Santon Downham, Norfolk, TL 818883, Malaise trap, heath with birch and pine, 17-29.vi.[19]84, J. Field, MJ, RMSNH 1986.021"; 1 ♂ (RSM), id., 18-28.viii.1988; 1 ♀ (RSM), "[England], Chippenham Fen, Cambs., TL 650693, Malaise trap, carr at reedbed edge, A, 25.vi-9.vii.[19]85, J. Field,

RMSNH 1988.021"; 1 ♀ + 1 ♂ (RSM), "[England], Hants., Farlington Marshes, [ex] *Coleophora inulae* [on] *Pulicaria dysenterica*, coll. 1.vii. [19]84, P.H. Sterling"; 1 ♂ (RSM), "[England], Norfolk, Fowless plantation, TI 683242, ex *Coleophora* [on] *Quercus*, 5.vii.[19]96, em. 1.viii.[19]96, K. Saul"; 3 ♂ ♂ (RSM), "[England], E. Essex, Milton Hide, [ex] *Coleophora follicularis* [on] *Pulicaria dysenterica*, 27.v.[19]94, em. [19]94, M.S. Parsons"; 2 ♂ ♂ (RSM), "[England], Surrey, Mortlake, *viii.1970, J.M. Chalmers-Hunt, "Host: *Coleophora ?sternipennella*, S. Wakely collect. cases v.1969", "NMSZ 1996.112"; 1 ♀ (RSM), "[England], Suffolk, Jolkingham, *1971, Chalmers-Hunt/Host: *Coleophora laripennella*"; 1 ♀ (RSM), "[England], [I[sle] O[f] Wight], Shankill, *vii.1969, Chalmers-Hunt/Host larva: *Coleophora troglodytella* (Dup.)", "*Inula dysenterica*, v.1969"; 1 ♀ (RSM), "[England], Isle of Wight, Bouldnor, *vii.1972, Chalmers-Hunt/ Host: *Coleophora*"; 1 ♀ (RSM), "[England], Churchope Cove, Portland, *viii.1976, Chalmers-Hunt/ Host: *Coleophora albitarsella* Z., cases on *Origanum vulgare*, 5.vi.1976", "NMSZ 1996.112"; 1 ♀ (RSM), "[England], Cornwall, Lizard peninsula, ex case [of] *Coleophora conyzae* [on] *Pulicaria dysenterica*, coll. vii.,1983, em. 20.vii.[19]83, F.H.N. Smith"; 1 ♀ (RSM), "France, Briançon district, H[au]te Alpes, Prelles, 19.vii.1991, M.R. Shaw"; 1 ♀ (RSM), id., but ex indet. host [on] *Leguminosae*, coll. 19.vii.1991, em. 31.vii.1991; 1 ♀ (RSM), id., but ex *Heliodines roesella* [on] *Atriplex*, coll. c. 20.viii.[19]91, em. viii.1991; 1 ♀ (MNHN), "[France], Argentat, Corrèze, 19.vi.[18]87, J. Vachal"; 1 ♀ (MNHN), "[France], Dieppe"; 4 ♀ ♀ (MNHN, RMNH), "[?France], Vanares, de Joannis [?]", "ex *Coleophora dianthi*", Muséum Paris, coll. J. de Gaulle, 1919"; 1 ♀ (MNHN), "[France], Talton". "par. *Coleophora lugduniella* [Stainton, 1859; = *C. cracella* Vallot, 1835]; 1 ♀ (MNHN), "[?France], ex *Coleophora dianthi* H-S., Plouharnel", Muséum Paris, coll. J. de Gaulle, 1919"; 1 ♀ (RMNH), "France, Dépt. Gard, M.J. Gijswijt", "Crespian, garrigue, 3.vii.1977", "*Agathis glabricula* Th., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "France, Ht. Alpes, Eygliers, 1000 m, 26.vii.-8.viii.1987, A. Teunissen"; 1 ♀ (MNHN), "[France], Allos, 30.vii.[19]50, (B.A.) Granger" (in collection as *A. breviseta*); 1 ♀ (MNHN), "Muséum Paris, [France], 1867, Coll. O. Sichel" (in collection as *A. rufipalpis*); 1 ♀ (MNHN), "[France], *Lita coussonella* [= *Caryocolum coussonella* (Chretien, 1909; = *C. saginella* (Zeller, 1868); Gelechiidae], 20.vii.[19]03", "Digne, B[asses] Alp[es], Coll. Chretien" (in collection as *A. breviseta*); 1 ♀ (MNHN), "Museum Paris, coll. J. de Gaulle, 1919, [France]", "*Agathis breviseta* Nees [old handwritten label]"; 1 ♀ (MNHN), "Museum Paris, [France], Callian, Var, [vii.]1927, L. Berland"; 1 ♀ (MNHN), "[France], Mesnil, LR, 20.v.[18]92", "Museum Paris, coll. J. de Gaulle, 1919"; 1 ♀ (RMNH), "France, Besse en Chandesse, Puy de Dome, Oursiere, 800-900 m, 27.viii.1955, exc. Leidse Biologen", "*Agathis rostrata* Tob., det. G.E.J. Nixon, 1984"; 1 ♀ (MNHN), "[France], Argentat, vi.[18]86", "Museum Paris, Argentat, Corrèze, coll. J. Vachal, 1911"; 1 ♀ (MNHN), "[France], Biscarosie, plage, 21.v.", "Museum Paris, coll. J. de Gaulle, 1919"; 1 ♀ (MNHN), "[France], Vis/Ol, vii.[18]62", "Museum Paris, coll. O. Sichel 1867"; 2 ♀ ♀ (MNHN, RMNH), "[France], Esbarres, C[ôtes] d'Or, 3.viii.[19]64, J. Barbier" (in collection as *A. propinqua*); 1 ♀ (MNHN), "[France], Var, Calhan, 1929, L. Berland"; 1 ♀ (MNHN), "[France], H[au]te Marne, Rotampont, [J. de Gaulle]"; 1 ♀ (MNHN), "[France], Ardèche, La Voulte, [1.vii.1896]"; 2 ♀ ♀ (MNHN), "[France], Chartrettes, 22.viii.[19]64, Ch. Granger" (in collection as *A. propinqua*); 1 ♀ (MNHN), id., but 16.v.1941 (length of ovipositor sheath 0.8 times fore wing; in collection as *A. genualis*); 1 ♀ (MNHN), id., but 10.ix.1941; 1 ♀ (MNHN), id., but 29.vii.1945; 1 ♀ (MNHN), id., but 15.vii.1945; 3 ♀ ♀ (MNHN, RMNH), "[France], Beaune", "*Ochromolopsis ictella*", "Museum Paris, collection Ernest André 1914"; 1 ♀ (MNHN), "[France], Landes, Lafaury", "Parasites Col[leophora] *salinella*"; 2 ♀ ♀ (MNHN), "[France], *Lita gallicella* [= *Scrobipalpa gallicella* (Constant, 1885); Gelechiidae], Charente"; 1 ♀ (MNHN), "[France], Montpellier, 13.iv., J. Lichtenstein"; 1 ♀ (MNHN), "[France], ex *Coleophora chamaedryella*, Rouen, [J. de Gaulle]"; 1 ♀ (MNHN), "[France], Bretenières, C[ôte] d'Or, Couturier", "30.ix.[19]48, 8", "ex *Phthorinaea ocellatella* [= *Scrobipalpa ocellatella* (Boyd, 1858); Gelechiidae]; 2 ♀ ♀ (MNHN), "[France], Maisons-Laffitte, Seine et Oise, 27.vii., J. de Gaulle"; 1 ♀ (MNHN), "[France], Var, Pignans, 4.ix. [19]65, J. Barbier"; 1 ♀ (RMNH), "France: dept. Lozère, entre Ste Enimie et Florac, La Chedenède, 13.viii.1995, P. Thomas"; 1 ♀ (RMNH), "Spanje, prov. Navarra, Algasua, 600 m, 29.iv.1960, exc. Museum Leiden"; 1 ♀ (RMNH), "Spanje, 25 km ZW van Salou, 17.x.1952, Bär, Blöte, de Jong & Osse"; 2 ♀ ♀ + 1 ♂ (RSM, RMNH), "Spain, Zaragoza Prov., Los Monegros, Retuerta de Pina, 30.TYL.28.96, 6.vii.[19]91, swept [from] *Teucrium capitatum* (♀), other ♀ from *G. hispanicum*, 28.viii., ♂ swept from *Quercus coccifera*, J. Blasco-Zumeta, 3468"; 1 ♀ (RMNH), "Portugal, Oeiras, no. 38, 7-14.ix.1979, A. v. Harten"; 1 ♂ (RMNH), "[Hungary], Apajpuszta,

15.ix.1953, Bajáre", "*Agathis genualis* Marsh., ♂, det. J. Papp, 1974"; 1 ♂ (RMNH), id., but 1.x.1952; 1 ♀ (RMNH), "Hungary, Peröcsény, swept, 23.viii.1986, H.J. Vlugg"; 1 ♀ (ZIL), "[Sweden], Hfge [?], "Th sv", "1993, 129"; 1 ♀ (ZIL), id., but 132; 1 ♀ (RMNH), "[Sweden], Sk[åne], Lund V, RN 1334/6178, 25.vi.1978, C. Hansson", "[lex] *Microsetia sexgutella* [= *Chrysoesthia sexgutella* (Thunberg), Gelechiidae] [on] *Chenopodium album*" (identified by Nixon (1985) as *A. meridianellae*); 1 ♀ (RMNH), "[Poland], Danz[ig], Brischke", "*Agathis glabricula* Th., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "Austr[ia], Mayr"; 1 ♀ (RMNH), "Bulgaria, Rila Mts", "v. Jastreber, 23.vii.1982, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi [Mts], Valtshpole, 13.vii.1976, A. Zaykov", "*Agathis glabricula* Th., det. G.E.J. Nixon, 1983"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Petelovo, 15.vi.1977, A. Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Belitebrezi, 30.v.1975, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Plotshnik, 3.vii.1977, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, n. Brjanovshtisa, 25.vii.1978, A. Zaykov", "*Agathis tibialis* Ns, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Velingrad, 27.viii.1977, A. Zaykov", "*Agathis artemesiana* Fi., det. G.E.J. Nixon, 1983"; 1 ♀ (RMNH), id., but 7.v.1977; 1 ♀ (RMNH), "[Bulgaria], Rhodopi [Mts], Sh. poljana, 27.iv.1977, A. Zaykov"; 1 ♀ (RMNH), id., but 10.vi.1977, "*Agathis breviseta* Nees, det. Tobias, 1978"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi [Mts], Ivailograd, 29.iv.1977, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], R[h]odopi [Mts], Lilkovo, 17.ix.1977, A. Zaykov"; 1 ♂ (RMNH), "[Bulgaria], R[h]odopi [Mts], Nikolovo, 30.ix.1975, A. Zaykov"; 1 ♀ (RMNH), id., but 2.vii.1970, "po *Medicago sativa*", "*Agathis breviseta* Nees, det. Tobias, 1978"; 1 ♂ (RMNH), id., but 30.vi.1977; 1 ♀ (RMNH), id., but 18.viii.1976, "*Agathis artemesiana* Fi., det. G.E.J. Nixon, 1983"; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Tshepelare, 25.vi.1977, A. Zaykov"; 1 ♂ (RMNH), "[Bulgaria], R[h]odopi [Mts], Avren, 29.v.1977, A. Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Rhodopi [Mts], Bojno, 6.vii.1976, A. Zaykov"; 1 ♀ (RMNH), id., but 30.iv.1977; 1 ♀ (RMNH), "[Bulgaria], Shabla, 1.vi.1981, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Kostinbrod, 9.vi.1980, [A.] Zaykov", "*Agathis glabricula* Th., det. G.E.J. Nixon, 1983"; 1 ♀ (RMNH), id., but 29.v.1980; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Karanski, 22.viii.1975, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Durankulak, 1.vi.1981, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], s. Rozino, 16.v.1983, S. Petrov"; 1 ♀ (RMNH), "[Bulgaria], Rodopi, n. Arda, 13.vii.1976, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Plovdiv, 23.ix.1976, [A.] Zaykov", "*Agathis glabricula* Th., det. G.E.J. Nixon, 1983"; 1 ♀ (RMNH), id., but 25.ix.1976, "*Agathis artemesiana* Fi., det. G.E.J. Nixon, 1983"; 1 ♂ (BC), "Bolgarija, 30 km SV G. Deltsev, 950 m, lug, 20.vii.[1]978, Balevski"; 1 ♀ (BC), "Bolgarija, 6 km SSZ Marikostenova, 100 m, lug, poima r. Strummy, 26.viii.[1]977, Balevski"; 1 ♀ (BC), "Bolgarija, 10 km SSV Gotse Deltseva, 520 m, lug poima r. Mesty, 20.vii.[1]977, Balevski"; 1 ♂ (BC), "Bolgarija, s. Sjimkogi, Kjustendil, 22.vi.1984" (identified as *A. breviseta* Nees), "*Spinolota* [sic] *ocellana* F. jabulki"; 1 ♀ (BC), "Bolgarija, Kos, dom, 15.viii.1992", "zach uvekl nepol u sloval ljuda s fsrisja tost-sos"; 2 ♀ ♀ (RMNH), "SW Bulgaria, Melnik, near Petric, Mal[aise] tr[ap] 6, c. 450 m, 12.vi-14.vii.1998, C. v. Achterberg, R. de Vries, P.V. Atanassova, RMNH'98"; 1 ♀ (RMNH), id., but 14.vii-15.viii.1998; 2 ♀ ♀ (RMNH), "SW Bulgaria, Pastra, near Rila, Mal[aise] tr[ap] 7, c. 850 m, 26.vii-22.viii.1998, C. v. Achterberg, R. de Vries, P.V. Atanassova, RMNH'98"; 1 ♀ (RMNH), "Russie, Nizhniyaya Kuriya, 15 km W Perm, 1-3.viii.1967, W.J. Pulawski"; 1 ♀ (RMNH), "Turkiye, [prov. of] Erzurum, Erzurum, Palandöken, Kayak, 2200 m, 3.viii.1989, J.A.W. Lukas"; 1 ♀ (RMNH), "T[ur]k[ey], Tekirdag, Saray, K. Sinekli, 25.viii.1992, Beyarslan-Inanc"; 1 ♀ (MNH), "[Tunisia], Gafsa, 29.iv.[19]09, [Chretien]", "*Krombia djergiralis* [?]"

Length of body of redescribed paratype of *A. meridianellae* 2.6 mm. Mean length of body in other examined specimens 2.8 mm (3.1 mm in holotype of *A. albicostellae*).

Head.— Rather robust in frontal view, width of head below eyes 1.0-1.2 times length of face and clypeus combined, but of *A. meridianellae* up to 1.4 times (figs 188-190), distinctly tapering ventrad, with sparse punctulation and short pilosity; mean length of head in frontal view 1.5-1.7 (1.5 in paratype of *A. meridianellae*) times width of face, 1.6 times in other specimens; mean height of eye 1.55 times length of malar space in the paratypes of *A. meridianellae*, 1.60 times in lectotype of *A. glabricula*, 1.75 times in lectotype of *A. fuscipennis*, and 1.64 times in other specimens; stemmaticum

usually not prominent (figs 188, 203, 211), or sometimes, weakly so, with ante-ocellar area somewhat elevated in lateral view (figs 195, 218), but in dorsal view appearing flat, indistinctly triangularly shaped; at first in front of ante-ocellar area frons slopes down a little, soon to raise again towards level of antennal sockets, however, no distinct keel or tooth present (figs 195, 222, 231); antennal segments 24 in paratypes, and 24-26 in remaining specimens (26 in lectotype of *A. fuscipennis*); galea short, about 3 times as long as wide (fig. 226), much shorter than head, its mean length 0.79 times height of eye (0.63 times in lectotype of *A. fuscipennis*, and 1.1 times malar space; 0.75 times in lectotype of *A. glabricula* and 1.2 times malar space) and 0.40 times length of head, in paratypes of *A. meridionellae*; corresponding mean values in other specimens, 0.63 and 0.32 times, respectively (but galea may be far retracted).

Mesosoma.— Average length of mesosoma in paratypes 1.5 times its height (1.66 times in holotype of *A. albicostellae*); pronotal side mainly smooth or punctulate, with tiny elements of sculpture in extreme antero-dorsal corner, longitudinal pronotal posterior crenulation distinct; mesoscutum and scutellum minutely punctate; notauli deep, narrow, micro-crenulate; mesopleuron punctulate medially, punctate to coarsely punctate towards its ventral part and closely so laterally; precoxal sulcus rather shallow, narrow and long, absent anteriorly, reaching posterior mesopleural edge, micro-crenulate; metapleuron largely punctate, densely rugulose towards laterally; both metapleuron and lateral areas of mesopleuron distinctly pilose, pilosity dense and rather short (in some specimens it may be reduced or even absent); propodeum densely rugulose laterally and between both medio-longitudinal carinae, and remainder largely smooth (figs 201, 202) or completely sculptured (fig. 214).

Wings.— Fore wing (figs 194, 204, 213, 221, 223): marginal cell tending to be short and comparatively wide, with SR1 slightly curved (straight in lectotype of *A. fuscipennis* and in holotype of *A. albicostellae*); r:3-SR:SR1 = 3:4:35 (in two paratypes); second submarginal cell small, quadrangular in paratypes and in majority of other specimens, less frequently subtriangular (e.g., in holotype of *A. albicostellae*) and, rarely triangular (fig. 223), vein 2-R1 half as long as vein 1-R1 or less, sometimes virtually absent (0.35 times in lectotype of *A. fuscipennis*; fig. 223). Hind wing: M+CU:1-M = 30:22 (in two paratypes).

Legs.— Mean length of femur, tibia and basitarsus of hind leg of paratypes of *A. meridionellae*: 3.2 (2.8 times in lectotype of *A. fuscipennis*, and in holotype of *A. albicostellae*), 6.0, and 5.7 times their maximum width, respectively; length of inner and outer spur of hind tibia 0.38 and 0.34 times hind basitarsus, respectively; tarsal claws long and thin, with tiny lobe (figs 206-207), or without lobe (in holotype of *A. albicostellae*; fig. 229). Holotype of *A. albicostellae* has a comparatively short fourth hind tarsal segment (fig. 229).

Metasoma.— Mean length of first tergite in paratypes 1.16 times its apical width (1.1 times in lectotype of *A. fuscipennis*, and as long as wide apically in holotype of *A. albicostellae*); first and second tergites distinctly and continuously striated, although striation may be somewhat sparser than of *A. semiaciculata*; rugulosity of second tergite may be gradually irregular and less laterad, nevertheless, it always reaches apex of tergite; medio-basal swelling of second tergite mainly smooth, but, in one paratype entirely striate (fig. 200; area behind and laterally of smooth elevation largely finely rugulose in lectotype of *A. fuscipennis*); third and following tergites entirely smooth;

ovipositor sheath always somewhat shorter than body; mean length of ovipositor sheath of paratypes 0.82 times fore wing (0.63 times in lectotype of *A. glabricula*; 0.58 times in lectotype of *A. fuscipennis*); mean length of other specimens 0.93 times fore wing, in paratypes 1.6 and other specimens 1.7 times metasoma.

Colour.— Black; apical third and subbasal ring of hind tibia infuscate; apical half of fore femur, fore tibia, area of middle and remainder of hind tibia between apical darker tibial band and basal darker ring, yellowish. Specimen reared from *Spilonota ocellana* has apex of hind femur yellowish.

Distribution.— Austria, Bulgaria, *France, *Germany, Great Britain, *Hungary, *Netherlands, *Poland, *Russia, *Spain, Sweden, *Tunisia, *Turkey.

Biology.— Reared from Coleophoridae: *Coleophora dianthi* Herrich-Schäffer, 1854, *C. chamaedryella* Stainton, 1859, *C. conspicuella* Zeller, 1849, *C. cracella* Vallot, 1835 (= *C. lugduniella* Stainton, 1859), *C. albitarsella* Zeller, 1849, *C. linosyridella* Fuchs, 1881, *C. vestianella* Linnaeus, 1758 (= *C. laripennella* Zetterstedt, 1839), *C. conyzae* Zeller, 1868, *C. salinella* Stainton, 1859, *C. salicorniae* Heinemann & Wocke, 1876, *C. artemisicolella* Bruand, 1855, *C. inulae* Wocke, 1876, and *C. troglodytella* Duponchel, 1843 (= *C. follicularis* Vallot, 1802), Gelechiidae: *Caryocolum saginella* (Zeller, 1868), *Chrysoesthia sexgutella* (Thunberg, 1794), *Reuttia subocellea* (Stephens, 1834), *Scrobipalpa atriplicella* Fischer von Röslerstamm, 1841, *S. gallicella* (Constant, 1885), *S. ocellatella* Boyd, 1858, and *Aproaerema anthyllidella* (Hübner, 1813), Oecophoridae: *Schiffermuelleria schaefferella* (Linnaeus, 1758) (= *S. hermannella* (Fabricius, 1781)), Tortricidae: *Spilonota ocellana* Denis & Schiffermüller, 1775, Epermeniidae: *Ochromolopis ictella* (Hübner, 1825), and Heliodinidae: *Heliodines roesella* (Linnaeus, 1758).

Notes.— The relative length of the pterostigma and the colour of the maxillary palp are very variable, the latter varies even within one reared series. Forms exist having the length of pterostigma about 1.6 times vein 1-R1 (*A. fuscipennis*, *meridionalae*, *caucasica*), and others have it about twice as long as vein 1-R1 (*A. glabricula*, *schmiedeknechti*, *albicostella*), but intermediates are common.

The holotype of *A. albicostellae* has the hind fourth tarsal segment (fig. 70) distinctly shorter than that of *A. schmiedeknechti* (fig. 61). However, we consider the shape of the tarsal segments of minor importance because of the variation encountered and because the measurements of tarsal segments are not very reliable (e.g., see discussion of *A. breviseta*), consequently, we treat *A. albicostellae* as a synonym.

Agathis genalis Telenga, 1955
(figs 86-90)

Agathis genalis Telenga, 1955: 261, 244 ("♀. Body, antennae, palpi and legs black; hind tibiae whitish, with black tip and basal ring. Head somewhat transverse, scarcely tapering occipitad, shining. Occiput very deeply emarginate. Maxillae longer than head. Genae slightly more than half as long as longitudinal diameter of eye. Clypeus with small basal pits. Temples more than half as long as longitudinal diameter of eye. Antennal pits shallow. Distance between eyes and posterior ocelli almost three times the ocellar diameter. Maxillary palpi slender, elongated. Antennae 24-jointed, but slightly shorter than body, slender in basal half, thickened distally. Mesonotum, scutellum, prothorax and sides of mesothorax smooth, shining; parapsides deep, punctate; scutocutellar suture minutely notched. Sides of mesothorax with punctulate groove. Sides of metathorax smooth. Propodeum rugulose, mostly smooth, shining, with two longitudinal medi-

an carinae. Metasoma as long as thorax. First tergite slightly longer than wide, with lateral margins subparallel; entire surface, save along posterior margin, longitudinally rugulose; other tergites smooth, shining; second tergite transverse. Ovipositor as long as head and thorax together. Wings faintly clouded; wing covers black; stigma and veins brown. Second cubital cell quadrate, apically narrowed; basal length equal to distance between recurrent and first cubital crossvein. Two proximal sections of radius of equal length; third section straight. Submedian crossvein arising just beyond basal vein. Large hind tibial spurs slightly more than 1/3 of proximal tarsal joint. Claws without basal denticle. Length 4-5 mm. ♂ unknown. Distribution: U.S.S.R.: Kemerovo region (Stalinsk, Karpov); Krasnoyarsk Territory (Oznachennaya station in the Yenisei, Lukyanovich); Irkutsk region (Ustkiran); Nerchinsk (Baksheev); Yakutsk (Bianki).” Translated from Russian.); Shenefelt, 1970: 334; Tobias, 1963: 872; Sharkey, 1998: 524 [paratype examined].

Material.— Paratype, ♀ (ZISP), “Cotypus”, “*Agathis genalis* sp. n., N. Telenga det.”, two additional labels in Russian, both with the date 30.vii.[1]910; 6 ♀♀ + 4 ♂♂ (RMNH), “Espana, Madrid, M.J. Gijswijt”, “Manzanares, on *Santolina ?rosm.*, 3.vii.1986”; 2 ♀♀ (RMNH), “Espana, Avila, M.J. Gijswijt”, “Serranillos, NE of Arenas, 1.vii.1986, on *Santolina ?rosm.*”; 1 ♀ (RMNH), “Spain: Madrid, Guadarran, slept from *Santolina*, 2.vii.1976, M.J. Gijswijt, RMNH”; 2 ♀♀ (RMNH), “Portugal, Setubal, S[er]ra de la arrabida, 17-19.v.1985, H. Teunissen”.

Length of body of paratype 4.3 mm, of all examined specimens 2.6-3.9 mm.

Head.— Head not distinctly elongate, distinctly tapering ventrad (fig. 89), width of head below eyes about equal to median height of face and clypeus combined, its length in frontal view 1.95 (mean: 1.6) times maximum width of face; face nearly smooth; height of eye 2.0 (mean: 1.96) times length of malar space; stemmaticum moderately (paratype; fig. 88) to distinctly prominent; ante-ocellar area short triangular and shallow in paratype and median keel obsolescent, but in most other specimens area deeper impressed and with short keel; antenna with 24 segments, apical segments robust; galea acute apically (fig. 86), 1.53 (paratype and mean) times height of eye, and 1.0 (mean: 0.91) times height of head.

Mesosoma.— Length of the mesosoma 1.7 (= mean)-1.8 (paratype) times its height; side of pronotum smooth, and near posterior margin with row of strong punctures; mesoscutum and scutellum smooth (but sometimes sparsely punctulate), shiny; notauli deep, complete (but may be reduced anteriorly), narrow, indistinctly crenulate; mesopleuron largely smooth, sometimes punctulate; precoxal sulcus only anteriorly absent, distinct medially and weak or absent posteriorly, narrow, and finely crenulate or with some punctures; metapleuron sparsely punctulate medially, largely smooth; propodeum largely smooth (but in paratype with rather small smooth areas and rugulosity distinct laterally), both medio-longitudinal carinae distinct.

Wings.— Fore wing: marginal cell medium-sized (fig. 87), with SR1 usually straight; r:3-SR:SR1 = 4:3:35; second submarginal cell triangular, often petiolate, subtriangular in paratype; 2-R1 somewhat shorter than 1-R1 (fig. 87). Hind wing: M+CU:1-M = 27:25.

Legs.— Length of femur, tibia and basitarsus of hind leg 1.8, 5.4 and 5.8 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.3 and 0.2 times hind basitarsus, respectively; tarsal claws without distinct lobe.

Metasoma.— Length of first tergite 1.1 times its apical width, tergite rather humped, its surface (in paratype) smooth except for some weak striae in basal third of tergite; remainder of metasoma smooth; ovipositor sheath 1.20 (mean: 1.21) times fore

wing, 1.9 (paratype) - 2.1 (= mean) times metasoma, and about equal (paratype) or distinctly longer (other specimens) than body.

Colour.— Black; hind tibia largely whitish-yellow, but its apical third infuscate; middle and hind femora dark yellowish-brown, remaining of legs (excluding tarsal segments) largely yellowish. Frequently, (as in *A. nigra*) first, or second and third metasomal tergites yellowish, yellowish-brown, or dark yellowish-brown.

Distribution.— *Portugal; *Spain; Russia (Siberia).

Biology.— Unknown.

Notes.— The “cotype” specimen received from ZISP differs somewhat from the original description. The second submarginal cell is subtriangular and not quadrate, and the ovipositor is distinctly longer than described. Telenga did not mention the shape of the ante-ocellar area, the prominence of the stemmaticum, etc. In the paratype the stemmaticum is only moderately prominent, the ocellar depression is present but rather flattened and followed by a hardly observable elevation: in conclusion, the whole area gives an impression of almost complete flatness.

The specimens from Spain and Portugal are very similar. The main differences consist of the absence (in most of the specimens) of the sculpture on the first metasomal tergite, and differences of the shape of the stemmaticum and of the ante-ocellar depression. The stemmaticum looks, in general, more prominent than in the paratype (although in some cases it is close). Also the ante-ocellar area and the median keel are more pronounced, rather similar to *A. nigra*, as is the shape of the head in anterior view. However, *A. nigra* has the height of the eye 1.5-1.7 times the length of the malar space.

Agathis glaucoptera Nees, 1834
(figs 254-256)

Agathis glaucoptera Nees, 1834: 128 (“*Ag. ferruginea*, antennis, metathorace toto et pectore postico nigris; alis glaucis (fusco-flavescenti-hyalinis) litura pallida. Fem.? Synon. *Ichneumon pteromelas* Villers. Ent. lin. II. p. 196: n. 188? et *Ichneumon apicarius* idem p. 189. n. 170? Long. lin. 3 1/2. Statura *Ag. deflagratoris*. Caput transversum, thoracis latitudine, latius quam in cofamiliaribus. Oris partes fuscae, palpis pallidis. Thorax medius rotundatus, bisulcus. Metathorax brevis, rotundatus, subrugulosus, rugulis duabus mediis irregularibus aream simulantibus. Abdomen in nostro exemplo mutilum, tribus anterioribus segmentis solis residuis; hae luteae, primo aequali convexiusculo conico-angustato, ante basin tuberculo parvo laterali. Pedes et Alae congenerum; hac area cubitali media triangulari, petiolata. Color totius corporis ferrugineo-rufus, abdomine (sc. quod reliquum) et pedibus luteis; nigrae sunt antennae, scapo excepto, metathorax totus, tum pectus et pleurae a pedum anticorum origine; denique tibiarum posticarum apices. Tarsi fuscis, basi pallidiores. Alae glauco-fuscae, nervis et stigmatibus fuscis, litura solita hyalina, a stigmate descendente, obsoletiori. Habitat in Italia. Individuum unum mutilum cl. Bonelli transmisit.”); Shenefelt, 1970: 335; Nixon, 1986:195; Tobias, 1986: 280 (transl. 1995: 487); Zettl & Beyarslan, 1992: 122 [holotype lost].

?*Ichneumon apicarius* Villers, 1789: 189 (“*I. (le mëlature) flavo-ferrugineus*, thoracis apice nigro. Hab. in Europa. Desc. Totus fusco-testaceus. Antennae corpus aequant. Thorax apice niger. Setae abdominales brevissimae.V.”).

Agathis apricaria; Shenefelt, 1970: 318.

?*Ichneumon pteromelas* Villers, 1789: 196 (“*I. (le ptèromele) scutello thoraci concolore, thorace antice rubro, postice nigro, abdomine fulvo*. Hab. in Europa. In Gallia, prope Massiliam. Desc. Statura, facies & magnitudo praecedentis, sed aliter coloratus. Thorax in parte postica niger. Abdomen

fulvum. *Aculeus pallidus*, corpore longior. Vaginnæ nigrae. An praecedentis foemina?).
Agathis pteromelas; Shenefelt, 1970: 349.

Material.— 2 ♀♀ (RMNH), "France, Perpignan, 10.vi.1976, G.J. Slob"; 1 ♀ + 4 ♂♂ (RMNH), "Sp[ain], Ter[uel], Calamocho, 5.vi.1985, H. Teunissen"; 2 ♀♀ (RMNH), "[Spain], Gran[ada], Gortafe, 25.v.1983, H. Teunissen"; 1 ♀ (RMNH), "Spain, Av[ila], S[er]ra de Gredos, Noyos de Collado, 6.vi.1983, H. Teunissen"; 1 ♀ (RMNH), "Spain, Alb., Almansa, 25.v.1983, H. Teunissen"; 1 ♀ (RMNH), "Türkei, Korya, 11.vi.1971, Kl. Warncke".

Mean length of body of examined specimens 9 mm.

Head.— Head robust in frontal view because of small eyes, weakly tapering ventrad (fig. 254), width of head below eyes 1.3-1.4 times median height of face and clypeus combined, its length in frontal view 1.5-1.6 times maximum width of face; face nearly smooth; height of eye 1.0-1.1 times length of malar space; stemmaticum distinctly prominent (fig. 254), ante-ocellar area short, between equilateral triangle and oval and hardly impressed, slightly protruding, with distinct median keel, protruding dorsally but distinctly removed from antennal sockets (fig. 254); antenna with 30-33 segments; galea obtuse apically (fig. 254), 0.5 times height of eye, and 0.2 times height of head.

Mesosoma.— Length of the mesosoma 1.5 times its width; side of pronotum smooth, and distinctly crenulate near posterior margin; mesoscutum largely smooth, with some punctulation; scutellum rather convex, smooth; notauli deep, complete, narrow, smooth; mesopleuron largely smooth, with some punctures posteriorly and below precoxal sulcus; precoxal sulcus only anteriorly absent, reaching posterior margin, distinctly crenulate; metapleuron sparsely punctate medially; propodeum with some coarse rugosity, with small smooth central areas and both medio-longitudinal carinae obsolescent or interrupted by rugosity.

Wings.— Fore wing: marginal cell rather large, with SR1 slightly curved (fig. 256); r:3-SR:SR1 = 3:2:55; second submarginal cell small, triangular, petiolate, or absent (fig. 256); 2-R1 about as long as 1-R1 or slightly less (fig. 256). Hind wing: M+CU:1-M = 37:30.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.5, 5.6 and 7.5 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.55 and 0.45 times hind basitarsus, respectively; tarsal claws robust, with distinct acute lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, distinctly convex, its surface smooth; length of second tergite 0.7 times as long as its basal width, smooth, with transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 0.84 times fore wing, 1.5 times metasoma, and 0.75 times body.

Colour.— Yellowish-brown; stemmaticum, ante-ocellar area and frons tooth distinctly black; galea and antenna (but scapus mainly yellowish) dark yellowish-brown; mesosoma usually with about equal amount of black and yellowish-brown areas, mesoscutum usually yellowish-brown with side of pronotum (but small dark-yellowish brown areas may be present), scutellum either yellowish-brown or black; mesopleuron, metapleuron and propodeum usually black; hind tarsus, and apex of hind tibia dark yellowish-brown; sometimes first tergite with small brownish patch basally, or entire metasoma slightly brownish.

Distribution.— France; Hungary; Italy; Kazakhstan; Macedonia; Russia; Spain (incl. Balearic Islands); Turkey.

Biology.— Unknown.

Notes.— The following points about *A. glaucoptera* and *A. syngenesiae* Nees deserve attention: a) the original description of *A. glaucoptera* was based on only one specimen with the apical part of the metasoma missing, hence no data are available on the length of the ovipositor sheath (it might even have been a male); b) Nees placed his *A. syngenesiae* among the species with “areola cubitalis secunda quadrata”, but in the description he describes it differently: “area secunda cubitali triangulari, petiolata”; c) Marshall (1890) based his interpretation of *A. glaucoptera* on a female in “rather poor condition” and he described this female as having the ovipositor sheath longer than the body; d) Fahringer (1937) simply reports the interpretations of *A. glaucoptera* by Nees and Marshall, without formulating a clear statement about the length of the ovipositor sheath; e) Nixon (1986) states that he based his interpretation of *A. glaucoptera* on Marshall’s (1890), and Tobias’ (1963) interpretations of the species, and, although he says that “Marshall recognized the species correctly” he lists the length of the ovipositor sheath as being long as the metasoma. This agrees with Telenga’s (1955) and Tobias’ (1976) interpretation, but disagrees with Marshall’s interpretation of the species.

The above account allows the following conclusions: a) Nees’ description is insufficient (as of other *Agathis* species); b) there remains the possibility that the holotype belonged to *A. syngenesiae*; c) Marshall’s specimen probably belonged to *A. syngenesiae*. In conclusion, based on Nixon (1986) and the present study it is obvious that there exists a species morphologically close to *A. syngenesiae*, but having a much shorter ovipositor sheath. The suspicion that the damaged holotype of *A. glaucoptera* belongs to this species may be correct, but, as the holotype is lost, there is no chance to prove it. In such cases as, e. g., of *A. breviseta* and *A. nigra*, a neotype is designated in this paper, which is fitting the original description (Article 75-d4 of the International Code of Zoological Nomenclature; “should be consistent with original description”) and from as near the type locality as possible (Art. 75-d5). In this case we follow the first reviser who gives an extensive and reliable description, viz. Telenga (1955). It would be possible to designate a neotype from Italy fulfilling the conditions of Art. 75 of the Code in this paper, but we refrain from doing this because the species is easily to recognise by the combination of its size, the colour and the length of the ovipositor sheath.

Agathis gracilentata Tobias, 1963
(figs 170-173, 175)

Agathis gracilentata Tobias, 1963: 824 (“Close to *A. malvacearum* Latr., but generally darker, from the darker specimens of this species it differs by the considerably longer ovipositor and by the smaller size of the body. Female, 3 mm. Width of head slightly less than its height; temple 0.4 times width of eye; ocellar triangle rectangular or sharp anteriorly; frontal crest very weak, apically not clearly branched, sometimes obsolescent; longitudinal diameter of eye 1.5 times than transverse diameter, 1.5 times longer than malar space; height of face 1.5 times less than its width and twice longer than the height of clypeus; rostrum as long as face and clypeus combined; antenna shorter than body, first flagellar segment 4 times longer than wide and segments of its apical third 1.5

times longer than wide, or slightly less; antennal segments 25(1), 26(5), 27(2), or 28(1); thorax 1.6-2.0 times longer than high; notauli and precoxal sulcus deep and sculptured; second cubital cell of fore wing triangular in 5 specimens and quadrangular in 4 specimens; hind femur 4-5 times as long as wide; inner hind tibial spur slightly longer than 0.3 times hind basitarsus, fifth tarsal segment as long as third or longer and shorter than second segment; first metasomal tergite 1.5 times longer than wide; second tergite 1.5 times wider than long; ovipositor longer than body; propodeum sculptured, with smooth areas laterally present or absent, medio-longitudinal carinae very weak, usually with two carinae; first metasomal tergite sculptured; second tergite smooth or sculptured around medial swelling. Black; fore femur (except basally), or only apically, sometimes hind femur apically reddish-brown; basal two-thirds of hind tibia yellow, with brownish subbasal ring; apices of middle and hind tibiae and tarsi brown; wing infuscate; pterostigma brown; palpi sometimes brownish-red, second tergite of metasoma sometimes brown. Male: unknown. Material. Tselinogradskaya oblast, Mts Koksjetau, *Ferula tatarica*, 9.v.1957, 2 ♀♀; 19.vi.1957, 1 ♀; northwest of Lake Zharkol, 23.vi.1957, 2 ♀♀, near Lake Iлектикол, *F. songorica*, 25.vi.1957 (V. Tobias). Karagandinskaya oblast, Mts Kok-Sadyk, southwest Urk-endeu, *F. caspica*, 23.vi.1958, 1 ♀ (V. Tobias). East Kazakhstan oblast, delta of river Kenderlyk (east Zajsan), 13-14.vi.1961, 5 ♀♀ (including holotype) (V. Tobias). Translated from Russian); Shenefelt, 1970: 336; Tobias, 1986: 283 (transl. 1995: 493).

Material.— Holotype, ♀ (ZISP), “[Kazakhstan], poĵta Kenderlyk, bl. gor Zajsansk., 13.vi.[1]961, V. Tobias”, “*Agathis gracilentum* sp. n., Tobias, det.”, “Holotype”.

Length of body 2.7 mm, of fore wing 2.2 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 172), width of head below eyes about equal to median height of face and clypeus combined, its length in frontal view 1.7 times maximum width of face; face largely smooth, somewhat punctulate, with dense medium-sized greyish pilosity; clypeus convex and rather protruding in lateral view (fig. 170) and distinctly punctate; lateral epistomal suture absent; anterior tentorial pits small; height of eye 1.5 times length of malar space; stemmaticum and area in front of anterior ocellus not prominent (fig. 170), area in front of anterior ocellus short, circular (pit-like) and rather distinctly impressed (fig. 172), not protruding, slightly sloping ventrad, with no distinct median keel; antenna with 26 (paratypes 25-28) segments, segments rather slender (fig. 175); galea obtuse apically, smooth (fig. 170), 1.1 times height of eye, 1.7 times malar space, and 0.6 times height of head.

Mesosoma.— Length of the mesosoma 1.6 times its height; side of pronotum largely smooth, ventrally somewhat superficially sculptured, finely crenulate medio-anteriorly, distinctly punctate dorsally (with interspaces about equal to diameter of punctures), and distinctly crenulate near posterior margin; mesoscutum and scutellum sparsely punctate, interspaces shiny and smooth; scutellum flat; notauli deep, complete, narrowly crenulate, and with medium-sized, narrow and largely smooth medio-posterior groove; mesopleuron largely smooth, with some punctulation anteriorly; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and finely crenulate; metapleuron smooth medially, rugose-crenulate ventrally; propodeum with large smooth central areas and laterally rugose, both medio-longitudinal carinae obsolescent, only posteriorly distinct.

Wings.— Fore wing: marginal cell small, with SR1 curved apically (fig. 171); r:3-SR:SR1 = 2:2:22; second submarginal cell wide quadrangular (but triangular in several

paratypes); 2-R1 0.4 times 1-R1 (fig. 171); pterostigma 2.2 times as long as 1-R1; 1-R1 slender (fig. 171). Hind wing: M+CU:1-M = 20:19.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.5, 7.3 and 6.5 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.40 and 0.35 times hind basitarsus, respectively; tarsal claws slender, without acute lobe; middle tibia with a row of 3 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 1.2 times its apical width, somewhat flattened medio-posteriorly, its surface finely striate; length of second tergite 0.8 times as long as its basal width, largely smooth, with distinctly convex, transverse elliptical medio-basal swelling; remainder of metasoma smooth; length of ovipositor sheath 1.72 times fore wing, 3 times metasoma, and 1.1 times body.

Colour.— Black(ish); antenna, labial palp, basal segment of maxillary palp, tegulae, pterostigma, veins, fore femur basally, middle femur (except apically), hind femur (except narrowly apically), apices of middle and hind tibiae, subbasal ring of hind tibia, trochanters and trochantelli, middle and hind tarsi (except basally), and fore telotarsus dark brown; remainder of legs (except black coxae), and of maxillary palp pale brownish-yellow; wing membrane slightly infuscate.

Distribution.— Kazakhstan.

Biology.— Unknown.

Note.— Recognisable by its small size, the slender body and the comparatively long ovipositor sheath. The second metasomal tergite may be dark brown.

Agathis gracilipes Hellén, 1956
(figs 36-44)

Agathis gracilipes Hellén, 1956: 122-123 ("♀. Körper schlank. Kopf glatt, kurz, etwas länger als breit. Wangen so lang wie die Augen. Fühler etwa 30gliedrig. Endglieder kaum länger als breit. Maxillen kurz, etwa halb so lang wie die Wangen. Thorax glatt und glänzend, kaum wahrnehmbar punktiert. Parapsidenfurchen lang und deutlich. Sternauli lang, punktiert. Mediansegment glatt mit zwei deutlichen Mittelkielen. Hinterleib linear. Segment 1 um ein Viertel länger als breit, ganz feingestreift. Segment 2 quadratisch, an der Seiten gestreift. Die folgenden Segmente glatt. Bohrer um ein Viertel länger als der Körper. Flügel schwach getrübt. Stigma braunschwarz, kaum doppelt so lang wie breit. Costa über die Radialzelle fast um ihre Länge verlängert. Radialader fast gerade. Kubitalzelle 2 dreieckig, etwa so hoch wie breit. Cubitus an der Basis ausgebleicht. Beine schlank. Spuren der Hinterschienen $\frac{1}{3}$ der Länge des ersten Hintertarsengliedes, das etwa achtmal so lang wie dick ist. Glied 4 doppelt so lang wie dick. Klauen fein und kurz. L. $3\frac{1}{2}$ -4 mm. Schwarz. Beine rot. Hüften, Trochanteren, Basis der Schenkel, Spitzendrittel und ein Basalring der Hinterschienen und die Hintertarsen schwarz. Spuren der Hinterschienen weiss. ♂ Gleich dem Weibchen. Die Hinterleibsegmente sind etwas kürzer, und das zweite ist fast ganz glatt. Die Art gleicht an meisten *anglica* Marsh. Der Kopf ist länger, das Mediansegment ist glatt und das 2. Hinterleibsegment beim ♀ im grösserem Umfang gestreift. Die Beine und besonders die Tarsen sind viel schlanker. Der Bohrer ist länger und die Flügel schwächer verdunkelt. Die Art scheint meistens an Meeresufern, besonders auf Dünengebieten vorzukommen. [Finland], N: Tvärminne: Henriksberg (A.N.). Ka: Peninsaari (W.H./). Kl.: Kexhjolm 17.vii.[19]23 (R. Krogerus). Käkisalmi, 6.vii.[19]37 (Winter.); Shenefelt, 1970: 336; Nixon, 1986: 212-213 (redescription) Tobias, 1986: 285 (lectotype designation; transl. 1995: 497).

Agathis tenuipes Tobias, 1963: 867, fig. 10 (only described in key: "Legs very thin and long, hind femur 6 times longer than wide, fourth hind tarsal segment twice and third segment three times as wide as long (fig. 10); gena somewhat shorter than longitudinal diameter of eye; second metasomal ter-

gite quadrate, with transverse oval swelling basally; ovipositor a quarter longer than body; first tergite sculptured, second [tergite] smooth; black; legs largely yellowish, coxae, trochanters and bases of femora black; wings subhyaline; tegulae yellow; [body] 3.5 mm), 873 (1 ♀, Tadjhikistan, Pharab, 11.iv.1913, Golbek)". Translated from Russian.; Shenefelt, 1970: 360. **Syn. nov.**

Material.— Lectotype of *A. gracilipes*, ♀ (ZMH), "Tvärminne: Henriksberg", "Nordman", "7823", "Mus. Zool. H:fors. Spec. typ. No. 5617, *Agathis gracilipes* Hell.", "Lectotypus *Agathis gracilipes* Hellén, design. Tobias"; holotype of *A. tenuipes*, ♀ (ZISP), "[Tadjhikistan], Pharab, 11.iv.1913, Golbek".

Length of body of holotype of *A. tenuipes* 3.7 mm.

Head.— Head distinctly narrowed ventrad (figs 37, 44), moderately elongate, but characterized by a prominent, narrow and elongate clypeus, with deep epistomal suture laterally (figs 37, 44; width of head below eyes 1.1 times median height of face and clypeus combined (in lectotype of *A. gracilipes* 1.25 times), its length in frontal view 1.7 times width of face; height of eye 1.2 (in lectotype of *A. gracilipes* 1.3 times) times length of malar space; stemmaticum weakly prominent (figs 38, 43); ante-ocellar area distinct, short triangular and deeply impressed (fig. 44; shallow in lectotype of *A. gracilipes*: fig. 37), without median keel (but weak keel present in lectotype of *A. gracilipes*); antenna incomplete (according to original description with about 30 segments), basal segments slender (fig. 38); galea obtuse apically (figs 38, 43), 0.8 times height of eye (0.5 times in lectotype of *A. gracilipes*), and 0.4 times height of head (0.2 times in lectotype of *A. gracilipes*).

Mesosoma.— Length of mesosoma 1.6 times its height; pronotal side without distinct sculpture, except its posterior crenulation; mesoscutum and scutellum punctate to punctulate; notauli complete, distinct, regularly crenulate; scutellar sulcus wide and deep in lectotype of *A. gracilipes*; mesopleuron largely smooth, with some punctures below precoxal sulcus; precoxal sulcus long, deep, crenulate, distinctly touching posterior mesopleural edge; propodeum comparatively flat, coarsely punctate-rugulose, especially laterally, medially coarsely rugose but without distinct carinae (parallel and widely separated carinae in lectotype of *A. gracilipes*).

Wings.— Fore wing: marginal cell moderately narrow (fig. 36), SR1 straight; second submarginal cell small, quadrangular (triangular in lectotype of *A. gracilipes*); vein 2-R1 about half as long as vein 1-R1 (but about equal in lectotype of *A. gracilipes*: fig. 36). Hind wing: M+CU:1-M = 30:33 (20:15 in lectotype of *A. gracilipes*).

Legs.— Slender; length of femur, tibia and basitarsus of hind leg 4.0 (not 6.0 times as mentioned by Tobias (1963, 1986)!), 8.0 and 10.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.3 times hind basitarsus; tarsal claws slender, without lobe (fig. 18; with small acute protuberance in lectotype of *A. gracilipes*); outer side of middle tibia with 2 small pegs above apical patch of pegs in lectotype of *A. gracilipes*.

Metasoma.— Length of first tergite about equal to its apical width (1.2 times in lectotype of *A. gracilipes*), distinctly convex, its surface superficially striate laterally (largely striate in lectotype of *A. gracilipes*), medially distinctly convex; remainder of metasoma entirely smooth (but behind basal swelling rugulose in lectotype of *A. gracilipes*), medio-basal swelling distinct; length of ovipositor sheath 1.22 times fore wing (about 1.4 times in lectotype of *A. gracilipes*), and 2.2 times metasoma.

Colour.— Black; subbasal ring, and somewhat less than apical half of hind tibia

dark brown; apical half of femora and remainder of tibiae yellowish-brown; pterostigma, veins and remainder of legs (except black coxae) largely dark brown; wing membrane subhyaline.

Distribution.— Finland; Tadzhikistan.

Biology.— Unknown.

Notes.— This species is very distinctive by the combination of the extremely prominent shape of the clypeus (figs 37, 43-44, “nose-like” in lateral view, with the deep epistomal suture laterally), the long and slender hind leg (especially its femur: figs 40, 42), and the slender tarsal claws (figs 39, 41).

The lectotype of *A. gracilipes* Hellén has the galea distinctly shorter (fig. 38, but probably because it is partly retracted), the first and second metasomal tergites partly sculptured, the medio-longitudinal carinae of the propodeum distinct, vein 2-R1 of fore wing longer (fig. 36), and the second submarginal cell of the fore wing triangular. However, all these differences are known to be variable within several other species of *Agathis* and, therefore, the two nominal species are considered to be conspecific.

Agathis griseifrons Thomson, 1895
(figs 160-165)

Agathis griseifrons Thomson, 1895: 227 (“Nigra, femoribus et tibiis rufo-variis, facie griseo-sericea, terebrea corpore longiore, alis griseis, areola subquadrata, cubito basin deleto; sternaulis longis subflexuosis. ♂ ♀ Long. 2 lin. *Agathis rufipalpis* Nees 1. c. var. a. I. 129. 3. Species a praecedente [i.e. *A. nigra*] capite cum ore brevior; a sequentibus [i.e. *A. varipes*, *A. glabricula*, *A. breviseta*] facie tota griseo-sericea, sternaulis longioribus, areola subquadrata discedens. Pedes nigri, femoribus rufis, basi, posticis etiam apice, raro margine supero nigris; tibiis rufescentibus, posterioribus vel posticis apice et semiannulo prope basin nigro-fuscis; interdum variat scapo antennarum subtus rufo, labro pallido, coxis nigris apice piceis, trochanteribus anticis femoribus tibiisque fulvis, his apice summo fusco.”); Shenefelt, 1970: 336; Nixon, 1986: 202-203, fig. 44 (lectotype designation) [lectotype examined].

Agathis laticarpa Telenga, 1955: 255 (transl. 1964: 238-239; “♀. Body and antennae black; palpi reddish with black base; legs red; coxae, trochanters, bases of middle and hind femora, tip of hind femur, and all tarsi black; hind tibiae whitish, with black tip and black basal ring. Head transverse, rectangularly tapering occipitad, smooth, shining. Genae longer than longitudinal diameter of eye. Clypeus with deep basal depressions. Maxillae as long as genae. Maxillary palpi slightly thickened. Antennal pits scarcely visible. Distance between eyes and posterior ocelli almost three times the ocellar diameter. Mesonotum and scutellum smooth, shining. Parapsides deep, fairly wide, rugose. Scutoscutellar suture with distinct transverse notches. Prothorax and sides of mesothorax smooth, shining; latter with coarsely rugose groove along its entire length. Sides of metathorax coarsely rugose ventrally, almost smooth elsewhere. Propodeum coarsely rugose, with two smooth shining areas and two longitudinal median carinae. Metasoma broadly sessile, as long as head and thorax together. First tergite as long as apical width, longitudinally striated all over; other tergites smooth; second tergite transverse. Ovipositor as long as thorax and metasoma together. Wings slightly clouded; wing covers black; stigma and veins brown; base of median vein decolorized. Second cubital cell quadrate. Proximal section of radius half as long as the second; third section slightly curved. Second cubital crossvein but slightly longer than second section of radius. Submedian crossvein marking off $\frac{1}{4}$ of base of discoidal cell. Hind coxae smooth. Large hind tibial spurs less than an half as long as proximal tarsal joint. Claws with broad basal denticle. Length 6 mm. ♂. Unknown. Differentiated from other species by the exceedingly long groove on the sides of the mesothorax. Distribution: U.S.S.R.: Chernigov Region.”); Shenefelt, 1970: 339; Nixon, 1986: 202 (as syn. of *A. griseifrons*).

Material.— Lectotype of *A. griseifrons*, ♀, (ZIL), “[Sweden], Coll. L-gh”, “*griseifrons*”, “*Agathis griseifrons* Th., Lectotype, 1983, G.E.J. Nixon”; 1 ♀ (RMNH), “Nederland, Gld., Pannerden, 4.vii.1977, B. v. Aartsen”; 1 ♀ (RMNH), “Netherlands, L., St. Pietersberg, 5.viii.1986, B. v. Aartsen, RMNH”; 2 ♀ ♀ (RMNH), id., but 3.x.1986, C.J. Zwakhals; 1 ♀ (RMNH), id., but 10.viii.1986; 1 ♀ (RMNH), id., but 15.viii.1986; 1 ♀ (RMNH), “Nederland, L., Maastricht 13, 27.viii.1977, B.V. Lefeber, A.”, “*Agathis griseifrons* Th., det. G.E.J. Nixon, 1982”; 1 ♀ (RMNH), id., but 14.vi.1978; 1 ♂ (RMNH), “[Netherlands], wegrand bij Eysdenerbos, 20.vii.1950, Exc. St. Pietersberg”; 1 ♂? (RMNH), id., but 18.vii.1950, Cannerbos; 2 ♀ ♀ (RMNH), “Nederland, Asperen, Z.-H., 19.vi-2.vii.1973, C.J. Zwakhals”, “*Agathis griseifrons* Th., det. G.E.J. Nixon, 1982”; 1 ♀ (RMNH), “[Austria], Salzburg, [on] *Echinops*, 5.viii.1958, am Wegrund, Babiy”; 1 ♀ (RMNH), “[Austria], Salzburg, Bergheim, Au., 10.vi.1969, P.P. Babiy”, “*Agathis varipes* Thoms., det. Zettel, 1990”; 1 ♀ (RMNH), “[Slovenia], Tolmein”; 1 ♂ (RMNH), “France, Chateaubourg, 11.vi.1953, G.L. Spoek”; 1 ♀ (MNHN), “[France], Pont Saône, 1879”; 1 ♀ (MNHN), “[France], C[ote] d’Or, Esbarres, 9.ix.[19]59, J. Barbier”; 1 ♀ (MNHN), “[France], C[ote] d’Or, Gevrolles, 31.viii.[19]57, J. Barbier”; 1 ♀ (MNHN), id., but 8.ix.1955; 2 ♀ ♀ (MNHN), “[France], Chartrettes, 5.viii.[19]42”; 1 ♀ (RMNH), “Switzerland, Aeschi-Ried, 1000 m, 17.vii.1967, C.J. Zwakhals”; 1 ♀ (RMNH), “[Bulgaria], Plovdiv, 10.viii.1981, [A.] Zaykov”; 3 ♀ ♀ (RMNH), “[Bulgaria], Trakia, Radnevo, 16.vi.[19]94, [A.] Zaykov”; 1 ♀ + 2 ♂ ♂ (RMNH), id., but 6.vi.1994; 1 ♀ (RMNH), id., but 10.vi.1994; 3 ♀ ♀ (RMNH), id., but 17.vi.1994; 1 ♀ (RMNH), “[Bulgaria], Trakia, Zlatitrap, 29.vi.[19]94, [A.] Zaykov”; 2 ♀ ♀ (RMNH), “[Bulgaria], Trakia, Voivodinovo, 26.vi.[19]94, [A.] Zaykov”; 1 ♂ (RMNH), “[Bulgaria], Rhodopi, Petelovo, 15.viii.1975, A. Zaykov”; 1 ♀ (RMNH), id., but 16.viii.1975, J. Kolarov; 1 ♀ (RMNH), “[Bulgaria], Rodopi, Mezar gidig, 21.vi.1977, A. Zaykov”; 1 ♀ (BC), “Bolgarija, 5 km JuV Chadzhi Dimova, 450 m, 30.vii.[1]977, Ijutserna, Balevski”; 1 ♀ (RMNH), “Andorra, Fontaneda, 1700 m, 23.vi.1981, P.H. v. Doesburg”; 1 ♀ (RMNH), id., but from Canolic, 1400 m; 1 ♀ (RMNH), “Turkey, Rize, 20 km S. Rize, 1400 m, 10.vii.1985, C.J. Zwakhals”.

Length of body of lectotype of *A. griseifrons* 5.6 (mean: 4.9) mm.

Head.— Head moderately elongate, distinctly tapering ventrad (figs 160, 163), width of head below eyes 1.1 times median height of face and clypeus combined, its length in frontal view 1.7 times maximum width of face; face punctulate, with dense long greyish pilosity (figs 160-161, 163-164); lateral epistomal suture absent or nearly so; height of eye 1.2 (mean: 1.4) times length of malar space; stemmaticum rather prominent (figs 161, 165); ante-ocellar area hardly developed, triangular, nearly flat, without median keel; antenna with 31-34 segments; galea obtuse apically (figs 164-165), 0.7 (= mean) times height of eye, and 0.5 (mean: 0.4) times height of head.

Mesosoma.— Length of mesosoma 1.4 times its height; side of pronotum largely sculptured (but medially largely smooth), coarsely punctate and somewhat rugulose medio-anteriorly, and distinctly crenulate medially and near posterior margin; mesoscutum and scutellum punctate, setose; notauli deep, complete, distinctly crenulate; mesopleuron punctulate medially and above precoxal sulcus, laterally and below precoxal sulcus punctate, long setose; precoxal sulcus deep, only anteriorly absent, reaching posterior margin, rather wide, and strongly crenulate; metapleuron (coarsely) punctate medially, rugose ventrally; propodeum largely punctate-rugose, especially basally, with small smooth central areas, both medio-longitudinal carinae irregular (but in other specimens both carinae may be strong and regular, and smooth medial areas large).

Wings.— Fore wing: marginal cell rather large, with SR1 usually straight; r:3-SR:SR1 = 2:3:32; second submarginal cell quadrangular (in other specimens more often subtriangular); 2-R1 almost as long as 1-R1 (but in other specimens sometimes much shorter, usually 0.5-0.6 times 1-R1). Hind wing: M+CU:1-M = 29:21.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.8, 5.9 and 6.2 times their maximum width, respectively; length of inner and outer hind tibial spurs about 0.4 times hind basitarsus; tarsal claws robust, with lobe (rather indistinct in lectotype of *A. griseifrons*, but strongly developed in other specimens).

Metasoma.— Length of first tergite equal to its apical width, its surface strongly striate, but medially weaker, scaly-rugulose (rarely partly smooth); second tergite smooth, but often laterally of transverse elliptical medio-basal swelling somewhat striate; remainder of metasoma smooth; length of ovipositor sheath 0.91 (mean: 0.88) times fore wing, 1.6 (mean: 1.5) times metasoma, and 0.86 (mean: 0.81) times body.

Colour.— Black; apical third and subbasal ring of hind tibia usually, veins and pterostigma dark brown; legs usually bright orange-brown, sometimes hind femur dark brown or blackish dorsally, except its ivory basal ring.

Distribution.— Albania; *Andorra; *Austria; Bulgaria; Finland; France; Germany; Great Britain (England); Greece; Ireland; Italy; Netherlands; Poland; *Slovenia; Sweden; *Turkey; Ukraine.

Biology.— Parasitoid of *Pyrausta aurata* (Scopoli, 1763) (Pyalidae; Nixon, 1986).

Notes.— The original description of *A. griseifrons* by Thomson clearly mentions the colour of the legs of the species and the typical whitish-greyish pilosity of the face. Less weight should be given to the indicated length of the ovipositor (viz. as long as body). Most authors after Thomson (except Fahringer) indicate that *A. griseifrons* has the ovipositor sheath distinctly shorter than the body. Specimens we identified as *A. griseifrons* all have the ovipositor sheath shorter than the body and fore wing. Also the lectotype has the ovipositor sheath clearly shorter than indicated by Thomson. Obviously, Thomson made a mistake in indicating the length of the ovipositor; from other aspects of the original description it is clear that we interpret the species correctly. *A. ferulae* Tobias is similar to *A. griseifrons*, but differs e.g., by the lower number of antennal segments and the somewhat shorter head (width of head below eyes 1.5–1.6 times median height of face and clypeus combined: figs 280–281).

Agathis hemirufa spec. nov.
(figs 274–279)

Material.— Holotype, ♀ (RSM), "Spain: Zaragoza, Juslibol, 210 m, 5.x.[19]77, G.E. King". Paratypes (1 ♀ + 1 ♂): 1 ♀ (RMNH), topotypic and same date; 1 ♂ (RSM), "Spain: Zaragoza Prov., Los Monegros, Retuerta de Pina, 30TYL 2597, 12.ix.[19]92, swept [from] *Artemisia herba-alba*, J. Blasco-Zumeta, 5257, NMSZ 1997.026".

Length of body 4.4 mm, of fore wing 3.9 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 274), width of head below eyes 1.4 times median height of face and clypeus combined, its length in frontal view 1.4 times maximum width of face; face smooth, with rather dense and conspicuous greyish pilosity (but less conspicuous than in *A. griseifrons*); clypeus strongly convex and smooth; lateral epistomal suture narrow; height of eye 1.2 (paratype: 1.45) times length of malar space; stemmaticum not prominent (figs 274–275), ante-ocellar area triangularly elevated, not impressed, roundly protruding anteriorly, without median keel; antenna with 25 (female paratype: 26) segments, segments rather slender (figs 276, 279); galea stout, smooth, obtuse apically (fig. 275), 0.8

times height of eye, nearly as long as malar space, and 0.4 times height of head; anterior tentorial pits medium-sized and deep; postero-ventrally temples with rather wide hypostomal carina (fig. 275); temples subparallel dorsally, rather flat in lateral view (fig. 275).

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely smooth, crenulate anteriorly, sparsely punctulate postero-dorsally, and narrowly crenulate near posterior margin; mesoscutum nearly completely smooth; scutellum smooth and rather flat; notauli moderately deep, complete, narrow, and finely crenulate, (medio-posterior groove unknown because of way of pinning); mesopleuron largely smooth, punctulate and setose, except for area above precoxal sulcus and ventrally; precoxal sulcus only medially present, short, narrow, and finely crenulate (of paratype partly developed posteriorly); metapleuron sparsely and finely punctate medially, coarsely rugose ventrally; subbasally propodeum with coarse rugosity and transverse carina, with very large and smooth central areas, and laterally rugose, with pair of strong longitudinal carinae submedially, diverging posteriad.

Wings.— Fore wing: marginal cell large, with SR1 straight (fig. 278); r:3-SR+SR1 = 4:55; second submarginal cell robust, triangular; 2-R1 0.7 times 1-R1 (fig. 278; 0.6 in paratype); pterostigma 1.8 times as long as 1-R1; 1-R1 rather wide (fig. 278). Hind wing: M+CU:1-M = 5:4.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.5, 6.8 and 6.4 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.3 times hind basitarsus; tarsal claws moderately slender, without lobe (fig. 277); middle tibia with 2 pegs above apical patch of pegs; hind basitarsus somewhat widened basally, hind tarsus 1.1 times as long as hind tibia; hind tibia normal.

Metasoma.— Length of first tergite 1.2 times its apical width, moderately convex, its surface largely smooth, only latero-basally striate; length of second tergite 0.7 times as long as its basal width, smooth, with distinct circular medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 0.74 (paratype: 0.68) times fore wing, 1.5 times metasoma, and 0.7 times body.

Colour.— Black; mesosoma reddish, but basal third of first tergite and two apical sternites dark brown, and fifth and following tergites black; fore and middle femora (except narrowly basally) and middle tibia (except apically), hind femur (except dark patch on outer side basally), fore tibia, fore and middle tarsi (but partly infuscate) and tibial spurs yellowish-brown; apical quarter of middle and hind tibiae blackish; remainder of hind tibia and base of hind basitarsus pale yellowish; pterostigma, veins, and remainder of hind tarsus largely dark brown; wing membrane evenly dark brown, except for some small subhyaline patches below pterostigma. Female paratype as holotype but hind femur completely yellowish and basal half of first metasomal tergite blackish. Male paratype similar but has metasoma beyond middle of fourth tergite black.

Distribution.— *Spain.

Biology.— Unknown.

Notes.— Resembles *A. rubens* Tobias, but *A. hemirufa* has the notauli more developed, the propodeum distinctly rugose laterally, the head more elongate, the antecellar area without depression, the tarsal claws less slender and the mesosoma black. May be related to *A. ferulae* Tobias, but differs as indicated in the key.

Agathis icarus Belokobylskij & Jervis, 1998
(figs 282-287)

Agathis icarus Belokobylskij & Jervis, 1998: 1218-1221, figs 1-9 ("Female. Body length 4.5 mm; fore wing length 3.7 mm. Antennae 27-segmented. Scape 1.8 times as long as wide, 0.7 times as long as first flagellar segment. First flagellar segment almost 5 times as long as its apical width, 1.5 times as long as second segment. Penultimate segment 1.5 times as long as it is wide, almost as long as apical segment. Head in anterior aspect distinctly elongate, in dorsal aspect, twice as wide as long medially and 1.2 times width of the mesoscutum. Temple roundly narrowed behind eye, its length (in dorsal aspect) 0.55 times transverse diameter of eye. Occiput strongly concave. Ocelli moderately large, in triangle with base 1.2 times longer than its sides; POL/OD = 1.8, POL/OOL = 0.9. Frons with distinct keel between antennal sockets and distinct, rather narrow V-shaped cavity in front of anterior ocellus; lateral cavities wide and deep. Eye 1.4 times as high as wide. Malar space half as long as longitudinal diameter of eye, 0.7 times as long as transverse diameter. Proboscis moderately long, PL/HH = 0.66; galeae broad, nearly 2.5 times as long as their maximum width, 1.5 times as long as height of malar space, concealing most of glossa, GL/PL = 0.8. Face 1.5 times as wide as its height medially, 0.9 times height of eye. Tentorial pits distinct, distance separating them 1.4 times distance from pit to eye. Clypeal suture very fine. Clypeus strongly convex. Thorax in lateral aspect distinctly elongate, 1.9 times as long as high, 1.2 times as high as wide. Notauli deep, narrow, crenulate, not meeting posteriorly, almost parallel-sided in posterior half. Prescutellar depression short and crenulate. Sternauli short, rather distinct and crenulate. Wings: fore wing 3.2 times as long as wide. Pterostigma wide and relatively short, its length 2.8 times its maximum width, 1.6 times as long as first abscissa of metacarp (within radial cell). First abscissa of metacarp 1.4 times as long as second abscissa (behind radial cell). Radial vein arising slightly behind middle of pterostigma. Third radial abscissa almost straight. Second radiomedial cell (areolet) distinctly 4-sided. Legs: hind femur 3 times as long as wide, 0.6 times as long as hind tibia. Inner spur of hind tibia nearly 0.33 times as long as hind basitarsus. Middle tibia externally with nearly 10 spines arranged more or less in a row. Outer apical part of hind tibia with numerous closely spaced spines. Hind tarsus slightly longer than hind tibia, its first segment 0.7 times the length of the second-fifth segments combined. Fourth segment 2.2-2.2 times as long as wide. Claws without distinct tooth. Metasoma slightly longer the thorax and head combined. First tergite long, widening gradually from anterior to posterior; with small spiracular tubercles in basal quarter. Apical width 1.6 times minimum width, length of tergite 1.65 times apical width. Second tergite 1.3 times as long as its basal width, 1.3 times length of third tergite; with convex, almost circular area in basal half. Suture between second and third metasomal tergites fine but distinct. Hypopygium long, distinctly longer than apical margin of metasoma, without emargination at apex. Ovipositor sheath 1.5 times longer than the body, twice as long as fore wing. Sculpture: head and thorax mostly smooth. Propodeum dorsally with medio-longitudinal carinae and several other carinae, the former extending the whole length of the propodeum, the latter for only the posterior two thirds, remainder of propodeum dorsum finely reticulo-granulate. First metasomal tergite finely striate, laterally more distinctly striate over anterior two thirds, smooth posteriorly. Second and third tergites smooth throughout. Colour: body (including antennae) black; legs black with reddish brown markings on distal three quarters of fore femur, whole of fore tibia, basal half of basitarsus of fore leg, basal three quarters of middle tibia, basal third of basitarsus of middle leg, the basal two thirds of hind tibia, and basal quarter of hind basitarsus; middle and hind tibial spurs yellowish brown. Wings faintly infuscate, with brown pterostigma. Male. Unknown. Type material. Holotype, ♀, Spain, Andalucia, Granada, Parque de Invierno, on flower of *Anacyclus clavatus*, 19.v.1992, M.A. Jervis (BMNH). Remarks. This species is morphologically close to three Palaearctic species: *A. pedias* Nixon, recorded from southern Europe (Spain, Portugal and Greece) (couplet 21 in Nixon, 1986), *A. tatarica* Telenga recorded from Kazakhstan (couplet 13 in Telenga, 1955; couplet 16 in Tobias, 198), and *A. lederi* Fischer recorded from northern Mongolia (couplet 17 in Fischer, 1968). *A. icarus* can be distinguished from *A. pedias* as follows: 1. Ovipositor sheath as long as body; first metasomal tergite

approximately 1.33 times as long as apical width; height of malar space approximately 0.66 times as long as longitudinal diameter of eye; galeae as long as height of malar space *A. pedias* Nixon. — Ovipositor sheath 1.5 times as long as body; first metasomal tergite 1.65 times as long as apical width; height of malar space half as long as longitudinal diameter of eye; galeae 1.5 times as long as height of malar space *A. icarus* sp. n. *A. icarus* can be distinguished from *A. tatarica* as follows: 1. Height of malar space approximately as long as longitudinal diameter of eye; first metasomal tergite entirely and coarsely striate; ovipositor sheath as long as body; second radiomedial cell (areolet) 3-sided *A. tatarica* Telenga. — Height of malar space half as long as longitudinal diameter of eye; first metasomal tergite finely striate, smooth in apical third; ovipositor sheath 1.5 times as long as body; second radiomedial cell (areolet) distinctly 4-sided *A. icarus* sp. n. *A. icarus* can be distinguished from *A. lederi* as follows: 1. Frons with a U-shaped cavity in front of anterior ocellus; height of malar space approximately 0.75 times as long as longitudinal diameter of eye; antennae with first flagellar segment 4 times as long as apical width; mesosoma 1.7 times as long as high; notauli connected posteriorly; propodeum almost completely smooth; first metasomal tergite 1.33 times as long as apical width *A. lederi* Fischer. — Frons with V-shaped cavity in front of anterior ocellus; height of malar space half as long as longitudinal diameter of eye; antennae with first flagellar segment 5 times as long as apical width; mesosoma 1.9 times as long as high; notauli unconnected posteriorly; propodeum almost completely reticulo-granulate; first metasomal tergite 1.65 times as long as apical width *A. icarus* sp. n. *A. icarus* possesses the Type 1 concealed nectar extraction apparatus described by Jervis (1998). Host: unknown.”).

Material.— Holotype, ♀ (BMNH), “Spain, Andalucia, Granada, Parque de Invierno, on flower of *Anacyclus clavatus*, 19.v.1992, M.A. Jervis”, “Holotypus *Agathis icarus* Belokobylskij & Jervis”, “BMNH(E) 1999-61”; 4 ♀♀ (RMNH, RSM), “Espana, Granada, M.J. Gijswijt”, “Albiñol, 14.v.1986”; 1 ♀ (RMNH), “Spain: Málaga, Gaucin, 2.vi.1986, M.J. Gijswijt, RMNH”; 1 ♀ (RMNH), “Museum Leiden, SE Spain, dept. Málaga, Exc. Univ. Leiden”, “Puerto de la Torre, 7 km W of Málaga, 20.iv.1983, E.I.S. UF 66”; 1 ♀ (RMNH), “Esp. [= Spain], Alic[ante], 1000 m, Puerto de Confrides, 15.vi.1978, H. Teunissen”, “*Agathis pedias* Nixon, paratype, ♀, 1984”.

Redescription of figured ♀ from Albiñol: length of body 4.5 mm, of fore wing 3.9 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 284), width of head below eyes equal to median height of face and clypeus combined, its length in frontal view 1.7 (mean: 1.8) times maximum width of face; face densely finely punctate, with dense and conspicuous greyish pilosity; clypeus strongly convex and rather punctate; lateral epistomal suture narrow; height of eye 1.8 times length of malar space (2.1 times in holotype); stemmaticum not prominent (fig. 285), ante-ocular area short triangular and shallowly impressed, not protruding, with weak median keel, concave dorsally; antenna with 27 (others: 26(1) or 27(3)) segments, apical segments slender; galea stout, matt because of scaly micro-sculpture, obtuse apically (fig. 285), 0.6 times height of eye, 1.2 times malar space, and 0.3 times height of head; anterior tentorial pits large and deep; postero-ventrally temples with wide hypostomal carina.

Mesosoma.— Length of mesosoma 1.8 (= mean) times its height; side of pronotum largely smooth except some indistinct micro-sculpture, crenulate-punctate anteriorly, finely punctate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum distinctly punctate laterally, largely smooth; scutellum smooth and flat; notauli deep, complete, narrow, finely crenulate, and without medio-posterior groove because branches run subparallel before joining posteriorly; mesopleuron largely smooth, punctulate except for area above precoxal sulcus; precoxal sulcus only medi-

ally present, short, narrow, and finely crenulate; metapleuron distinctly punctate medially, coarsely punctate-rugose ventrally; subbasally propodeum with coarse rugosity, with large central areas which are partly superficially micro-sculptured (but may be largely smooth in paratypes) and remainder of propodeum rugose-punctate, especially medially, anteriorly with short median carina and posteriorly with pair of short stubs of carinae.

Wings.— Fore wing: marginal cell large, with SR1 straight (fig. 283); r:3-SR:SR1 = 6:11:104; second submarginal cell wide quadrangular; 2-R1 as long as 1-R1 (fig. 283); pterostigma 1.4 times as long as 1-R1; 1-R1 slender. Hind wing: M+CU:1-M = 10:7.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.8, 7.5 and 8.5 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.30 and 0.25 times hind basitarsus, respectively; tarsal claws moderately slender, without lobe; middle tibia with a row of 9 pegs above apical patch of pegs; hind tarsus slender (as in *A. pedias*), 1.1 times as long as hind tibia; hind tibia widened subapically and narrowed apically and ventrally with patch of short pegs (fig. 287).

Metasoma.— Length of first tergite 1.5 (= mean) times its apical width (fig. 282), moderately convex, its surface largely striate except medio-basally and apically; length of second tergite 1.2 (to 1.3 in paratypes) times as long as its basal width, smooth, with distinct circular medio-basal swelling (fig. 282); remainder of metasoma smooth; ovipositor sheath 1.90 (mean: 1.98; 1.90-2.14) times fore wing, 3.2 (mean: 3.0) times metasoma, and 1.6 times body.

Colour.— Black; apical 0.7 of fore femur (but with dark brown dorsal streak), apex of middle femur narrowly, fore tibia, base of tarsi, basal 0.7 of middle tibia yellowish-brown; basal 0.7 of hind tibia pale yellowish, but subbasally slightly darker; wing membrane subhyaline; pterostigma and veins, remainder of middle and hind tibia and tarsi dark brown.

Distribution.— *Spain.

Biology.— Unknown.

Notes.— This species looks more slender and delicate than the other *Agathis* species treated in this paper. We cannot completely rule out the possibility that *A. icarus* and *A. pedias* belong to one species but, with the material available to us, this seems to be unlikely because of e.g. the differences in shape of the metasoma and of the hind tibia. This species is similar to *A. tatarica* Telenga, because of the slender metasoma, but *A. tatarica* has a wider marginal cell of the fore wing (with slightly curved vein SR1), the second tergite is quadrate (fig. 157, as in *A. pedias*), the depression in front of the anterior ocellus is shallower, the head is more elongate (maximum width of head below eyes about 1.2 times length of face and clypeus combined) and less setose, the swelling of the second tergite is clearly circular, the middle tibia has about 3 submedial pegs, and the galea is smooth and shiny.

Agathis levis Abdinbekova, 1970
(figs 129-134)

Agathis levis Abdinbekova, 1970: 1880-1881 ("Because of its smooth, almost invisible notauli close to *A. rubens* Tobias, from which it differs by the long rostrum, which is slightly shorter than the head, by the long ovipositor, by the completely black thorax, femora and metasoma, by the completely smooth propodeum with slightly developed longitudinal carinae. From *Agathis malvacearum* var.

tibialis it differs by the almost undeveloped notauli and by the smooth propodeum, without longitudinal carinae. Female. 4.3 mm. Head as wide as high; length of temple 0.5 times width of eye; ocellar triangle obtuse anteriorly; crest of frons distinct, apically branched into two crests; face twice as long as its width; height of clypeus half as long as height of face; longitudinal diameter of eyes 1.3 times its transversal diameter, and half as long as malar space; rostrum as long as length of face and clypeus combined; antenna threadlike, first segment of flagellum 3 times longer than wide, segments of apical third of flagellum somewhat longer than wide; thorax 1.5 times longer than its height; notauli weak, smooth; precoxal sulcus deep and smooth; second radiomedial cell of fore wing triangular; hind femur 3 times longer than wide; inner hind tibial spur 0.3 times hind basitarsus; propodeum smooth, with two very weak carinae; first tergite of metasoma slightly longer than its apical width; second tergite 1.5 times wider than long; ovipositor sheath twice as long as metasoma; metasoma smooth. Black; apical part of fore and middle femora, tarsus of fore leg, fore and middle tibiae, base of hind tibia, base of all first tarsal segments brownish-red; wings infusate; pterostigma and veins brown. Male unknown. Material: Azerbaidzhan, Shachbus, village Kjukju, 18.vi.1967, 1 ♀ (holotype), along the river, in the grass." Translated from Russian.); Tobias, 1986: 282.

Material.— Holotype, ♀ (ZISP), "Azerb. SSR [= Azerbaidzhan], Shachbus, c. [= village] Kjukju, 18.vi.[19]67, [A.] Abdinbekova", "vdop reki, naz prave", "Holotypus *Agathis levis* Abdinbekova, sp. nov."

Length of body 4.4 mm, of fore wing 4.0 mm.

Head.— Head robust, distinctly tapering ventrad (fig. 131), width of head below eyes 1.1 times median height of face and clypeus combined, its length in frontal view 1.5 times maximum width of face; face nearly smooth, with rather dense and long greyish pilosity; clypeus convex and largely smooth, except some indistinct punctulation; lateral epistomal suture indistinct; height of eye 1.7 times length of malar space; stemmaticum and area in front of anterior ocellus not prominent (figs 129-131), triangular area rather wide and deeply impressed, not sloping ventrad, with distinct median keel, nearly straight dorsally, and not protruding anteriorly; antenna incomplete; galea smooth, equal to height of eye, 1.7 times malar space, and 0.5 times height of head (fig. 130).

Mesosoma.— Length of the mesosoma 1.6 times its height; side of pronotum largely smooth, except for some punctures ventrally and postero-dorsally, normally setose postero-dorsally, and indistinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, with some sparse punctulation; scutellum rather flat; notauli completely absent, and with shallow, short, and smooth medio-posterior groove; mesopleuron smooth, except for a few punctures; precoxal sulcus only medially present, narrow, and largely smooth; metapleuron smooth medially, finely rugose ventrally; propodeum largely smooth, both medio-longitudinal carinae obsolete, but posteriorly distinct.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 134); r:SR1 = 5:59; second submarginal cell triangular, with short petiolus; 2-R1 0.8 times 1-R1 (fig. 134); pterostigma 1.4 times as long as 1-R1; 1-R1 rather slender (fig. 134). Hind wing: M+CU:1-M = 20:15.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.9, 6.3 and 7.4 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.35 times hind basitarsus; tarsal claws robust, with distinct acute lobe; middle tibia with a

row of 7 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 1.2 times its apical width, distinctly convex, its surface nearly entirely smooth; length of second tergite 0.8 times as long as its basal width, smooth, with subcircular medio-basal swelling (fig. 132); remainder of metasoma smooth; ovipositor sheath 1.30 times fore wing, 2.3 times metasoma, and 1.2 times body.

Colour.— Black (including tegulae); palpi, pterostigma, veins, base of fore femur, middle femur (except apically), hind femur, apices of middle and hind tibiae, trochanters and trochantelli, and tarsi (except basally) dark brown or blackish; remainder of tibiae pale brownish-yellow (but very faintly darker subbasally); remainder of legs yellowish-brown; wing membrane slightly infuscate.

Distribution.— Azerbaidzhan.

Biology.— Unknown.

Note.— Superficially similar to *A. nigra* Nees, however *A. levis* has the galea obtuse apically, the hind femur black, the temples more protruding behind eyes (fig. 130), subparallel-sided, the ante-ocellar area wider posteriorly, and the tarsal claws with distinct lobe.

Agathis lugubris (Foerster, 1862)
(figs 45-49)

Cenostomus lugubris Foerster, 1862: 246 (only indirectly described in key to genera). Lectotype designated by Simbolotti & van Achterberg (1992) [examined].

Agathis lugubris; Shenefelt, 1970: 341; Simbolotti & van Achterberg, 1992: 48-49, figs 99, 102, 111, 112, 115.

Bassus lugubris; Papp et al., 1996: 123.

Agathis minuta Niezabitowski, 1910: 81 (“♀ Caput nigrum, nitidum, maxillis labioque capite multo brevioribus; ratio distantiae verticis a basi clypei et distantiae bas clypei ab apice rostri 22:15 (apud Agathidem nigrum 25:30); palpi nigri; antennae nigrae, 24-articulatae. Thorax niger; pronotum antice punctulatum, in lateribus postice leve; mesothorax niger, nitidus, sparsissime punctulatus, notaulis distinctis, scutello levissimo, nitido; metanotum reticulatum, media bicarinatum, mesopleurae leves, fossa mesopleurali brevi, vix crenulata; squamulae nigrae. Pedes nigri, femoribus, omnibus apice, anterioribus latius, tibiisque obscure testaceis, tibiis, intermedius ac posticis apices nigris; cellula cibutalis 2-a triangularis, haud petiolato, nervo transverso cubitali 2-o medio obsoleto; abscissus 3-us radii rectus. Abdomen nigrum, 1.178 mm longum; segmentum 1-um striato-rugulosum, summo apice leve, basi carinis brevibus tribus instructum; segmentum 2-um impressionibus lateralibus atque impressione transversa vix coriacea ornatum, convexitate media levissima; segments cetera levia; terebra 1.78 mm, Long. corp. 2.565 mm. ♂ feminae similis, paulo minor, 2.185 mm longus, antennis etiam 24-articulatis. Var (an sp. n.). Segmentum 2-um, convexitate media excepta, notice distincte striatum. Species haec forma transitoria inter genera Agathidem et Microdontem esse videtur, et fortasse affinis est Microdonti pumilio Ratzeburg.”); Shenefelt, 1970: 344; Nixon, 1986: 208-209, fig. 29; Simbolotti & van Achterberg, 1992: 48 (synonymy); Zettl & Beyarslan, 1992: 125. (Syntypes probably lost).

Material.— Lectotype of *A. lugubris*, ♀ (ZMB), “*Cenostomus m. lugubris m. ♂ ♀*”, “[?Germany], coll. Förster”; 1 ♀ (RMNH), “[Netherlands], Terschelling, Grie, 3-6.vii.1937, Geijskes en Doeksen leg.”; 1 ♀ (RMNH), “Neth[erlands], Leiden, Knotterpolder, 13.vi.1988, P. Thomas, FT 07”; 2 ♀♀ (RMNH), “Netherlands, N.-B., Udenhout, “De Brand”, 7-14.vii.1990, UTM FT 476225, Mal[aise] tr[ap], Werk]G[roep] KNNV-Tilburg”; 1 ♀ (RMNH), id., but 14-21.vii.1990; 1 ♂ (RMNH), “[Germany], Osthaz, Wieserode, 14.v.1977, Patzak/ ex *Coleophora alticolella* Z.” (with 1-R1 of fore wing about

twice vein 2-R1); 1 ♂ (RMNH), "Norway, Hedm, fylke, Hamar-swamp, swept: 22.vi.1977, leg. H.J. Vlugg"; 2 ♂♂ (RMNH), "Sweden, Värml[and], Årjäng, swept, 23.vi.1977, H.J. Vlugg"; 1 ♀ (RMNH), "Hungary, Telkibanya, Kutyszorító, 1.vi.1979, J. Papp"; 1 ♀ (RMNH), "France, Haute Vienne, La Besse, Mal. trap, 7-20.vii.1986, H.J. Vlugg"; 5 ♀♀ + 5 ♂♂ (RSM, RMNH), "D [= Germany]-Bayreuth/Trockau, W., coll. 3.x.[19]81, ink. [= pupation], 20 Grad, em. 13-18.iv.[19]82, "Agathis spec. ex *Coleophora alticolella* Zeller, K. Lampe", "NMSNH 1986.033" (sometimes one wing without vein r-m of fore wing); 1 ♀ (RSM), "[England], Dungeness, Kent, 17.vii.1985, E.S. Bradford, host: *Coleophora alticolella* Zell."; 1 ♂ (RSM), "[England], Somerset, Moorlinch 8, 8.vii.[19]83, C.M. Drake"; 1 ♂ (RSM), "[England], Norfolk, Sharp Street, Catfield, 11-14.vii.[19]83, M.R. Shaw; 3 ♀♀ + 7 ♂♂ (RSM, RMNH), "[England], Trench Wood, Worcs, [ex] *Coleophora (alt./glauc.)* [on] *Juncus inflexus*, x.[19]78, em. 1979, A.N.B. Simpson"; 1 ♀ (RSM), "[England], Castlemorton Common, Worcs, ex *Coleophora alticolella/glaucicolella* [on] *Juncus inflexus*, xi.[19]77, em. [19]78, A.N.B. Simpson"; 1 ♀ (RSM), "[England], E. Anglia Fen Survey, Dersingham, A-Nfk [= Norfolk], TF 68 2294, 20.vi.[19]88, A.P. Foster, NCC, NMSZ 1992.161"; 1 ♀ + 2 ♂♂ (RSM), "[Wales], NCC Welsh Peat[a]nd Survey, Cors Gorsgoch, Ceredigion, 1, SN 482500, 15-29.vii.[19]87, P. Holmes, NMSZ 1996.023"; 1 ♀ (RSM), id., but Pentwood Marshes; 3 ♀♀ (RSM), "[Wales], Newborough Warren, NNR, 31.vii.[19]81, M.R. Shaw"; 3 ♀♀ + 3 ♂♂ (RSM), "[Scotland], Barawood, Gifford, E. Lothian, 27.vii.[19]83, M.R. Shaw.

Lectotype, ♀, length of both fore wing and body 2.8 mm.

Head.— Head distinctly elongate and narrowed ventrally, width of head below eyes 1.4 times median height of face and clypeus combined (fig. 45); antenna incomplete, remaining antennal segments 22 (one antenna), short setose; length of third segment 1.3 times fourth segment, length of third and fourth segments 4.3 and 3.3 times their width, respectively; length of maxillary palp 0.6 times height of head; length of eye 1.8 times temple in dorsal view; height of eye 1.9-2.1 times malar space; POL:diameter of ocellus:OOL = 12:4:10; face smooth; clypeus strongly convex and subquadrate (fig. 45); vertex smooth and convex (but concave between posterior ocelli); frons smooth, with a pair of elongate depressions separated by a distinct median crest (fig. 48); ante-ocellar area with a distinct triangular depression; area between antennal sockets flat (except for the medial obtuse elevation; fig. 45); galea short, obtuse, 0.6 times malar space, 0.35 times height of eye and 0.2 times height of head (fig. 46); length of malar space twice basal width of mandible; vertical axis of malar triangle 1.8 times horizontal axis (fig. 45).

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely smooth medially, crenulate posteriorly and rugulose-crenulate anteriorly and largely glabrous; prepectal carina normal, moderately developed; mesosternal sulcus deep and distinctly crenulate; mesosternum without tubercles posteriorly; mesoscutum smooth; notauli complete and narrowly crenulate; scutellum smooth; mesopleuron sparsely punctulate; precoxal sulcus impressed and crenulate only medially; meta-pleuron rugose but medio-dorsally smooth; propodeum coarsely rugose medially and posteriorly, and remainder sparsely sculptured.

Wings.— Fore wing: marginal cell comparatively narrow (figs 47, 49); SR1 straight; 1-M curved; second submarginal cell sessile, quadrangular (fig. 49) or (sub)triangular (fig. 47); cu-a vertical anteriorly and curved basad posteriorly; r:3-SR:SR1 = 5:1:36. Hind wing: M+CU:1-M = 10:9.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.0, 6.0 and 6.5 times their width, respectively; length of inner and outer middle tibial spurs 0.5 and 0.45 times middle basitarsus; length of inner and outer hind tibial spurs 0.4 and 0.35 times

hind basitarsus, respectively; tarsal claws distinctly widened medially and without a distinct acute lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, distinctly concave medio-basally, finely longitudinally rugose and micro-sculptured, only the basal third of tergite with pair of weak dorsal carinae; second tergite with a weak transverse depression, the medio-basal elevation smooth and its surroundings rugulose; third and following tergites smooth; second suture shallow and smooth; length of ovipositor sheath 0.80 times fore wing, and 1.7 times metasoma.

Colour.— Blackish or dark brown; tegula dark brown; humeral plate, palpi, tarsi, tibiae, and apical half of femora yellowish-brown; remainder of legs dark brown; wing membrane slightly infusate; pterostigma dark brown; veins brown.

Distribution.— *France, Germany, Netherlands, Norway, Poland, Sweden. According to Nixon (1986) also Great Britain, and Ireland, and Zettel & Beyarslan (1992) list Turkey.

Biology.— Parasitoid of Coleophoridae on *Juncus* species (*Coleophora alticolella* Zeller, 1849, and *C. glaucicolella* Wood, 1892).

Variation.— Length of fore wing 2.2 (♂)-2.8 mm, number of antennal segments 23(♂) or 24 (♀), length of ovipositor sheath 0.7-0.8 times fore wing; second submarginal cell of fore wing may be distinctly petiolate; basal third of hind femur may be dark brown; first metasomal tergite may be only micro-sculptured, and second tergite may be largely smooth.

Note.— The other members of the *Agathis mediator*-group (as defined in Simbolotti & van Achterberg, 1992, viz., *Bassus brevicaudis* (Reinhard, 1867), *B. mediator* (Nees, 1814), and *B. pumilus* (Ratzeburg, 1844)) are referred to the genus *Bassus* Fabricius, because of our redefinition of the generic limits (see introduction and beginning of the key to species in this paper). These species have the vertical axis of the malar triangle about 1.2 times the horizontal axis (figs 100-101 in Simbolotti & van Achterberg, 1992), the frons less impressed and the ante-ocellar area not distinctly developed.

Agathis malvacearum Latreille, 1805
(figs 1-10, 302, 304, 306)

Agathis malvacearum Latreille, 1805: 175 (“[Noir; pattes et une bande près la base de l’abdomen, rougeâtres; tarsi noirs; tarière de la longueur du corps. Commun en été au jardin des Plantes de Paris, sur les fleurs de l’alcea rosea [= ?*Althaea rosea* Cavanilles (Malvaceae)]. Il paraît déposer ses oeufs dans les graines de cette malvacée”); Shenefelt, 1970: 342-343; Nixon, 1986: 202, figs 4, 26; Tobias, 1986: 283 (transl. 1995: 493) [type-series lost; neotype designated below].

Ichneumon panzeri Jurine, 1807: 113, pl. 8. (Unnecessary replacement name for *A. malvacearum*).

Material.— Neotype of *A. malvacearum* here designated, ♀ (RMNH), “France, Bretagne, presq’île de Rhuis, 1 km WSW Kerfontaine, 1.vii.1976, P.H. v. Doesb[urg]”, “captured on *Malva*-flowers”; 3 ♀♀ + 17 ♂♂ (RMNH), id.; 1 ♀ + 3 ♂♂ (RMNH), id., but 2.vii.1976; 2 ♂♂ (RMNH), id., but 5.vii.1976; 1 ♀ + 1 ♂ (RMNH), id., but 8.vii.1976; 1 ♀ (RMNH), id., but 9.vii.1976; 3 ♂♂ (RMNH), id., but 10.vii.1976; 1 ♀ + 1 ♂ (RMNH), “Netherlands, Yerseke, 21.vii.1982, G.J. Slob/ Heemst [= on *Althaea officinalis* Linnaeus]”; 1 ♀ (MNHN), “[France], 3V 98”, “Tr. *malva* ♀”, “Museum Paris, 1867, coll. O. Sichel”; 1 ♀ (MNHN), “[France], V13, 8.4”, “/ V./o rufo”, “Museum Paris, France, Les Vesinet, Seine & Oise, coll. O. Sichel, 1867”; 12 ♀♀ + 10 ♂♂ (MNHN), id., but V1-17, 8.2-8.60; 1 ♀ (MNHN), “H[aut]e Marne, ix.”, “coll. A. Hémon”; 1 ♂ (MNHN), “*Malva rosea*, 27.vii.”, “*Agathis malvacearum*”, “Museum Paris,

coll. J. de Gaulle, 1919"; 2 ♀♀ (MNHN), "[France], P[yrenée] Or[iental], Porta, 28.vi.[19]51, Granger"; 1 ♀ (MNHN), "[?France], Broût-Vernet, H. du Buysson"; 1 ♀ (ZMA), "France, Sarthe, St Mons la Brière, N23, 18.vii.[19]67, R.T. Simon Thomas"; 1 ♀ (RMNH), "Italy: Pescara, Popoli, c 230 m, along river Aterno, 2.iv.1996, C. v. Achterberg, RMNH'96"; 1 ♀ (RMNH), "[Hungary], Kéthalom, 13.viii.1963", "Móczar L."; 1 ♀ (RMNH), "[Bulgaria], Kardjabi, 12.viii.1975, [A.] Zaykov"; 2 ♀♀ (RMNH), "[Bulgaria], Mandrina, 19.v.1976, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Ivajlograd, 14.iv.1977, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Nikolovo, 16.viii.1976, A. Zaykov"; 1 ♀ + 1 ♂ (RMNH), "[Bulgaria], Trakia, Radnevo, 6.vi.[19]94, [A.] Zaykov"; 1 ♀ + 1 ♂ (RMNH), id., but 17.viii.1994; 1 ♀ (RMNH), "España, Málaga, M.J. Gijswijt", "Casares, 8-10.vi.1986"; 1 ♀ (RMNH), "Turkey, Adiyaman, Gölbasi, 900 m, 21.vi.1985, C.J. Zwakhals".

Neotype, ♀, length of body 5.5 mm, of fore wing 4.3 mm.

Head.— Head moderately elongate, distinctly tapering ventrad, maximum width of head (including eyes) 2.9 times its minimum width ventrally, width of head below eyes 1.2 times median height of face and clypeus combined (fig. 6), its length in frontal view 1.5 times maximum width of face; face smooth, with rather dense medium-sized greyish pilosity; clypeus strongly convex and largely smooth, except some distinct punctures (frequently absent in other specimens); lateral epistomal suture narrow, distinct; height of eye 1.5 times length of malar space; stemmaticum and ante-ocellar area rather prominent (fig. 302), area medium-sized and subcircular and moderately impressed, with moderate median keel (fig. 6), concave postero-dorsally (but may be straight dorsally) and not protruding anteriorly; antenna with 26 segments, examined specimens 25-31 segments (of ♀; of ♂ rarely as low as 21), apical segments subquadrate; galea largely smooth, obtuse apically (fig. 302), 0.9 times height of eye, 1.3 times malar space, and 0.5 times height of head; temple rather flat and widened dorsally (figs 7, 302); head in dorsal view rather strongly concave postero-medially.

Mesosoma.— Length of the mesosoma 1.5 times its width; side of pronotum largely smooth, rugose-punctate medio-anteriorly and postero-ventrally, punctulate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, sparsely and finely punctate; scutellar sulcus deep and coarsely crenulate; scutellum rather flat, smooth and convex medio-posteriorly; notauli deep, complete, moderately wide and smooth, and without distinct medio-posterior groove); mesopleuron largely smooth, with some punctures below scrobe; precoxal sulcus only medially present, not reaching posterior margin, rather wide and deep, and finely crenulate; metapleuron punctulate medially, coarsely rugose-punctate ventrally; subbasally propodeum with some transverse rugosity, with large smooth central areas and remainder of propodeum coarsely rugose-punctate, with crenulation between three strong and regular medio-longitudinal carinae; no distinct bridge between insertion of first tergite and hind coxa.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 306); r:3-SR:SR1 = 7:4:70; second submarginal cell quadrangular; vein 2-R1 0.9 times 1-R1 (fig. 306); pterostigma 1.4 times as long as 1-R1; 1-R1 rather slender (fig. 306). Hind wing: M+CU:1-M = 10:7.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.2, 6.1 and 6.6 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.4 times hind basitarsus; tarsal claws robust, with large acute lobe; middle tibia with a row of 5 pegs above apical patch of pegs.

Metasoma.— Length of first tergite equal to its apical width, moderately convex, its surface rather coarsely and irregularly rugose and its apical quarter and medio-basally smooth; length of second tergite 0.6 times as long as its basal width, smooth, with broad oval medio-basal swelling (fig. 10); second suture distinct but not well delimited anteriorly; remainder of metasoma smooth; length of ovipositor sheath 1.20 times fore wing, 1.8 times metasoma, and 0.95 times body.

Colour.— Black; femora (except narrowly basally), tibiae (but hind tibia infusate apically), hind trochantellus, tarsi basally, apex of first, second and base of third tergites yellowish or brownish-orange; remainder of tarsi, pterostigma and veins (but C+SC+R brown) dark brown; ventrally base of metasoma largely brown; tegula brownish, contrasting with blackish humeral plate; wing membrane rather infusate.

Distribution.— Bulgaria; France; Hungary; *Italy; *Netherlands; Spain; *Turkey. Of var. *irregularis* Fahringer: Bulgaria, Greece, Hungary, Italy, and Turkey.

Biology.— Parasitoid of the mallow moth, *Pexicopia malvella* (Hübner, 1805) (Gelechiidae), in the flowers of Malvaceae (Nixon, 1986). Other hosts as reported for this species e.g. by Tobias (1986), probably refer to *A. varipes* Thomson.

Notes.— We were unable to find the type series of *A. malvacearum* in the collections of the Museum National d'Histoire Naturelle at Paris. The original description is too short, but following the general interpretation of the species by other authors, we selected for neotype designation a female from a series collected on Malvaceae-flowers, as was the type series, and perfectly fitting the original description.

Separation on morphological grounds of this species from *A. umbellatarum* Nees is difficult; the main differences are the longer malar space and colour. Comparing the original descriptions of *A. malvacearum* and *A. umbellatarum*, the only diagnostic differences are the length of the ovipositor (equal to the body in *A. malvacearum*, and longer than the body in *A. umbellatarum*) and the colour of the body. However, most likely, in the 19th century the ovipositor length was estimated by eye, not by proper measurement. Moreover, the ovipositor itself is to some degree a retractile organ and its length is variable intraspecifically. Hence, the (limited) difference in ovipositor length has no value for recognition in this case, even if it is referred to the hardly retractile ovipositor sheath, and not to the ovipositor itself.

For *A. malvacearum* one drawing (as *Ichneumon panzeri*) exists, given by Jurine (1807). Such a drawing may be regarded, we think, as a reliable first graphic representation of Latreille's original concept of *A. malvacearum*; Jurine's name itself is an unnecessary replacement name. In Jurine's drawing the somewhat bulging eyes of the species have been stressed, caused by the elongate and posteriorly curved temple. Also Tobias (1963, 1986) and Nixon (1986) stress the diagnostic importance of this character for the identification of *A. malvacearum* and to separate it from *A. umbellatarum*. Nixon (1986) provides drawings of the frontal view of the face and of the dorsal view of the temples of *A. malvacearum*, but, unfortunately, he does not provide the corresponding drawings for *A. umbellatarum*. The differences in elongation of the head of *A. umbellatarum* and *A. malvacearum* are evident, but the differences of the temple in dorsal view are far less distinct. However, when they are compared with the head of a specimen (cf. fig. 7) belonging to a *A. malvacearum*-series of specimens present in the Paris Museum (referred to here as the "Latreille series"), the situation becomes confusing. Actually, we are tempted to consider the bulging eyes with the

Table 2. Data of groups of the *Agathis malvacearum*-complex and of two holotypes (*A. lederi* Fischer and *A. simulatrix* Kokujev; both belonging to *A. varipes* Thomson). EYE/MSP = ratio of height of eye and length of malar space; OVS/WIN = ratio of length of ovipositor sheath and length of fore wing.

| Group | number of specimens | part of body with yellowish-brown | temple shape | mean EYE/MSP | mean OVS/WIN |
|--------------------------|---------------------|--|---------------|--------------|--------------|
| <i>A. malvacearum</i> : | | | | | |
| "Latreille" | 18 | 2nd + 3rd tergite | "Latreille"** | 1.44 | 1.25 |
| A | 3 | 2nd + 3rd tergites | "Latreille"** | 1.46 | 1.25 |
| B | 2 | 1st (partially) + 2nd + 3rd tergites | "Latreille"** | 1.40 | 1.22 |
| <i>A. varipes</i> : | | | | | |
| D | 4 | none | normal** | 1.68 | 1.59 |
| E | 8 | none | normal | 1.64 | 1.51 |
| <i>A. lederi</i> | 1 | none | normal | 1.55 | 1.56 |
| <i>A. simulatrix</i> | 1 | none | normal | 1.66 | *** |
| <i>A. umbellatarum</i> : | | | | | |
| C | 7 | mesoscutum + metasoma, excluding last apical tergite (n= 6); 2nd + 3rd tergites (n= 1) | normal | 1.47 | 1.29 |
| F | 18 | 2nd+3rd tergite | normal | 1.17 | 1.25 |
| G | 25 | pronotal sides, mesoscutum, metasoma (n= 23, including NT); pronotal sides, mesoscutum metasoma, partially mesopleuron (n= 2); | normal | 1.23 | 1.18 |
| H | 3 | whole body except head | normal | 1.22 | 1.52 |

* temples and eyes as in fig. 7; ** temples and eyes apparently different from fig. 7; *** wings missing. NT = neotype.

peculiar shape of the temple being more distinct in the specimen of the "Latreille series". Another morphological character which most authors (including Latreille) stress as diagnostic for *A. malvacearum*, is the yellowish-brown colouration of the second and third (and sometimes also of the first) metasomal tergites.

In table 2 the specimens likely to be either *A. malvacearum* or *A. umbellatarum* have been grouped on the basis of the colouration of the body. Groups D and E, and both holotypes, belong to *A. varipes* Thomson. One possible option is to regard as *A. malvacearum* all the specimens with the more elongate head (thus with a comparatively long malar space resulting in having the height of the eye 1.4-1.5 times malar space, instead of 1.6-1.7 times (groups D-E)). In this case, we include in *A. malvacearum*-specimens having the tergites coloured as for the supposed *A. umbellatarum* specimens and exclude specimens with yellow body parts having even longer relative malar space (about 1.2 times in groups F-H). We are obliged to admit that only part (i.e., the "Latreille series" with groups A and B) of our supposed *A. malvacearum* specimens combine the typical colouration of the metasoma with the bulging eyes and shape of temple as found in the "Latreille series".

Alternatively, we could regard as *A. malvacearum* only all the specimens having the following characters combined: the relatively elongate head (thus height of eye 1.4-1.7 times malar space), the second and third metasomal tergites yellowish-brown, the eyes more or less bulging, and the shape of the temple more or less as in the "Latreille series". In this case it is puzzling that specimens of group C lack the bulging eyes, the aberrant shape of the temple and the typical metasomal colouration. Because the head is comparatively less elongate they cannot be included in *A. umbellatarum*. Moreover, it becomes difficult to determine the position of the specimens of the groups D and E. They lack the typical temple shape, bulging eyes and metasomal colouration of *A. malvacearum* and have the length of ovipositor sheath different from both the supposed *A. malvacearum* and *A. umbellatarum* specimens. Tobias (1963), having reared *A. malvacearum* and *A. umbellatarum* from *Pexicopia malvella* Hübner, states that the body colouration is, for both species, strikingly variable, from entirely black to more or less yellowish-brown. Obviously, these characters are not very suitable for separating these species. There remains the shape of the head which is fairly well correlated with the colour of the meso- and metasoma, and the shape of the tarsal claws. In view of these results the position of several species within this "*A. malvacearum*-complex" (especially those described from North Africa and from the East Palaearctic region) has still to be clarified.

Agathis malvacearum var. *irregularis* Fahringer, 1937

Agathis irregularis Fahringer, 1937: 462 ("Kopf überaus fein punktiert, glänzend. Fühler 31-gliedrig, Endglied nicht abgesetzt. Seitengrübchen des Clipeus sehr groß. Rostrum so lang wie der Kopf. Fühlergruben kaum angedeutet, ohne Randleisten. Mesonotum ziemlich grob und zerstreut punktiert. Notauli tief und ziemlich breit, punktiert. Schildchen fast glatt, nur mit sehr feinen Pünktchen versehen. Praescutellargrube als crenulierte Furche angedeutet. Mesopleuren glatt. Sternauli als unregelmäßige, seichte Furche angedeutet mit Spur einer Crenulierung. Radialzelle breit, aber nicht sehr lang, endet weit vor der Flügelspitze. 2. Rcu-zelle (Areola) dreieckig, sitzend. 2. Abschnitt des Radius sehr kurz, der 3. leicht gebogen. Cubitus an der Basis erloschen. Nervulus postfurkal. Mediansegment mit 3 Kielen, der mittlere unvollständig, entspringt aus der Mitte des Endrandes und endet nahe der Mitte. Die Seitenkiele konvergieren gegen die Basis. Beiderseits dieser Kiele befinden sich 2 glatte Stellen, sonst ist dieses grob, fast runzelig punktiert. Hinterleib lanzettlich. 1. Tergit vorne stark verengt, in der Mitte der Basis tief ausgehöhlt, grob runzelig-punktiert mit 2 Längskielen und einem querovalen glatten Knopf am Hinterrande. 2. Tergit mit einem ebensolchen glatten Knopf an der Basis, um diesen mit Spuren feinsten Runzelung, sonst glatt, wie die folgenden Tergite. Länge 4-6 mm. Glänzend schwarz. Beine gelb, Hüften, Trochanteren und Basis der 4 vorderen Schenkel schwarzbraun. Hinterschenkel schwarz. Vorderschienen und Basis der Vordertarsen gelb. Mittel und Hinterschienen weißlichgelb mit schwarzen Spitzen, die hintersten mit verschwommenem braunen Ring nahe der Basis. Mittel- und Hintertarsen bräunlich, Metatarsus z. T. rötlich. Flügel bräunlich getrübt. Stigma braun, Tegulae schwarz. Corfu, Griechenland. 3 ♂♂ in meiner Sammlung."); Shenefelt, 1970: 338 [not examined; ?syntypes lost].

Material.— 1 ♀ + 1 ♂ (RMNH), "[Bulgaria], Trakia, Radnevo, 17.vi.[19]94, [A.] Zaykov"; 1 ♀ + 1 ♂, (RMNH), id., but 6.vi.1994; 1 ♀ (RMNH), "[Bulgaria], Kardjubi, 12.viii.1975, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Nikolovo, 14.viii.1975, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Petelovo, 4.vii.1975, A. Zaykov.", "*Agathis malvacearum* Latr., det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "[Bulgaria], St. Marina, 30.iv.1976, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Sch. polana, 24.vi.1975, J. Kolarov"; 1 ♀ (RMNH), "[Italy], Lazio, P. della Sella, vii.1967, A. Servadei"; 1 ♀

(headless) (RMNH), "Andorra, Auvinya, 11.viii.[19]80, P.J.L. Roche", "H 7702, 1370 m"; 1 ♀ (RMNH), "[Hungary], Kéthalom, 13.viii.1963, L. Móczár"; 1 ♀ (RMNH), "Turkey, Adiyaman, Gölbasi, 900 m, 21.vi.1985, C.J. Zwakhals".

The interpretation of *A. irregularis* Fahringer is problematical and provisional because of its incomplete description and because the syntypes seem to be lost. For the moment it is provisionally included in *A. malvacearum* because of the combination of a high number of antennal segments with a rather long galea. The dark hind femur and curved vein SR1 of the fore wing does not fit in, but male specimens of *A. malvacearum* with blackish hind femora are known (even in the series from which the neotype is selected). Normally females have largely reddish hind femora, but males tend to have the hind femur partly or completely black.

We have seen some specimens (listed above) with exceptionally high numbers of antennal segments. These specimens tend to be larger than normal and consequently a higher number of antennal segments can be expected. The larger size is most likely related to a larger host than of the typical *A. malvacearum*. They may be separated from more typical *A. malvacearum* as follows:

1. Antennal segments 28-31; medio-posterior groove of mesoscutum distinct; length of fore wing more than 4 mm *A. malvacearum* var. *irregularis* Fahringer
- Antennal segments 25-26 (but of some males as low as 21); medio-posterior groove of mesoscutum short or absent (fig. 8); length of fore wing frequently less than 4 mm typical *A. malvacearum* Latreille

Agathis mandarina Kokujev, 1895
(figs 181-182)

Agathis mandarina Kokujev, 1895: 382 ("Nigra, nitida. Maxillis labioque longitudine fere capitis; palpis nigris. Antennis 23-articulatis. Mesonoti laevi. Metanoto rugoso, utrinque spatio minuto laevigato nitidoque ornato, carinulis duabus subparallelis approximatis, longitudinalibus instructo. Alis sat infuscatis, stigmatibus brunneis, excepta basi nervi medii dilutiore; cellula 2a cubitali quadrangula; abscissa 3a radii solum apice leniter arcuata. Segmento primo abdominis fere toto, latera versus profundius, striato, utrinque foveola notato, haud carinato, basi profunde sed anguste excavato; segmento secundo toto laevi, sulco transverso haud profundo; segmento 3o in medio transversim impresso unacum reliquis laevissimo. Terebra corpore multo longiore. Pedibus nigris, femoribus anticis apice, late nigris maculae prope basin ornatis. Long. 3 mm, exp. alar. 7 mm. Un seul individu dans ma collection, découvert par M.G.N. Potanine à Pei-tai, prov. Gansou, Chine."); Shenefelt, 1970: 343 [examined].

Material.— Holotype, ♀ (ZISP), "[China: Gansou], Mous., Pei-Tai, [M.G.N. Potanine]", "*Ag. mandarina* Kokw.", with round golden label (= type specimen). Severely damaged, only head, mesosoma and one fore leg remain.

Notes.— This eastern Palaearctic species seems to be very similar to *A. asteris* Fischer, and may differ mainly by the length of the ovipositor sheath (about equal to length of body in *A. asteris*, and much longer than the body in *A. mandarina* according to the original description). *A. icarus* Belokobylskij & Jervis may be similar because of the long ovipositor, but the antenna consists of more segments, the precoxal sulcus is wider and distinctly sculptured, and the head is less elongate.

In *A. mandarina* the stemmaticum is slightly protruding, the ante-ocellar area is weakly protruding and with only a shallow, pit-like depression, and no distinct median keel (fig. 181); maximum width of face below eyes less than height of face and clypeus combined; height of head 1.9 times maximum width of face, and shape of head normal (fig. 181); height of eye 1.8 times malar space, length of galea twice length of malar space and 1.1 times height of eye (fig. 182); length of mesosoma 1.7 times its height; notauli deep, but medio-posterior groove largely absent; propodeum densely rugulose anteriorly, remainder smooth except for the two medial carinae; precoxal sulcus reaching posterior edge of mesopleuron, and absent anteriorly, narrow and nearly smooth; tarsal claws rather slender, not longer than arolium.

Agathis melpomene Nixon, 1986
(figs 313, 315)

Agathis melpomene Nixon, 1986: 213 ("♂ ♀, 4.8-5.0 mm long (excluding ovipositor). Black. Hind femur yellowish, contrastingly darkened on apical one-third to two-fifths. ♀. Head in facial view elongate and considerably narrowed below eyes; in lateral view, line of face and that of clypeus appear virtually in one plane. No keel between antennal insertions and virtually no impression in front of anterior ocellus. galea 1.35-1.50 times longer than malar space, faintly coriaceous and rather abruptly narrowed from middle to apex. Antenna with 28 segments; flagellum virtually filiform. Thorax of generalised form. Notaulices deeply impressed throughout. Sternaulus strongly developed, reaching posterior corner of mesopleuron, and in one paratype (Markovo) extending also as far as anterior margin of mesopleuron. Propodeum with usual, two longitudinal keels; lateral panels towards anterior dorsal surface covered with coarse shiny rugosity. Radial cell rather long; distal abscissa of postmarginalis fully 0.75 times longer than proximal abscissa; areolet 4-sided but distinctly narrowed towards edge of wing. Outer side of middle tibia (holotype) with a row of 8 rather broad-based teeth, some of them overlapping; 6-7 teeth in the two paratypes; these slightly smaller and less close together than in holotype; inner spur of hind tibia about two-fifths as long as basal segment of hind tarsus; hind claw with conspicuous, dentiform lobe and wide cleft between this and claw proper. Tergite 1 hardly longer than apically wide; almost smooth in the two paratypes but with vague rugosity over middle part in holotype. Tergites 2+3 polished, smooth (cf. *anglica*). Ovipositor sheath hardly as long as gaster plus thorax. ♂; Antenna with 25-27 segments; flagellum very thin. In profile clypeus rises slightly above line of face. Outer side of middle tibia with 7 teeth. Comments. This species is at once separable from *anglica* by the size of the radial cell, the strongly developed, dentiform lobe of the hind claws and the reduction of the sculpture on tergite 1. The presence of more numerous teeth on the outer side of the middle tibia is also of value though this character is likely to vary. The general conformation of the radial cell is like that of *varipes*, but *melpomene* is distinguished by the shape of the head in facial view. The males are variable, consequently they are excluded from the type-series."); Zettel & Beyarslan, 1992: 126. [examined].

Material.— Holotype, ♀ (TMA), "[Hungary], Taratòvaròs, 28.v.1959, Bajàri"; 1 ♀, paratype (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], Markovo, 23.vi.1978, A. Zaykov"; 1 ♀, paratype (RMNH), id., but from Sh. poljana, 24.vi.1975 and incorrectly labelled as male; 3 ♀ ♀, (RMNH), id., but not paratypes; 1 ♂ (RMNH), id., but 20.vi.1976; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Thcigovtshark, 9.viii.1979, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi [Mts], Nikolovo, 17.vi.1975, A. Zaykov"; 7 ♀ ♀ (MNHN, RMNH), "Museum Paris, coll. Giraud 1877 [locality unknown, possibly from Austria]".

Length of body of holotype 4.7 mm (= mean of all other specimens).

Head.— Head elongate, distinctly tapering ventrad (fig. 313), width of head

below eyes 1.1 times median height of face and clypeus combined, its length in frontal view twice maximum width of face; height of eye 1.3 times length of malar space; stemmaticum rather prominent (fig. 315), but ante-ocellar area flat, short triangular and vaguely impressed, without distinct median keel; antenna with 28 segments, segments rather slender; galea obtuse apically (fig. 315), 1.03 (mean: 0.98) times height of eye, and 0.5 times height of head.

Mesosoma.— Length of mesosoma 1.6 times its height; side of pronotum largely smooth, punctate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum punctulate; scutellum smooth; notauli deep, complete, distinctly crenulate; mesopleuron largely smooth, with some punctures setose laterally; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and crenulate; metapleuron punctate medially, coarsely so ventrally; subbasally propodeum with some transverse punctate-rugosity, with large smooth central areas, rugulose between both regular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather large, with SR1 slightly curved; r:3-SR:SR1 = 1:1:10; second submarginal cell subquadrangular; 2-R1 almost as long as 1-R1. Hind wing: M+CU:1-M = 43:30.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.8, 6.1 and 7.5 times their maximum width, respectively; length of inner and outer hind tibial spurs about 0.3 times hind basitarsus; tarsal claws robust, with distinct acute lobe; middle tibia with a row of 11 pegs.

Metasoma.— Length of first tergite almost equal to its apical width, its surface smooth apically and remainder very finely rugulose-striate; second and following tergites smooth; length of second tergite 0.6-0.7 times as long as its basal width, with transverse elliptical medio-basal swelling; length of ovipositor sheath 0.94 (= mean) times fore wing, 1.6 times metasoma, and slightly longer than body.

Colour.— Black; subbasal ring and apex of hind tibia dark brown; fore and middle legs, remainder of hind tibia and, sometimes hind femur partly, yellowish-brown.

Distribution.— Bulgaria; Hungary; Turkey.

Biology.— Unknown.

Note.— Sculpture of first tergite of *A. melpomene* varies from largely smooth to largely striate.

Agathis mongolica Tobias, 1961
(figs 135-140)

Agathis mongolicum Tobias, 1961: 128 ("Female. Body length 4.5 mm. Width of head twice its length.

Head narrowed behind eyes. Occiput deeply concave. Temple regularly round, 0.5 times as long as eye. Width of ocellar triangle 0.5 times OOL. Ocelli in obtuse triangle. Longitudinal diameter of eye 1.7 times its transverse diameter, as long as malar space. Proboscis as long as height of face and clypeus combined. Antenna significantly shorter than body, slender, filiform, 27-segmented. Scapus significantly shorter than first flagellar segment; segments in basal part of flagellum 3-2 times as long as wide, in apical part - slightly longer than its width. Length of mesosoma 1.5 times its height. Notauli deep. Sternauli curved. Wings slightly shorter than mesosoma and metasoma combined. Second radiomedial cell triangular, not petiolate. Apical abscissa of radial vein convex. Nervulus postfurcal. Length of hind femur 5 times its width. fifth segment of hind tarsus as long as third one, shorter than second one. Hind spur almost 0.33 times hind basitarsus. Metasoma as long as mesosoma and head combined. Length of first tergite 1.5 times its apical width,

tergite weakly narrowed basad; apical width of first tergite 1.5 times its basal width. Second tergite with basal oval convex area, 1.5 times as long as its apical width, as long as third tergite. Second suture distinct and straight. Seventh sternite finishing near apex of metasoma. Ovipositor 1.5 times as long as body. Body with sparse, short and white setae. Body mostly smooth. Pronotum rugulose-punctulate ventrally. Notauli, sternauli and subalar depression punctulate. Propodeum rugulose-punctulate, with two short longitudinal medial carinae and two smooth areas laterally from carinae. First tergite striate, second tergite striate laterally, with concentric striae around median area. Body black. Apex of fore and middle femora, fore tibia and middle of middle tibia brownish-red; base of middle and hind tibiae in front of black transverse band and medially yellowish-red. Wing faintly infusate. Pterostigma and veins brown. Male unknown. Holotype: ♀, Mongolia, south-eastern Khangai, Lamyn-gegen, 16.vii.1926 (A. Kiritsenko) (ZISP). The new species is related with *A. semiaciculata* Ivanov, differs long ovipositor and short malar space." Translated from Russian.); Shenefelt, 1970: 344.

Agathis mongolica; Tobias, 1963: 875.

Material.— Holotype, ♀ (ZISP), "Mongolija, Lamyn-gegen, yu-v Khangaj, 16.vii.[19]26, [A.] Kiritsenko"; 1 ♀ (RMNH), "[Poland], Stettin, Zeller", "excl. 236", "Museum Leiden, *Agathis rufipalpis* Nees"; 7 ♀♀ + 4 ♂♂ (Martin Schwarz collection, Kirchs Schlag; RMNH), "A[ustria], S[teiermarken], Hohe Tauern, Edelweisspitze, 47°07'N 12°50'E, 2400-2570, 2.viii.1995, Martin Schwarz" (but 1 ♀ + 1 ♂ Maria Wabke; 1 ♀, 3.viii.1975, 2300-2400 m, and 1 ♀ + 2 ♂♂, 2.vii.1977, 2270-2350 m); 1 ♀ (RMNH), "[Austria, Ost-Tirol], Pasterzenvorland, alpin, M. Franz"; 1 ♀ (RMNH), "Italy: Bolzano, Seisser Alm, 1900 m, 24.vi.1976, C.J. Zwakhals", "*Agathis semiaciculata* Ivanov, det. G.E.J. Nixon, 1983"; 3 ♀♀ (RMNH), "Andorra, El Serrat, 24.vii.[19]80, P.J.L. Roche", "CH 7521, 2160 m"; 4 ♀♀ + 1 ♂ (RMNH), "Andorra, El Serrat, 16 km N of Andorra City, Est. de Tristaine, 2350 m, 15.vii.1981, R.T.A. Schouten".

Length of body 4.2 mm, of fore wing 3.5 mm.

Head.— Head rather robust, distinctly tapering ventrad (fig. 138), width of head below eyes 1.1 times median height of face and clypeus combined, its length in frontal view 1.7 times maximum width of face; face punctulate, medially more or less granulate, remainder largely smooth, with rather long and densely greyish pilosity; clypeus convex and largely smooth, except punctulation; lateral epistomal suture obsolescent; height of eye 1.35 times length of malar space (1.5 times in specimens from Andorra); stemmaticum and area in front of anterior ocellus not prominent (fig. 136), area short triangular and shallowly impressed, not protruding, not sloping ventrad, without distinct median keel (fig. 138); antenna with 27 segments, apical segments rather slender (fig. 139); galea medium-sized, smooth (fig. 136), 0.8 times height of eye, 1.0 times malar space, and 0.4 times height of head (0.6 times eye and 0.3 times head in specimens from Andorra).

Mesosoma.— Length of the mesosoma 1.5 times its width; side of pronotum largely smooth dorsally, densely rugose ventrally, crenulate medio-anteriorly, densely setose and punctulate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, sparsely punctate; scutellum rather flat; notauli deep, complete, narrow, crenulate, medio-posterior groove not visible because of pin; mesopleuron largely smooth, with some punctures posteriorly; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and finely crenulate; metapleuron sparsely punctate medially, coarsely rugose ventrally; propodeum with small smooth central areas and remainder of propodeum coarsely punctate-rugose, especially near distinct but irregular medio-longitudinal carinae (in some specimens from Andorra completely sculptured).

Wings.— Fore wing: marginal cell medium-sized, with SR1 slightly curved (fig. 135); $r:3\text{-}SR:SR1 = 7:3:76$; second submarginal cell quadrangular, narrowed anteriorly; $2\text{-}R1$ 0.6 times $1\text{-}R1$ (fig. 135; about 0.7 times in some specimens from Andorra); pterostigma 1.8 times as long as $1\text{-}R1$; $1\text{-}R1$ moderately widened (fig. 135). Hind wing: $M+CU:1\text{-}M = 18:11$.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.5, 6.8 and 8.2 (about 7 in specimens from Andorra) times their maximum width, respectively; length of inner and outer hind tibial spurs 0.45 and 0.40 times hind basitarsus, respectively; hind tarsus and tarsal claws rather slender, claws without distinct acute lobe (fig. 137); middle tibia with 2 pegs above apical patch of pegs; tarsi slender, third hind tarsal segment 4 times and fourth segment 2.5 times as long as wide.

Metasoma.— Length of first tergite 1.1 times its apical width, distinctly convex, its surface densely and regularly striate; length of second tergite 0.7 times as long as its basal width, largely distinctly densely and regularly striate, with flattened and transverse elliptical medio-basal swelling partly aciculate; remainder of metasoma smooth; ovipositor sheath 1.57 (mean of other specimens: 1.38) times fore wing, 2.6 (mean of other specimens nearly 3) times metasoma, and 1.3 times body.

Colour.— Black (including palpi); tarsi, apical third and subbasal band of middle and hind tibiae, metasoma ventrally, pterostigma and veins dark brown; remainder of middle and hind tibiae, fore tibia, apical half of fore femur largely yellowish-brown; wing membrane subhyaline.

Variation.— Antennal segments of ♀ 26(2) or 27(4); length of body 4.2-4.9 mm; hind tibia (except apical infuscation) largely yellowish to almost completely dark brown; medio-basal swelling of second tergite may be obsolescent; sculpture of central areas of propodeum and of medio-basal swelling of second tergite variable; length of ovipositor sheath 1.0-1.3 times body, 1.4-1.6 times fore wing (but rarely 1.25 times), and 2.5-3.0 times metasoma (rarely twice).

Distribution.— *Andorra; *Austria; *Italy; Mongolia; *Poland.

Biology.— Unknown.

Notes.— In one specimen from the Hohe Tauern (Austria, 2350 m) the complete face, the propleuron and the pronotum, the middle lobe of mesoscutum, the mesopleuron ventrally and the first and second metasomal tergites are granulate.

Although the morphological differences from *A. semiaciculata* are limited (basically restricted to the shorter malar space, the less developed and more sculptured swelling of the second tergite, and the longer ovipositor sheath), it seems justified to retain *A. mongolica* as a separate species with a (boreo-)alpine distribution in Europe.

Agathis montana Shestakov, 1932
(figs 53-60)

Agathis montana Shestakov, 1932: 261 ("♀. L. 4-5 mm. Schwarz, nur die Beine zum Teil rötlichgelb.

Hüften und Trochanteren schwarz, Vorderschenkel nur an der Basis schwarz, Mittelschenkel mehr und Hinterschenkel fast ganz schwarz und nur an der Spitze rotgelb; Hinterschienen heller, an der Spitze und vor der Basis schwarz, Tarsen schwarzbraun, 1. Glied der Vordertarsen rotgelb. Die Mundteile sind fast ebenso lang wie der Kopf. Fühler 27gliedrig. Mesonotum deutlich fein und sparsam punktiert. Mesopleuren durch eine lange gezackte Rinne geteilt, mit großem Speculum, unter der Rinne sehr fein und undeutlich punktiert, vorn an dem Callus viel größer.

Mittelsegment grob und dicht runzlig punktiert, mit 2 parallelgehenden Leisten; der Zwischenraum zwischen ihnen ist punktiert. Flügel schwach braunlich getrübt, 2. Cubitalzelle viereckig, Anal- und Mediannerv blaß. 1. Hinterleibssegment auf seiner ganzen Ausdehnung gestreift, mit sehr kurzen Leisten an der Basis, 2. ganz glatt und glänzend, mit einer gebogenen queren Linie. der Bohrer von Körperlänge. ♂ ganz ähnlich dem ♀. Fühler 26 gliedrig. Ferghana: Berggipfel Kara-Tasch, 8.VIII. 1928 (V. Kuznetsov) und Ak-Bel, 10. VIII. 1928 (V. Kuznetsov). Typus in meiner Sammlung. *A. montana* sehr ähnlich *A. propinqua* Kok., aber durch die Zahl der Fühlerglieder, grob punktiertes Mittelsegment, schwarze Palpen und blassen Anal- und Mediannerv leicht zu unterscheiden.“); Shenefelt, 1970: 345 [examined].

?*Agathis montana*; Nixon, 1986: 213-214 (“Antennal segments 22-23, mesosoma about twice as long as high; vein 2-R1 about 0.3 times 1-R1: cf. *A. asteris* Fischer or related species”).

Agathis zaykovi Nixon, 1986: 204, figs 7, 34, 47 (“♂ ♀ ca 4 mm (excluding ovipositor). Black. Hind femur black throughout. ♀. Head in facial view considerably lengthened. Malar space 0.66 times as long as longer diameter of eye. Between antennal insertions virtually no trace of a keel. A weak, vague V-shaped impression, sometimes almost obliterated, in front of anterior ocellus. Galea tapered towards apex but not so evenly as in *nigra*, about 3.5 times longer than its basal width. Antenna with 26-27 segments; 26 (8), 27 (4); apical 5-6 segments of flagellum somewhat tapered; two preapical segments hardly longer than wide. Thorax in profile somewhat elongate but less so than in *nigra*. Notaulices costate, deeply impressed throughout. Sternaulus strongly defined, costate throughout and reaching posterior corner of mesopleurum. Areolet of fore-wing usually slightly narrowed above but always distinctly 4-sided; distal abscissa of postmarginalis hardly shorter than proximal abscissa. Hind claw with large lobe; outer side of middle tibia with 6-9 teeth, some of them paired, and forming an irregular row; inner spur of hind tibia not quite reaching middle of basal segment of hind tarsus. Gaster of generalised form and broader than in *nigra*. Tergite 1 with vague traces of rugosity across brow, lacking the highly polished appearance of *nigra*. Ovipositor sheath as long as gaster plus thorax. ♂. Antenna almost as long as that of *nigra* from which it is distinguished by the structure of the claws. Host. Unknown. Comments. The length of the galea together with the relatively large number of teeth on the outer side of the middle tibia make *zaykovi* distinct from all other included species that have a generalised gastral shape. The strongly lobed claws at once separate it from *nigra* to which it may not be closely related in spite of the lengthened galea.”); Zettel & Beyarslan, 1992: 125 [examined]. **Syn. nov.**

Material.— Lectotype of *A. montana*, ♀ (ZISP), “[Kyrgyzstan], (illegible word), Ak-Bel, 10.viii.1928”, “A. Shestakov”, “*Agathis montana* sp. nov. typ. aut. det. Shestakov”, “Lectotypus *Agathis montana* Shest. design. Tobias, 1982”; holotype of *A. zaykovi*, ♀ (RMNH), “Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991”, “Rhodopi [Mts], Thcigovtsharu, 9.viii.1979, A. Zaykov”; 7 ♀♀ (RMNH), paratypes, with same data as holotype; 2 ♀♀ + 4 ♂♂ (RMNH), with same data as holotype and partly identified by Nixon as *A. zaykovi*, but no paratypes; 2 ♀♀ + 1 ♂ (RMNH), “[Bulgaria], Rhodopea, J. Batan, 25.vii.1981, [A.] Zaykov”; 4 ♂♂ (RMNH), “[Bulgaria], Rhodopi [Mts], Plotshnik, 3.vii.1977, A. Zaykov”; 1 ♂ (RMNH), id., but 2.vii.1977; 2 ♂♂ (RMNH), “[Bulgaria], Rhodopi [Mts], Stoinite, 4.viii.1978, A. Zaykov”; 1 ♂ (RMNH; largely missing), “[Bulgaria], Rhodopi [Mts], Sh. Poljana, 22.v.1974, A. Zaykov”; 1 ♂ (RMNH), “[Bulgaria], Riba Bistrica, 25.vii.[19]94, [A.] Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi [Mts], N. R. Partizana, 2.vii.1978, A. Zaykov”; 1 ♂ (RMNH), id., but 25.vi.1978; 1 ♂ (RMNH), id., but 22.vii.1978; 2 ♂♂ (RMNH), “[Bulgaria], Rhodopi [Mts], h. Buntovna, 26.viii.[19]84, [A.] Zaykov”; 1 ♀ + 1 ♂ (RMNH), “[Bulgaria], Rhodopi [Mts], Markovo, 25.vi.1977, A. Zaykov”; 1 ♂ (RMNH), id., but 23.vi.1978; 1 ♂ (RMNH), “[Bulgaria], Rhodopi [Mts], Bojkovo, 5.vii.1977, A. Zaykov”; 4 ♀♀ (RMNH), “[Bulgaria], Rila [Mts], Radnil, 24.vii.1982, J. Kolarov”; 1 ♀ (RMNH), “Andorra, St. Julia, 10.vii.[19]80, P.J.L. Roche”, “CH 7604, 1000 m”; 1 ♀ (RMNH), “France, Vacluse, M.J. Gijswijt”, “[M]t Ventoux, Combe brune, 24.viii.1988”; 1 ♂ (RMNH), “[Yugoslavia, Serbia], Tovrtjane [?], 15.vi.1975, M. Brajkovic”; 1 ♀ (RSM), “[England], Santon Downham, Norfolk, TL 818883, Malaise trap, heath with birch and pine, 15-27.viii.[19]84, J. Field, MD, RMSNH 1986.021”; 1 ♂ (RSM), “France: Briançon district, H[au]te Alpes, Val de Claré, c. 1500 m, 22.vii.1991, M.R. Shaw” (one fore wing without vein r-m).

Length of body of redescribed lectotype of *A. montana* 3.4 mm, of other specimens 3.5-3.8 mm.

Head.— Head elongate, narrow and rectangular ventrad (fig. 56), width of head below eyes 0.8 times median height of face and clypeus combined, its length in frontal view 1.95 (mean: 1.97) times maximum width of face; face finely punctate, with rather dense medium-sized greyish pilosity; height of eye 1.75 (mean: 1.53) times length of malar space; stemmaticum not distinctly prominent (fig. 55), ante-ocellar area short subtriangular and hardly impressed, flat, without distinct median keel; antenna with 26-27 segments; galea obtuse apically, 1.3 (mean: 1.1) times height of eye, and 0.75 (mean: 0.6) times height of head.

Mesosoma.— Length of mesosoma 1.6 times its height; side of pronotum largely smooth, or rather coarsely punctate, rugulose antero-medially, and weakly crenulate near posterior margin; mesoscutum and scutellum punctate; notauli deep, complete, narrowly crenulate, and with long and narrow medio-posterior groove; mesopleuron largely smooth laterally and below precoxal sulcus with some punctures; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and finely crenulate; metapleuron (rugulose-)punctate medially; propodeum largely rugulose-punctate, with small smooth central areas, and both medio-longitudinal carinae irregular among rugosities.

Wings.— Fore wing: marginal cell rather small, with SR1 slightly curved (fig. 54); r:3-SR:SR1 = 1:2:15; second submarginal cell quadrangular, often narrow; 2-R1 about as long as 1-R1 (fig. 54), but sometimes about 0.5 times. Hind wing: M+CU:1-M = 8:7.

Legs.— Length of femur, and tibia of hind leg 2.8, and 6.2 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.4 and 0.3 times hind basitarsus, respectively; tarsal claws robust, with distinct acute lobe; middle tibia with a row of 6-13 pegs.

Metasoma.— Length of first tergite 1.1 times its apical width, apical third of surface smooth, remainder sparsely rugulose, somewhat scaly sculptured; second tergite smooth; ovipositor sheath 1.04 (mean: 0.99) times fore wing, and 1.7 (mean: 1.9) times metasoma.

Colour.— Black; apical third and subbasal band of hind tibia, pterostigma and veins dark brown; fore and middle legs, apical half of hind femur, and remainder of hind tibia, yellowish-brown.

Distribution.— *Andorra; *Bulgaria; *England; *France; Kyrgyzstan; *Turkey; *Yugoslavia (Serbia). The listing of Hungary, and Russia by Nixon (1986) is probably based on misidentifications.

Biology.— Unknown. The host given by Tobias (1986: *Pyrausta aurata* Scopoli) is the same as for *A. griseifrons*, and the record may be based on a misidentification.

Notes.— *A. montana* is a peculiar and comparatively easily recognizable species because of the shape of head in frontal view, the structure of the frontal area (from the ocelli to the antennal sockets), and the shape of the galea. The head, without the eyes and in frontal view, looks rectangular (fig. 56), resembling to some degree *A. brevis* (fig. 79) and to a lesser degree *A. taurica* (fig. 82). However, *A. brevis* has the frontal area very prominent, with a deep ante-ocellar depression, and the keel protruding antero-dorsally; the same area in *A. montana* is flat. In *A. taurica* the head is more acute than in *A. montana*; and its galea is distinctly longer and narrower (figs 82-83) than the comparatively robust galea of *A. montana*.

Agathis nachitshevanica Abdinbekova, 1970
(figs 269-273)

Agathis nachitshevanica Abdinbekova, 1970: 1882, fig. 1 ("Close to *Agathis ferulae* Tobias; differs by its longer malar space, which is almost as long as longitudinal diameter of eye (fig. 1-1), by the evenly infusate wings and by the brownish-red first and second tergites, the basal part of third tergite and all femora. Female, 5.8 mm. Head as wide as high; temple 0.5 times width of eye; ocellar triangle obtuse anteriorly; frontal crest distinct, its apical part branched into two crests; height of face 1.5 times its width; height of clypeus 0.5 times height of face; height of eye 1.25 times its width, and as long as malar space; rostrum as long as height of face and clypeus combined; antenna slightly longer than head and mesosoma combined; first flagellar segment 3 times longer than wide, segments of apical third of flagellum almost quadrate, slightly longer than wide; antenna with 26 segments (fig. 1-2); mesosoma 1.5 times longer than high; notauli deep, weakly sculptured; precoxal sulcus deep and weakly sculptured; second radio-medial cell of fore wing quadrangular (fig. 1-3); hind femur 3 times longer than wide; inner hind spur 0.3 times hind basitarsus; first metasomal tergite slightly longer than its apical width; second tergite almost twice as long as wide; ovipositor sheath slightly longer than metasoma; propodeum with rugae, and medially with two longitudinal carinae; metasoma smooth. Black; legs, except coxae, trochanters, apical part of middle and hind tibiae and all tarsi reddish-brown; wings infusate; pterostigma and veins brown; metasoma reddish-brown, from apical part of third tergite onwards or from fourth tergite black. Material: Azerbaidzhan. Nachitshevanskaja ASSR, Ordubad, village Nizjenii Andamits, 23.v.1967, 1 ♀ (holotype), 20.vi.1967, 1 ♀; orchard, on grass." Translated from Russian.); Tobias, 1976: 211; 1986: 285 (transl. 1995: 498).

?*Agathis arida* Tobias, 1963: 874, fig. 12 (Close to *Agathis umbellatarum* Nees, from which it differs by its wider head, by the short malar space, by the shorter ovipositor, and by the paler wings. Female, 4-5 mm. Head as wide as high; temple 0.4-0.5 times width of eye; ocellar triangle obtuse; frontal crest developed, dividing apically into two branches; longitudinal diameter of eye 1.6 times its transverse diameter, and 1.5 times (or slightly longer) than malar space; width of face 1.5 times its height, and its height 1.5 times height of clypeus; rostrum as long as malar space or slightly longer; antenna considerably shorter than the body, with 21(2), 22(4), or 23(1) segments, first flagellar segment 2.5-3.0 times longer than wide segments of apical third of antenna slightly longer than wide, rarely up to 1.5 times as long as wide; mesosoma 1.5 times longer than high; notauli and precoxal sulcus deep and sculptured; second cubital cell of fore wing quadrangular, and lower than width of pterostigma; length of hind femur 4-5 times its width; inner hind tibial spur 0.3 times hind basitarsus; fifth tarsal segment as long as second, longer than third and fourth segments, and 1.5 times longer than its apical width; first metasomal tergite slightly longer than wide; second tergite 2-2.5 times wider than long; ovipositor as long as metasoma and mesosoma combined; propodeum largely smooth, with two longitudinal carinae medially, sculptured near carinae and laterally; metasoma smooth. Head and mesosoma black; prothorax, mesothorax, scutellum, tegulae, legs (except coxae), sometimes antero-ventral part mesopleuron, yellowish-red, sometimes prothorax black; metasoma yellowish-red, first tergite black, sometimes its apical part reddish; metasomal sternites often black; wings hyaline; pterostigma brown; hind tibia basally yellowish, hind tibia apically and tarsi brown. Male: antenna 21(3), 22(4), or 23(1) segments; segments of apical third of flagellum 1.5-2.0 times longer than wide; colouration more variable than in female, but paler. In the darkest males the colouration is like dark female, but the first metasomal tergite reddish; usually mesopleuron anteriorly and some spots of propodeum laterally and of metasoma yellowish-red; sometimes complete body, (except head, middle and hind coxae, edges of propodeum and lateral part of mesothorax) reddish-yellow. Material.—Karagandinskaja oblast, Mt. Koksengir, south Zhana-Arka, 9.vi.1958, 1 ♀ 1 ♂ (♀ holotype); 2-3.vi.1958, 2 ♂♂, *Ferula caspica*, 12-15.vi.1958, 1 ♀, 5 ♂♂, *Seseli* sp., 5.vi.1958, 1 ♂, *Chaerophyllum prescottii*, 11.vi.1958, 1 ♀, 1 ♂, 23-23.v.1959, 1 ♀, 2 ♂♂ at the moment of oviposition in the fruit of *Tulipa patens*, 25.v.1959, 2 ♀♀, Mts Aktau, south Zhana-Arka, 7.vi.1958, 1 ♀, Mts Kindelli, south-east Zhana-Arka, *F. caspica*, 17-18.vi.1958, 1 ♀ (V. Tobias). Volgogradskaya oblast, Kras-

noarmeisk, 1 ♀ (Bekker)." Translated from Russian); Shenefelt, 1970: 318; Tobias, 1986: 282 (transl. 1995: 491).

Material.— Holotype, ♀ (ZISP), "Azerb. SSR [= Azerbaidzhan], Ordubad, s. N. Andamits, 23.v.[19]69, Abdin[bekova]", "frukb.-ssd na r/Trsvye", "Holotypus *Agathis nachitshevanicus* Abdinbekova, sp. nov."

Holotype, ♀, length of body 5.6 mm, of fore wing 5.0 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 270), width of head below eyes about equal to median height of face and clypeus combined, its length in frontal view 1.6 times maximum width of face; face nearly smooth, with rather dense medium-sized greyish pilosity; clypeus convex and largely smooth, except some punctulation; lateral epistomal suture absent; height of eye 1.2 times length of malar space; stemmaticum and area in front of anterior ocellus rather prominent (fig. 271), area short triangular and deeply impressed, protruding, sloping ventrad, with distinct median keel, nearly straight dorsally; antenna with 26 segments, apical segments robust (fig. 272); galea rather stout (fig. 271), 1.3 times height of eye, 1.6 times malar space, and 0.7 times height of head.

Mesosoma.— Length of the mesosoma 1.5 times its width; side of pronotum largely smooth, crenulate medio-anteriorly, densely setose postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, with some sparse punctulation; scutellum flat; notauli deep, complete, narrow, only anteriorly crenulate, and with long and narrow smooth medio-posterior groove; mesopleuron largely smooth, with some punctures below scrobe; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and finely crenulate; metapleuron sparsely punctate medially, coarsely rugose ventrally; subbasally propodeum with some transverse rugosity, with large smooth central areas and remainder of propodeum coarsely rugose-punctate, especially near strong and regular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 269); r:3-SR:SR1 = 5:1.47; second submarginal cell quadrangular; 2-R1 0.5 times 1-R1 (fig. 269); pterostigma 1.4 times as long as 1-R1; 1-R1 moderately widened (fig. 269). Hind wing: M+CU:1-M = 10:7.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.8, 6.1 and 7.5 times their maximum width, respectively; length of inner and outer hind tibial spurs about 0.3 times hind basitarsus (embedded in glue); tarsal claws robust, with distinct acute lobe; middle tibia with a row of 11 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 0.9 times its apical width, distinctly convex, its surface smooth (but largely covered by glue); length of second tergite 0.7 times as long as its basal width, smooth, with transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 0.84 times fore wing, 1.5 times metasoma, and 0.75 times body.

Colour.— Black; palpi (but basal segments darker than apical ones), tegulae, pterostigma, veins, apices of middle and hind tibiae, trochanters and trochantelli, tarsi (except basally), and third tergite (except basally) dark brown; remainder of tibiae pale brownish-yellow; remainder of legs, first and second tergites and base of third tergite brownish-orange; wing membrane strongly infuscate.

Distribution.— Azerbaidzhan.

Biology.— Unknown.

Note.— Close to *A. malvacearum*, from which it differs mainly by the more robust first metasomal tergite and hind femur, and by the shorter ovipositor sheath.

Agathis nigra Nees, 1814
(figs 91-96)

Agathis nigra Nees, 1814: 191-192 (“Nigra, nitida, femoribus apice late tibiisque rufis, ore concolore, alis fuscis; area secunda cubitali subpetiolata; terebra corpore longiore. Long. lin. 2-2¹/₂. Adnot. Abdomen laeve, nitidum; primo segmento basi angustiore, subruguloso, obsolete bicarinato, postice laevi. Foveae basales secundi distinctae, impressiones transversales hujus et tertii, ut in reliquis, obsoletiores, sed ratione sequentium habita, satis distincte exaratae. Coxae et trochanteres nigra. Femora basi parum nigra, apice late et tibiae omnes testaceo-rufa, tibiae posticae apice et tarsi fusca, hi basi testacei. Os valde productum, nigrum. Alae obscurae, litura solita. Fem. Variet: Abdominis segmento primo apice, secundo basi obscure rufescentibus; area cubitali secunda plus minus petiolata, in nonnullis (late) sessili. Mas femoribus basi latius nigris, interdum solis apicibus rufis. Variat: α. abdomine concolore. β. — ut in varietate feminae. Cepi copiosam in floribus Pyrethri corymbosi mense Jun[io], marem et feminam plus semel in copula [prope Sickershausen.]”); 1834: 128; Shenefelt, 1970: 345; Nixon, 1986: 203, figs 11, 38, 45; Zettel & Beyarslan, 1992: 125 [type series lost; neotype designated below].

?*Agathis nigra* var. *marshalli* ab. *castanea* Fahringer, 1937: 469 (“Endrand des 1. und Basis des 2. Tergites pechbraun. 2.Rcu-Zelle sitzend”). Unavailable name.

Agathis testaceipes Fischer, 1957: 8 (“Kopf: Doppelt so breit wie lang, Schläfen halb so lang wie die Augen, Kopf zwischen den Schläfen schmaler als zwischen den Augen, erstere gerundet, Hinterhaupt stark gebuchtet, Ocellen etwas vortretend; Basalgruben des Clypeus tief, Wangen so lang wie die Augen; der ganze Kopf glatt, Gesicht und Wangen schütter und kurz behaart; Rostrum lang, ganz wenig länger als die Kopfhöhe; Fühler so lang wie Abdomen plus zwei Drittel des Thorax, 25gliedrig, fadenförmig, Schaft doppelt so breit wie das dritte Fühlerglied, letzteres sechsmal so lang wie dick, von da an die Fühlerglieder an Länge allmählich abnehmend, etwa die letzten acht Fühlerglieder gleich lang, das letzte etwas kürzer. Thorax: Mesonotum nur mit äußerst spärlicher, kurzer, weisslicher Behaarung, das nach vorne verlängerte Rückengrübchen deutlich, Notauli fast nicht erkennbar, Seitenränder des Mesonotums scharfkantig, daneben krenuliert; Praescutellargrube nach vorne gebogen, stark krenuliert, Schildchen glatt; Propodeum mit zwei parallelen Längskielen, zwischen diesen gerunzelt, neben denselben etwas runzelig oder uneben, der überwiegende Teil des Propodeums glatt und glänzend, an den Seiten wieder breiter runzelig; Seiten des Prothorax ganz glatt und glänzend, hintere Furche kaum krenuliert; Mesopleuren mit schmalen, tiefen, scharf krenulierten, bis an den Hinterrand reichenden Sternauli versehen, hintere Mesopleurfurche krenuliert, Mesopleuren unter den Sternauli leicht haarpunktiert. Beine gedrungen gebaut, Hinterschenkel zweieinhalbmal so lang wie dick. Flügel: Braun getrübt, in der ersten Cubitalzelle und an der Basis der zweiten Discoidalzelle mit hyalinen Flecken; Stigma breit, r 1 halb so lang wie die Stigmabreite, r 2 fehlt, r 3 gerade, cu 1 fast ganz erloschen, Cu 1 und D 1 daher verschmolzen, r 3 und n. par. erloschen, Areola dreieckig, B aussen unten offen, Nervulus postfurkal. Abdomen: Erstes Tergit etwa so lang wie hinten breit, nach vorne wenig und gleichmäßig verschmälert, seitliche Höcker nicht ausgebildet, seitliche Kiele kaum erkennbar, an den vorderen zwei Dritteln runzelig punktiert, letztes Drittel glatt; Hinterleib vom zweiten Tergit an ganz glatt, zweites Tergit mit sehr flachem Quereindruck, zweite Sutura kaum erkennbar, Hinterleibstergite vom vierten an am Hinterrand einreihig, nach hinten abstehend behaart; Bohrer so lang wie der Körper. Färbung: Schwarz. Rot sind: Basis der dritten Fühlerglieder, Maxillartaster vom zweiten Glied an (das zweite Glied nur an der Basis geschwärzt), alle Schenkel mit Ausnahme der Basis der Vorder- und Mittelschenkel (die Hinterschenkel haben nur einen sehr vagen schwärzlichen Schatten an der Basis), zweites Glied der hinteren Trochanteren an der Spitze, alle Schienen mit Ausnahme der Spitzen der Mittel- und Hin-

terschienen; alle Tarsen an der Basis rötlich, sonst verdunkelt; Bohrer rot; Flügel nervatur braun. Länge: 4,84 mm. Männchen: Unbekannt. Fundort: Schützen im Burgenland/Österreich, 2 ♀♀, 10.vii.1941, leg. Fulmek. Holotypus: 1 ♀ im Naturhistorischen Museum in Wien. Anmerkung: Die Bestimmungstabelle von Telenga (l.c.) bringt diese Art in die Verwandtschaft von *A. simulatrix* Kok., unterscheidet sich jedoch von letzterer Art vor allem durch das Rostrum, welches die Länge der Kopfhöhe erreicht und ferner durch den Besitz von nur zwei Kielen auf dem Propodeum, sowie durch die Länge des Bohrers, welche die Körperlänge nicht übertrifft. ähnlicher ist diese Art der *A. nigra* Nees, von welcher sie sich durch die ganz roten Hinterschenkel und die überhaupt vorwiegend roten Beine sowie die rot gefärbten Maxillartaster unterscheidet."); Shenefelt, 1970: 360; Nixon, 1986: 203 (as synonym of *A. nigra*) [examined].

Agathis kasachstanica Tobias, 1963: 872 ("Close to *A. nigra* Nees from which it differs by the shorter ovipositor and by the more elongate mesosoma, and also by the reddish-yellow body, and the relatively wider second metasomal tergite. Females. 4-5 mm. Head as wide as high or slightly more; temple 0.3-0.4 times width of eye; ocellar triangle obtuse anteriorly or rectangular; crest of frons developed, after middle branched into two branches, but sometimes these are weak; face twice as wide as high; height of clypeus half as long as face or slightly less; longitudinal diameter of eye 1.5 times its transverse diameter, and half as long as malar space; rostrum longer than height of head; antenna slightly longer than head and mesosoma combined; first flagellar segment 3-4 times longer than wide; segments of apical third of flagellum quadrate or slightly longer than wide; number of antennal segments 20-22 (20(1), 21(10), or 22(19)), mesosoma 1.3-1.5 times longer than high; notauli distinct, smooth or weakly sculptured; precoxal sulcus deep, sculptured, rarely smooth; second cubital cell of fore wing triangular (22 specimens) or quadrangular (10 specimens); hind femur 3-4 times longer than wide; inner hind tibial spur 0.3 times hind basitarsus or slightly longer; fifth tarsal segment as long as second segment or shorter, longer than third segment, and fourth segment half as long, 3 times longer than its apical width; first metasomal segment slightly longer than its apical width; second tergite 0.7-1.5 times wider than long; ovipositor sheath as long as meso- and metasoma combined, or up to tegulae; propodeum almost smooth, only laterally and near carinae sculptured, with 2, rarely 3 longitudinal carinae; metasoma smooth. Black; legs (except coxa and trochanters) mostly yellowish-red; apical part of hind tibia and tarsi of all legs brownish; sometimes apically reddish; wings subhyaline or medially slightly infuscate; pterostigma brown; second metasomal tergite (sometimes also third), and their sternites brown, sometimes these tergites and also fourth and fifth and following tergites and sternites yellowish-red; sometimes mesonotum, lower part of mesothorax and tegulae, or also prothorax brownish or yellowish red; rarely the complete metasoma is yellowish-red, only its apex and base of first tergite darker. Male unknown. Material. Tselinogradskaja oblast: Mt. Kokshetau, *Ferula tatarica*, 7-16.vi.1957, 17 ♀♀, *F. songorica*, 15.vi.1957, 4 ♀♀ (including holotype), *Palimbria rediviva*, 2.vii.1957, 2 ♀♀; river Taldi-Monaka, *Serratula cardunculus*, 13.vi.1957, 1 ♀; 10 km N from Lake Sjakol (south), 11.vi.1957, 3 ♀♀, *Pyrethrum kasachstanicum*, 11.vii.1957, 4 ♀♀, 1.viii.1958, 3 ♀♀; near Lake Sjakol (south), 1.vii.1957, 1 ♀, *F. tatarica*, 24.vi.1957, 1 ♀; southwest coast of Lake Tengiz, *Lepidium* sp., 3.vii.1957, 1 ♀ (V. Tobias)." Translated from Russian.); Shenefelt, 1970: 338 [not examined]. **Syn. nov.**

Agathis nixonii Belokobylskij & Jervis, 1998: 1221-1223, figs 10-20 ("Female. Body length 3.8-4 mm; fore wing 3.0-3.33 mm. Antennae 21-22-segmented. Scape nearly twice as long as wide, 0.7-0.75 times as long as first flagellar segment. First flagellar segment 5-5.3 times as long as its apical width, 1.30-1.5 times as long as second segment. Penultimate segment 1.3-1.5 times as long as it is wide, 0.6-1.0 times as long as apical segment. Head in anterior aspect distinctly elongate, in dorsal aspect twice as wide as long medially, 1-1.2 times width of mesoscutum. Temple roundly narrowed behind eye, its length (in dorsal aspect) 0.43-0.5 times transverse diameter of eye. Occiput strongly concave. Ocelli moderately large, in triangle with base 1.2-1.4 times longer than its sides, POL/OD = 2, POL/OOL = 1.1-1.25. Frons lacking keel between antennal sockets, but with distinct, rather wide, V-shaped cavity in front of anterior ocellus; lateral cavities wide and deep. Eye 1.2-1.3 times as high as wide. malar space 0.6-0.67 times as long as longitudinal diameter of eye, 0.8-0.9 times as long as transverse diameter. proboscis extremely long, PL/HH = 1.5-1.8; galeae narrow, 4.5-5.5 times as long as maximum width, 2.5-3 times as long as height of malar space,

exposing much of glossa, GL/PL = 0.6. Face almost twice as wide as high medially, 1.1 times length of eye. Clypeal suture almost absent. Clypeus distinctly convex. Thorax in lateral aspect distinctly elongate, 1.8-2 times as long as high; 1.2 times as high as wide. Notauli deep, narrow, crenulate, meeting almost half-way along mesoscutum. Prescutellar depression short and crenulate. Sternauli short, distinct and crenulate. Wings: fore wing 3-3.2 times as long as wide. Pterostigma wide and short, its length 2.3-2.5 times its maximum width, nearly twice as long as first abscissa of metacarp (within radial cell). First abscissa of metacarp nearly as long as second abscissa (behind radial cell). Radial cell arising from middle of pterostigma. Third radial abscissa straight. Second radio-medial cell (areolet) triangular and sessile. Legs: hind femur 2..8-3 times as long as hind tibia. Inner spur of hind tibia nearly 0.4 times as long as hind basitarsus. Middle tibia externally with 1-2 lateral and 3 apical spines arranged more or less in a row. Outer apical part of hind tibia with 5-6 closely spaced spines. Hind tarsus 1.2-1.3 times longer than hind tibia, its first segment 0.7-0.75 times length of second to fifth segments combined. Fourth segment twice as long as wide. Claws with small tooth. Metasoma slightly shorter than thorax and head combined. First tergite long, distinctly convex, with small spiracular tubercles in basal quarter. Apical width of first tergite 1.8-2 times minimum width, length of tergite 1.2 time apical width. Second tergite 0.77-0.83 times as long as basal width. Suture between second and third metasoma tergites fine but distinct. Hypopygium long, slightly longer than apical margin of metasoma, without emargination at apex, pointed apically. Ovipositor sheath as long as body, 1.3 times longer than fore wing. Sculpture: head and thorax mostly smooth. Propodeum with 2 distinct longitudinal and almost parallel carinae, rugulose mediobasally, other parts smooth. First metasomal tergite smooth, finely rugulose basolaterally, Second and third tergites completely smooth. Colour: body (including antennae) black. Legs black with reddish brown markings on distal three-quarters of fore femur, distal half of middle femur, almost the whole of the fore and middle tibia, the basal two thirds of the hind tibia, basal 3 segments of fore and middle tarsus, basal 2 segments of hind tarsus and sometimes distal one- to two-thirds of hind femur. Wings faintly infusate with brown (sometimes lighter basally) pterostigma. Male. Body length 3-4.3 mm. Fore wing length 2.4-3.4 mm. Antennae 20 to 21-segmented. Penultimate segment of antenna 2-2.25 times as long as it is wide. Middle tibiae externally with 1-3 lateral spines. First metasomal tergite 1.1-1.3 times as long as wide apically; sometimes rugulose laterally; medio-longitudinal carinae indistinct basally. Second tergite usually reddish brown in basal third or half. Areolet sometimes petiolate (with short stalk) or distinctly sessile. Sternauli sometimes shallow and almost smooth. Otherwise similar to female. Type material. Holotype, ♀, Spain, Andalucia, Granada, Parque de Invierno, in copula on flowers of *Anacyclus clavatus*, 19.v.1992, M.A. Jervis (BMNH). Paratypes: 1 ♂, same data as holotype, observed in copula with holotype (BMNH); 3 ♀♀, 5 ♂♂ same data as holotype except 20-23.v.1992, including two mating pairs (M.A. Jervis and S. Varlez; BMNH, ZISP). Other material. 9 ♂♂, 14 ♀♀, same data as holotype, except 20-23.v.1992 and M.A. Jervis and S. Varlez; includes four mating pairs. This material was not incorporated into the type series because it either has been or will be dissected as part of investigations into the functional morphology of parasitoid mouthparts (Jervis, 1998; Jervis in preparation). Remarks. *A. nixonii* is morphologically close to *A. nigra* Nees recorded from Europe, the European part of Russia, the Caucasus, Kazakhstan, Iran and Mongolia (couplet 6 in Nixon, 1986; couplet 13 in Tobias, 1986). The two species can be distinguished as follows: 1. Notauli shallow, smooth, and usually obliterated in posterior half; galeae 2-2.3 times as long as height of malar space; first metasomal tergite almost as long as apical width; sternauli long, running along 0.7-0.8 lower part of mesopleura; hind femora light reddish brown *A. nigra* Nees. — Notauli rather deep, crenulate and complete; galeae 2.5-3 times as long as height of malar space; first metasomal tergite 1.1-1.3 times as long as apical width; sternauli short, running along almost 0.5 lower part of mesopleura; hind femora usually completely black, sometimes with reddish brown markings on distal 0.33-0.66 *A. nixonii* sp. n. *A. nixonii* possesses the Type 4 concealed nectar extraction apparatus by Jervis (1998). Host(s) unknown. "). **Syn. nov.**

Material.— Neotype of *A. nigra* here designated, ♀ (RMNH), "[Netherlands], Losser, 4.ix.1981, B. v. Aartsen", "*Agathis nigra* Nees, det. C. v. Achterberg, 1981"; 1 ♂ (RMNH), id., but 26.viii.1983; 1 ♀

(RMNH), "Nederland, Bergen op Zoom, 15.viii.1985, ex *Isophrictis striatella* [D. & S.; Gelechiidae in stems of] *Tanacetum vulgare* Linnaeus"; 1 ♀ (RMNH), "Neth[erlands], Amersfoort, 28.viii.1984, in flowerhead of *Tanacetum vulgare* L., J.C. v. Veen", "same as *Agathis nigra* ab. *castanei* Fahr., det. C. van Achterberg, 1997" (because of reddish hind femur); 1 ♀ (RMNH), "[Netherlands], Thorn, 10.viii.1991, T. Peeters", "Koningsteen, Boerenwormkruid (= *Tanacetum vulgare* L.); 1 ♀ (RMNH), "Netherlands, St. Pietersberg, 20.viii.1989, C.J. Zwakhals"; 1 ♀ (RMNH), "[Netherlands], Oude Luikerweg boven Encigroeve, exc. St. Pietersberg, 14.viii.1950"; 1 ♀ (RMNH), "[Netherlands], Westervoort, 4.ix.1975, B. v. Aartsen"; 1 ♀ (RMNH), "Netherlands, Melissant, Z.-H., at light, 15-30.viii.1975, K.J. Huisman"; 1 ♀ (RMNH), "[Netherlands], Goirle, 15.viii.1947, H. Teunissen"; 1 ♀ (RMNH), "Nederland, Nbr., Vlijmen, 22.ix.1986, A.P. Teunissen"; 1 ♀ (RMNH), "[Belgium], Lanaye, 11.ix.1966, B.V. L[e]feber"; 1 ♀ (RMNH), "Germany, n[ea]r Kiel, Drachensee, K. Haus, RMNH'89, *Agathis nigra* Nees"; "Ex *Isophrictis striatella* (D. & S.) (Gelechiidae) in stems of *Tanacetum vulgare* L[innaeus], K. Haus, 1990", "Parasit von *Isophrictis str.* vom 13.v.[19]70, s: 2.viii.1990, Dra"; 1 ♂ (RMNH), id., 29.vi.1990 and 31.vii.1990; 1 ♀ (RMNH), id., 14.viii.1990; 1 ♂ (RMNH), id., 2.viii.1990; 1 ♂ (RMNH), id., 29.vii.1990; 2 ♀ ♀ (RMNH, RSM), id., 30.vii.1990; 1 ♂ (RMNH), id., 31.vii.1990; 1 ♀ (RMNH), id., 3.viii.1990; 1 ♀ (RMNH), id., 10.viii.1990; 1 ♀ + 1 ♂ (RMNH), "Germany, Bonn, Dransdorf, ex host on *Tanacetum vulgare* Schmitz"; 1 ♀ (RMNH), "[Germany], Birken[els], Tischb[ein], *Agathis nigra* Ns, det. G.E.J. Nixon, 1982"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], Sv. Marina, 12.vii.1976, A. Zaykov"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], Sh. Poljana, 21.vi.1976, A. Zaykov"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], N. R. Partizan, 8.vii.1978, A. Zaykov"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], Chrabrino, 29.vii.1977, A. Zaykov"; 1 ♂ (BC), "Bolgarija, 35 km JuZ G. Dugov, 850 m, lug, 23.vii.1978, Balevski"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], N. Brjanovshio, 29.vii.1977, A. Zaykov"; 1 ♂ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], Dobrostan, 27.vi.1978, A. Zaykov"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden, 1991", "Rhodopi [Mts], Tankovo, 12.vii.1976, A. Zaykov"; 1 ♀ (MNHN), "[France], Chartrettes, 10.viii."; 1 ♀ (MNHN), "[?France], la Trett, 7.ix., [J. de Gaulle]; 1 ♀ (MNHN), "[France], Gir., Grayan, 22.vii.[19]65, G. Tempere"; 1 ♀ (RMNH), "France, Aude, Moux, 7.vii.1951, H. Teunissen"; 1 ♀ (MNHN), "[France], C[ôte] d'Or, Bois de Suchaux, 19.vii.[19]69, J. Barbier"; 1 ♀ (MNHN), "[France], C[ôte] d'Or, Bois des Suchaux, 19.vii.[19]69, J. Barbier"; 1 ♂ (MNHN), "[France], C[ôte] d'Or, Esbarres, 2.ix.[19]61, J. Barbier"; 1 ♂ (MNHN), id., but 27.vii.1958; 1 ♂ (MNHN), "[France], Paris, 15.viii.[18]91", "Museum Paris, coll. J. de Gaulle, 1919"; 1 ♂ (RMNH), "Museum Leiden, [Spain], Puebla del Rio, Sevilla, 21.v.1958", "*Agathis nigra* Ns, det. G.E.J. Nixon, 1982"; 1 ♀ (RMNH), "España, Alic[ante], Houdón de Nieves, 15.iv.1997, M.J. Gijswijt"; 1 ♀ (RMNH), "[Espana], Granada, 6 km voor Barza, 31.v.1979, Jo Teunissen"; 1 ♀ (RMNH), "España, Navarra, Peralta, 15.v.1969, P.M.F. Verhoeff", "*Agathis nigra* Ns or sp. n., det. G.E.J. Nixon, 1983"; 1 ♀ (RMNH), "Spain, Almanse, Alb., 25.v.1983, H. Teunissen"; holotype of *A. nixonii*, ♀ (BMNH), "Spain, Andalucia, Granada, Parque de Invierno, in copula on flowers of *Anacyclus clavatus*, 19.v.1992, M.A. Jarvis", "Holotypus *Agathis nixonii* Belokobylskij et Jarvis", "BMNH(E) 1999-61"; 1 ♀ (RMNH), "[Greece], Rhodos, Rodini, 4.v.1976, H. Teunissen"; 2 ♀ ♀ (RMNH), "Tanger, v.[18]95", "Maroc, ex musaeo H. Vaucher, 1908".

Length of body of neotype 4.0 (mean: 4.6) mm, of fore wing 3.7 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 92), width of head below eyes 1.2 times median height of face and clypeus combined, its length in frontal view 1.4 times maximum width of face; face finely punctate, with rather dense medium-sized greyish pilosity; clypeus convex and largely smooth, except some punctures; lateral epistomal suture obsolete; height of eye 1.6 (mean: 1.5) times length of malar space; stemmaticum somewhat prominent (fig. 92), ante-ocellar area short triangular and distinctly impressed (fig. 92), protruding, sloping ventrad, with distinct median keel, concave dorsally; antenna with 23 (20-25) segments, apical segments slender; galea slender and apically acute (fig. 94), 1.4 (mean: 1.4) times height of eye, 2.3 (2.0-3.0) times malar space, and 0.8 (mean: 0.8) times height of head.

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely smooth, punctate-crenulate medio-anteriorly, punctulate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum sparsely but distinctly punctate; scutellum flat and smooth; notauli shallow, complete but partly obsolescent, narrow, smooth, and with short medio-posterior groove; mesopleuron largely smooth, with some punctulation ventrally and anteriorly; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and finely crenulate; metapleuron sparsely punctate and with some micro-sculpture medially, coarsely rugose-reticulate ventrally; subbasally propodeum with some transverse rugosity, with large smooth central areas and remainder of propodeum coarsely rugose-punctate, especially between both diverging and strong medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather large (fig. 95; but rather small in Spanish specimens and sometimes distinctly wider), with SR1 straight (or nearly so); r:SR1 = 5:51; second submarginal cell triangular and petiolate, but length of petiolus very variable and cell may be subquadrate; 2-R1 0.9 times 1-R1 (fig. 95); pterostigma 1.7 times as long as 1-R1; 1-R1 slender (fig. 95). Hind wing: M+CU:1-M = 10:6.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.8 (2.8-3.1), 6.9 (5.9-7.8) and 7.6 times their maximum width, respectively; length of inner and hind hind tibial spurs 0.4 times hind basitarsus; tarsal claws robust, with small lobe; middle tibia with a row of 1 peg above apical patch of pegs.

Metasoma.— Length of first tergite 1.1 times its apical width, distinctly convex, its surface superficially and irregularly rugose medially and remainder of tergite smooth in neotype (in other specimens usually entirely smooth); length of second tergite 0.7 times as long as its basal width, smooth, with distinct transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.18 (mean: 1.34) times fore wing, 2.3 (mean: 2.3) times metasoma, and 1.1 times body.

Colour.— Black; trochanters, trochantelli, basal 0.4 of fore femur, basal 0.7 of middle femur, complete hind femur, tarsi (but basitarsus yellowish basally), apical quarter of hind tibia, pterostigma and veins dark brown; apex of middle tibia and hind tibia submedially indistinctly infusate; remainder of legs rather dark yellowish-brown; wing membrane infusate. Extend of pale pattern of legs and metasoma is very variable, legs tend to be (except for some tarsal segments) largely yellowish-brown, with hind tibial ring subbasally obsolescent or absent; metasoma and coxae usually brownish-black; hind femur may be entirely yellowish-brown, or partly brownish (from 0.3 to 0.7 of its length) basally; rather frequently in southern Europe and Central Asia (= var. *kasachstanica* Tobias) first, and (partly) second and third tergites brownish or yellowish-brown, rarely also other metasomal tergites may be brownish, but apically usually black.

Distribution.— Austria; Belgium; Bulgaria; Finland; France; Germany; Great Britain; Hungary; Iran; Italy; Kazakhstan; *Morocco; Netherlands; Russia; Slovenia (Dalmatia); Spain; Sweden; Switzerland.

Biology.— Parasitoid of *Isophrictis striatella* (Denis & Schiffermüller, 1775) (Gelechiidae) in *Tanacetum vulgare* Linnaeus.

Notes.— The original description of *Agathis nigra* is insufficient to characterize the species. Knowing the high variability encountered in most *Agathis* species, also for those with a long galea, the "os valde productum" mentioned by Nees is too general

to characterize it. Because of the vagueness of Nees' description we have to rely on the first reviser, Wesmael (1837), as was done by Nixon (1986). We agree, for most characters, with Nixon's interpretation of *A. nigra*; he uses of this name for a species with elongate mouthparts as was done before by e. g., Marshall (1890), Fahringer (1937), and Tobias (1963).

According to the original description of *A. irregularis* Fahringer it is one of the species with long galea ("rostrum" at least as long as the head). The presence of three propodeal carinae is fairly common in *Agathis* species, in fact, the two normal medio-longitudinal carinae of the propodeum are rarely really distinct and continuous, often they are irregular and fragmented, easily erroneously interpreted as consisting of three instead of two carinae. According to Fahringer *A. irregularis* has the first tergite largely sculptured, the second one with traces of sculpture in the shallow groove around the medio-basal swelling. The precoxal sulcus (his "sternauli") is fairly undefined with just traces of crenulation, the mesoscutum has the notauli deep, punctate. The scutellar sulcus is obsolescent. The degree of prominence of the stematicum, and of the elongation of the head, the shape of the ocellar depression, etc., are unknown, which makes it difficult to place the species among the other ones with long galea. It is not included as a provisional synonym of *A. nigra* because of the high number of antennal segments.

Recently, Belokobylskij & Jervis (1998) described *A. nixonii* from Spain, which should differ from *A. nigra* by several deviating character-states. However, all the alleged differences are part of the variation found in material reared from the same host in West Europa. For instance, the "rather deep, crenulate and complete notauli" of *A. nixonii* are rather rare but are found among western European specimens, also Spanish *A. nigra* (= *A. nixonii*) may have the notauli shallow and finely crenulate (which occurs also in West European *A. nigra*); the length of the galea (2.5-3 times as long as height of malar space for *A. nixonii*) varies in western European specimens between 2.0 and 2.8 times; also the variation in length of the first metasomal tergite and of the precoxal sulcus (the latter is extremely variable in this species!), and the colour of the hind femur (extremely variable: completely black hind femora occur also in typical *A. nigra*) does not allow a separation of the Spanish specimens as *A. nixonii*.

Agathis pappei Nixon, 1986
(figs 158-159)

Agathis pappei Nixon, 1986: 212, fig. 12 ("♀, 3.0-3.5 mm (excluding ovipositor). Black. Legs obscurely yellowish where they are pale; hind femur infusate but yellowish at apex; in two out of three examples, including type, pale colour at apex of hind femur extends as a pale band along dorsal surface as far as base. Wings almost hyaline. Head in facial view only weakly lengthened (fig. 12). face very shiny, with variable amount of somewhat indistinct punctation, more clearly evident in the holotype. Anterior margin of clypeus somewhat protuberant, mouth opening wide and mandibles of powerful build. Malar space 0.66 times as long as height of eye. Galea about twice as long as wide and as long as malar space. No trace of an impression or dimple in front of the anterior ocellus. Antenna short, thin, with 22-24 segments. Mesoscutum a little flattened, its middle lobe, and to a less extent, lateral lobes, with some vague, rather sparse punctation. Notaulices deeply impressed, foveate, their outer margin bordered with a row of indistinct punctures. Scutellum slightly depressed behind and rugulose here. Areolet of forewing weakly 4-sided; stig-

ma rather broad; apical abscissa of postmarginalis almost absent. Hind femur slightly more than twice as long as wide, the legs being rather short and thick; inner spur of hind tibia hardly reaching middle of basal segment of hind tarsus; claws rather long, without basal lobe or tooth. Sternaulus in the form of a fine groove, not reaching anterior margin of mesopleurum. Gaster somewhat short. Tergite 1 about 1.25 times longer than apical width, indistinctly striated more or less all over; rest of gaster smooth, shining. Ovipositor sheath as long as gaster plus propodeum. Comments. This aberrant species cannot be confused with any other from the region; it is characterised mainly by the shape of the head as seen from in front, the wide mouth-opening and the correspondingly large, powerful mandibles.”) [examined].

Material.— Holotype, ♀ (TMA), “Holotypus”, “*Agathis pappei* Nixon 1986, type ♀”, “Or Sz. Miklós, 1.ix.[1]917”, “Hym. Typ. No. 7699 Mus. Budapest”.

Length of body of holotype 3.5 mm.

Head.— Head rather quadrate, weakly tapering ventrad (fig. 158), width of head below eyes 1.4 times median height of face and clypeus combined, its length in frontal view 1.25 times maximum width of face; height of eye 1.6 times length of malar space; stemmaticum weakly prominent (fig. 159), ante-ocellar area flat and not impressed, without median keel (fig. 158); antenna with 22 segments; galea obtuse apically (fig. 159), 0.95 times height of eye, and 0.4 times height of head.

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely smooth, punctulate laterally, more coarsely so postero-dorsally, crenulate medio-anteriorly, and distinctly crenulate near posterior margin; mesoscutum and scutellum (coarsely) punctate, scutellum with some rugulae posteriorly; notauli deep, complete, crenulate; precoxal sulcus deep, crenulate reaching both anterior and posterior margins, narrow, and finely crenulate; metapleuron coarsely punctate medially, rugose ventrally; medially and laterally propodeum coarsely rugose-punctate, with large smooth central areas, and no distinct medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather small, with SR1 straight; second submarginal cell subtriangular; 2-R1 almost absent. Hind wing: M+CU:1-M = 10:7.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.4, 5.8 and 5.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.5 and 0.4 times hind basitarsus; tarsal claws robust, without distinct acute lobe.

Metasoma.— Length of first tergite 1.2 times its apical width, its surface more or less regularly striate; second and following tergites smooth, shiny; ovipositor sheath 0.67 times fore wing, and 1.2 times metasoma.

Colour.— Black; hind tibia without distinct apical and subbasal infuscation; fore and middle legs, apical quarter of hind femur and basal quarter of hind tibia yellowish-brown.

Distribution.— Hungary.

Biology.— Unknown.

Notes.— The head of *A. zaisanica* Tobias looks as quadrate as the head of *A. pappei*, but the head of the last species looks comparatively much stouter and more powerful. Other *Agathis* species with a rather short head may cause confusion. However, the head shape of *A. zaisanica* and of *A. pappei* is so peculiar that, although it is hard to show by morphometric parameters, once the heads of the two species are compared, the difference between the two “patterns” of robust heads becomes clear. In addition, another character which helps to tell *A. zaisanica* and *A. pappei* apart from

other short-headed *Agathis* species, is the fact that other *Agathis* species with a rather short and wide head (as, for example, *A. fulmeki*, *A. varipes*, etc.) usually have the malar space at most half as long as the height of the eye, while in both *A. zaisanica* and *A. pappei* the malar space is distinctly longer than 0.5 times the height of the eye.

Agathis pedias Nixon, 1986
(figs 288-295)

Agathis pedias Nixon, 1986: 211, figs 15, 39 ("♀, 4.5-4.8 mm (excluding ovipositor). Black. Hind tibia pale yellowish, almost whitish, with dark basal ring and apical infuscation occupying about apical two-fifths. Wings pale compared with other species, almost hyaline. Head in facial view weakly elongate (fig. 15). Virtually no keel between antennal insertions and only a very feeble impression in front of the anterior ocellus. Malar space about 0.66 times as long as height of eye. Mouth-parts rather short; galea as long as malar space, markedly coriaceous. Antenna with 24-25 segments. Thorax decidedly lengthened, twice as long as wide in profile; hardly different from that of *fulmeki* (cf. fig. 42). Sternaulus fairly sharply defined but remote from both anterior and posterior margin of mesopleurum. Panels of propodeum not extensively polished, sometimes almost obscured by encroaching lateral rugosities; outer side of middle tibia with 8-10 teeth arranged in a row, some of them paired; inner spur of hind tibia hardly more than 0.33 times as long as basal segment of hind tarsus; legs long, slender; 3rd segment of hind tarsus very slightly longer than apical segment; hind claw with weak, angular projection at base. Areolet of forewing almost 4-sided; distal abscissa of postmarginalis about 0.75 times as long as proximal abscissa. Gaster somewhat long, narrow (fig. 39); tergite 1 about 1.33 times longer than apically wide, rugose-striate all over. Ovipositor sheath as long as body. Comments. The relatively large number of teeth on the outer side of the middle tibia suggests that *pedias* has an affinity with *fulmeki*, but the latter has shorter legs, a much more clearly defined impression in front of the anterior ocellus and a longer galea. A decidedly slender habitus is somewhat characteristic of *pedias*.) [examined].

Material.— Holotype of *A. pedias*, ♀ (RMNH), "Museum Leiden, [Spain], prov. Cadiz, 4 km ten O. van Villamartin, 11.vi.1960, Exc. Spanje"; 1 ♀ (RMNH), paratype, with same data as holotype; 1 ♀, paratype, (RMNH), "Museum Leiden, [Portugal], Estramadura, Caldas de Reina, 70 m, 14.v.1958, exc. Portugal"; 2 ♀♀, paratype, (RMNH, one has metasoma missing), "Museum Leiden, [Portugal], Estramadura, Trajouce bij San Domingos de Rana, 15.v.1958, exc. Portugal"; 1 ♀ + 1 ♂, (RMNH, ♀ has ovipositor missing), with same data as holotype; 1 ♂ (RMNH), "Esp., Alic. [= Spain, Alicante], Guadalest, 700 m, 1-2.vi.1978, H. Teunissen", "*Agathis pedias* Nix., det. G.E.J. Nixon, 1984"; 3 ♀♀ + 6 ♂♂ (RMNH, MNHN), "Museum Leiden, SE Spain, dept. Málaga, Exc. Univ. Leiden", "Churriana, n[ea]r airport Málaga, wasteland, 17.iv.1982, EIS UF65"; 2 ♂♂ (RMNH), "Museum Leiden, S Spain, n[ea]r Málaga, C. v. Achterberg", "Torremolinos, 12.iv.1984, ruderal area"; 3 ♂♂ (RMNH), id., but Calahonda, 16.iv.1984, chaparral with *Pinus*"; 1 ♀ (RMNH; head missing), "Museum Leiden, SE Spain, dept. Málaga, Exc. Univ. Leiden", "Calahonda, betw[een] Fuengirola & Marbella, 21-22.iv.1983, EIS UF44"; 1 ♀ + 1 ♂ (RMNH), id., but Benalmadena, 4 km S Torremolinos, 10-14.iv.1983, 0-50 m, near coast, EIS UF65; 1 ♀ (RMNH), id., but Puerto de la Torre, 7 km W of Málaga, 20.iv.1983, EIS UF66; 1 ♀ (MNHN), "[France], Toulon, Var, 1.vi.[19]52, J. Barbier"; 1 ♀ (MNHN), "Maroc, ex museaeo H. Vaucher, 1980"; 1 ♀ (RMNH), "[Algeria], Oran, 17.iv.[19]59, J. Barbier"; 1 ♀ + 1 ♂ (MNHN), "[Algeria], Oran, D 20, Al Ançor, 30.iv.[19]61, J. Barbier"; 1 ♂ (MNHN), "[Algeria], Oran, Route D 91, Al Ançor, 24.iv.[19]60, J. Barbier"; 1 ♂ (MNHN), "[Algeria], Oran, 20.iv.[19]58, J. Barbier".

Paratype from Villa Martin: length of body of 4.8 (mean: 4.7) mm.

Head.— Head moderately short, distinctly tapering ventrad (fig. 289), width of head below eyes 1.1 times median height of face and clypeus combined, its length in frontal view 1.7 (= mean) times maximum width of face; face nearly smooth; height of

eye 1.7 (mean: 1.8) times length of malar space; stemmaticum weakly prominent (figs 290, 292) but sometimes rather protruding (fig. 293), ante-ocellar area medium-sized triangular and moderately impressed (sometimes rather small), rather protruding, without median keel; antenna with 22-25 segments, slender; galea obtuse apically (fig. 290), 0.6 (mean: 0.7) times height of eye, and 0.3 (mean: 0.4) times height of head.

Mesosoma.— Length of mesosoma 1.95 (mean: 1.8) times its height; side of pronotum largely smooth, punctate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, with some punctulation or punctation; scutellum flat; notauli rather shallow, complete, narrowly crenulate, and with long medio-posterior groove; mesopleuron largely smooth, with some punctulation; precoxal sulcus only medially present, narrow, and finely crenulate; metapleuron punctate medially, coarsely rugose ventrally; usually propodeum extensively punctate-rug(ul)ose and small smooth areas, but sometimes with large smooth central areas, both medio-longitudinal carinae distinct or mingled with rugosity.

Wings.— Fore wing: marginal cell rather large, with SR1 slightly curved; r:3-SR:SR1 = 2:5:32; second submarginal cell subquadrangular or subtriangular; 2-R1 0.8 times 1-R1. Hind wing: M+CU:1-M = 28:23.

Legs.— Length of femur, and tibia of hind leg 3.0, and 7.0 times their maximum width, respectively; length of hind tibial spurs 0.30 and 0.35 times hind basitarsus; tarsal claws robust, with small but distinct acute lobe; outer side of middle tibia with a row of 8-11 pegs close to each other and above apical patch of pegs.

Metasoma.— Length of first tergite 1.3 times its apical width (figs 288, 294), its surface finely punctate-striate and rugulose; length of second tergite equal to its basal width, smooth, with comparatively large subcircular medio-basal swelling (figs 291, 294); remainder of metasoma smooth; mean length of ovipositor sheath 1.50 times fore wing, and twice length of metasoma.

Colour.— Black; apical third and subbasal ring of hind tibia, pterostigma and veins dark brown; fore and middle legs, and remainder of hind tibia yellowish-brown.

Distribution.— *Algeria; Greece; *Morocco; Portugal; Spain.

Biology.— Unknown.

Notes.— Second metasomal tergite is completely smooth or finely aciculate around the basal swelling or with some punctures; one male from Oran has this tergite largely covered by superficial curved aciculate-rugulae.

Agathis persephone Nixon, 1986
(figs 117-122)

Agathis persephone Nixon, 1986: 206 ("♂ ♀, 5.5-6.0 mm (excluding ovipositor). Black with no hint of paler colouring on gaster. Hind femur black. ♀. Head in facial view short, subtriangular; from above, hardly distinguishable from that of *polita* (cf. fig. 23). Keel between antennal insertions weak to almost absent. In front of the anterior ocellus a fairly well-defined, somewhat projecting, V-shaped cavity. Galea rather short, twice as long as wide, hardly as long as malar space, 10:11. Antenna long, somewhat tapered towards apex, 25-segmented. Thorax in profile considerably elongate, almost twice as long as wide, 9:5. Mesoscutum without trace of notaulices. Mesopleurum very short, weak sternaulus, separated from posterior corner of mesopleurum by fully its own length. Areolet of fore wing triangular, with distinct basal stalk (1 ex.!); distal abscissa of postmarginalis fully 0.66 times as long as proximal abscissa. Outer side of middle tibia with 4

teeth, the two apical ones not easy to see because of infuscation of tibia; inner spur of hind tibia much less than half as long as basal segment of hind tarsus; hind claw with pale, angular projection rather than lobe. Side panels of propodeum in far greater part smooth, polished. Gaster beyond tergite 1 decidedly long, narrow; tergite 1 slightly longer than apically wide with vague rugosity towards sides but virtually smooth across apical third. Ovipositor sheath fully as long as body. ♂. Like female but head, seen from above, slightly more produced backwards behind eyes. Antenna 26-27-segmented. Sternaulus absent in one example, hardly indicated in the other. Areolet of fore-wing triangular. Comments. This species is distinct because it lacks notaulices. The short head, in facial view, together with the ornamentation of the frons, suggests a probable relationship with *varipes*.) [examined].

Material.— Holotype, ♀ (RMNH), "Holotype", "Museum Leiden, [France], Aspin, 680 m, 5.vii.1951, H. Teunissen", "*Agathis persephone* Nixon, 1984"; 1 ♂ (RMNH), "France, Lot[haringen], Figeac, 1.vi.1977, Jo Teunissen", "*Agathis persephone* Nixon, Paratype ♂, 1984"; 2 ♀♀ (RMNH), "Frankrijk, 1 km N van St. Mars de Coatais, Loire inf., 30.v.1955, exc. Museum Leiden".

Holotype, ♀, length of body 6.0 mm.

Head.— Head rather robust, distinctly tapering ventrad (fig. 121), width of head below eyes 1.3 times median height of face and clypeus combined, its length in frontal view 1.4 times maximum width of face; face nearly smooth; height of eye 1.8 times length of malar space; stemmaticum distinctly prominent (fig. 120), ante-ocellar area short small, triangular and with obsolescent impression, hardly protruding, with low and short median keel, not protruding near antennal sockets; temple rather projecting posteriad (fig. 117); antenna with 25 segments (up to 27 segments in other specimens); galea obtuse apically (fig. 120), 0.6 times height of eye, 1.6 times malar space, and 0.35 times height of head.

Mesosoma.— Length of mesosoma 1.9 times its height; side of pronotum largely smooth, punctate-rugulose anteriorly, and narrowly crenulate near posterior margin; mesoscutum largely smooth, with some sparse punctation; scutellum smooth, rather flat; notauli completely absent; mesopleuron largely smooth, with some punctures laterally; precoxal sulcus only medially present, narrow, and indistinctly crenulate; metapleuron sparsely punctate medially; propodeum with large smooth central areas and remainder of propodeum rugulose-punctate, both medio-longitudinal carinae regular and distinct.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 118); r:3-SR:SR1 = 5:1:35; second submarginal cell triangular, with short petiolus; 2-R1 as long as 1-R1 (fig. 118). Hind wing: M+CU:1-M = 5:3.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.8, 6.8 and 6.3 times their maximum width, respectively; length of hind tibial spurs 0.3 and 0.4 times hind basitarsus; tarsal claws slender, with distinct acute lobe.

Metasoma.— Length of first tergite 1.1 times its apical width, its surface largely smooth, but sparsely striate and scaly; second tergite transverse, smooth; remainder of metasoma smooth; ovipositor sheath 1.60 times fore wing (1.27-1.90 times in other specimens), and 2.5 times metasoma.

Colour.— Black; apical third of hind tibia, pterostigma and veins dark brown; no distinct hind tibial subbasal ring; fore and middle legs and remainder of hind tibia dark yellowish-brown.

Distribution.— France.

Biology.— Unknown.

Agathis polita Nixon, 1968
(figs 123-128)

Agathis polita Nixon, 1986: 206, figs 8, 23 ("♀, 4-5 mm (excluding ovipositor). Black with no trace of paler colouring on gaster. Wings almost hyaline. Head in facial view markedly elongate and considerably constricted beneath eyes; seen from above, considerably prolonged backwards behind eyes. A sharp keel between antennal insertions unites above with a fairly distinct, V-shaped cavity in front of anterior ocellus. Antenna long, thin with 26-27 segments. Galea rather broad, not tapered to apex and distinctly a little longer than malar space, 5:4, and 2.5 times longer than wide. Thorax in profile markedly elongate. Notaulices at first sight wanting, indicated by barely visible, linear impressions. Sternaulus represented by short, hardly impressed line. Propodeum appearing highly polished, its twin keels virtually obliterated. Areolet of forewing triangular in holotype, distinctly 4-sided in paratype; distal abscissa of postmarginalis hardly shorter than proximal abscissa. Outer side of middle tibia with 8-9 irregularly spaced teeth; inner spur of hind tibia much less than half as long as basal segment of hind tarsus; hind claw with prominent lobe. Gaster decidedly narrow. Tergite 1 about 1.33 times longer than apically wide, smooth, polished. Ovipositor sheath a little shorter than head plus thorax. Host. Unknown. Comments. This is an extra-limital species and strictly has no place in this revision. It is included, however, because being virtually without notaulices it allows the following species, *persephone*, to be defined with more accuracy.") [examined].

Material.— Holotype, ♀ (TMA), "O[st] Jordan, J. Klapperich", "Zerkatal, b[ei] Romana", "200 m, 17.iv.1959", "*Agathis polita* Nixon, 198[4], holotype, ♀".

Holotype, ♀, length of body 4.3 mm, of fore wing 3.4 mm.

Head.— Head rather elongate, distinctly tapering ventrad (fig. 126), width of head below eyes 0.9 times median height of face and clypeus combined, its length in frontal view 1.9 times maximum width of face; face nearly smooth; lateral epistomal suture absent; height of eye 1.65 times length of malar space; stemmaticum rather prominent (fig. 128), ante-ocellar area elongate triangular and distinctly impressed, rather protruding, with distinct median keel (fig. 127), nearly straight dorsally; antenna with 26 (left) or 27 (right) segments, apical segments robust; galea rounded apically, only basally with some superficial granulation (fig. 128), 0.95 times height of eye, and 0.5 times height of head.

Mesosoma.— Length of mesosoma 1.6 times its height; side of pronotum smooth, except for crenulation near posterior margin; mesoscutum and scutellum smooth, shiny, rather sparsely setose; scutellar sulcus narrowly crenulate; notauli obsolescent, narrow, smooth; mesopleuron smooth; precoxal sulcus largely absent, only medially with a narrow, short, and almost smooth depression; metapleuron smooth, except for crenulate oblique groove and ventrally micro-sculptured; propodeum smooth except for two rows of punctures indicating area of both medio-longitudinal carinae (fig. 124).

Wings.— Fore wing: marginal cell rather large, with SR1 slightly curved (fig. 123); r:3-SR:SR1 = 5:2:52; second submarginal cell sessile triangular; 2-R1 0.7 times 1-R1 (fig. 123). Hind wing: M+CU:1-M = 5:4.

Legs.— Length of femur, and tibia of hind leg 3.1, and 6.3 times their maximum width, respectively; hind femur almost straight ventrally (fig. 125); tarsal claws robust, with small acute lobe.

Metasoma.— Length of first tergite 1.4 times its apical width, distinctly convex, its

surface smooth, except some micro-sculpture laterally; length of second tergite 0.9 times its basal width, smooth, with distinctly convex transverse elliptical medio-basal swelling (fig. 125); remainder of metasoma smooth; ovipositor sheath 1.25 times fore wing, and as long as body.

Colour.— Black; apical half of fore tarsus, middle and hind tarsi (except base of basitarsus), middle femur, apex of hind tibia, base of fore femur, palpi, parastigma, pterostigma, veins C+SC+R, 1-R1, and 2-R1 dark brown; veins below pterostigma brown; remainder of veins, of fore femur and of hind tibia, fore and middle tibiae pale yellowish; wing membrane subhyaline.

Distribution.— Jordan.

Biology.— Unknown.

Note.— The original description contains several errors, the most severe is the statement that the ovipositor sheath is “a little shorter than head plus thorax [= mesosoma]”; it is actually twice as long!

Agathis rostrata Tobias, 1963
(figs 166-169)

Agathis rostrata Tobias, 1963: 881, p.p. (“Close to *A. montana* Shest., from which it differs by the considerably shorter ovipositor and by the narrower head; from the other species of *Agathis* with ovipositor as long as metasoma, it differs by its well developed rostrum. Female.— 2.5-4 mm. Width of head less than its height; temple 0.3-0.4 times width of eye; ocellar triangle rectangular anteriorly; longitudinal diameter 1.5-1.7 times longer than transverse diameter of eye, and 1.5 times length of malar space, frontal crest weakly developed, branched apically; face 1.5 times longer than high; height of face twice height of clypeus; rostrum as long as height of head or slightly shorter; antenna as long as body or slightly shorter, 25 segmented; first flagellar segment 4 times longer than wide; segments of apical third of flagellum slightly to 1.5 times longer than wide; mesosoma almost twice as long as high; second cubital cell of fore wing triangular or petiolate; hind femur 4 times longer than wide; inner hind tibial spur 0.4 times hind basitarsus, fifth segment of hind tarsus as long as second or shorter, longer than third or as long; first metasomal tergite slightly longer than apical wide; second tergite twice as wide as long; ovipositor slightly longer or shorter than metasoma; propodeum completely sculptured, with small patches lateral of carinae, with 2 carinae; first metasomal tergite completely sculptured; second tergite only sculptured around medial convexity. Black; apices of fore and middle femora, sometimes large part of femora (including hind one), fore and middle tibiae (except apex of middle tibiae) yellowish-red; basal two thirds of hind tibia yellowish, with brown basal ring; apex of hind and middle tibiae brown; sometimes second metasomal tergite brown; wings darkened. Material.— Tselinogradskaya oblast, Northwest of Lake Zharkol, 17.vi.1957, 1 ♀ (holotype); 23.vi.1957, 1 ♀ (V. Tobias). Litovskaya SSR, Jurbarkas, 10.vii.1904 1 ♀ (Vinogradov-Nikitin).” Translated from Russian.; Shenefelt, 1970: 351; Tobias, 1976: 211; 1986: 285 p.p. (transl. 1995: 497); Sharkey: 1998: 524. Not: Nixon, 1986: 211-212.

Material.— Holotype, ♀ (ZISP), “[Kazakhstan], 10 km N. oz. [= Lake] Zharkol, S. Akmol ob., 17.vi.[1]957, [V.I.] Tobias”.

Holotype, ♀, length of body 3.0 mm, of fore wing 2.0 mm.

Head.— Head rather elongate and distinctly narrowed ventrad (fig. 167), width of head below eyes 0.9 times median height of face and clypeus combined, its length in frontal view 1.7 times maximum width of face, minutely punctulate, with short greyish pilosity; height of eye 1.4 times length of malar space; stemmaticum hardly promi-

ment (fig. 168), area in front of anterior ocellus slightly pit-shaped impressed, not protruding, without distinct median keel; antenna with 25 segments, apical segments slender; galea medium-sized (fig. 168), 0.9 times height of eye, 1.2 times malar space, and 0.4 times height of head.

Mesosoma.— Length of the mesosoma 1.5 times its width; side of pronotum largely smooth medially, sparsely punctate postero-dorsally, densely rugulose anteriorly, and distinctly crenulate near posterior margin; mesoscutum distinctly punctate laterally and scutellum sparsely and finely punctate; notauli complete, deep, distinctly crenulate, and without medio-posterior groove; mesopleuron largely smooth; precoxal sulcus narrow, finely crenulate, long, reaching posterior margin of mesopleuron and absent anteriorly; metapleuron remotely punctate, shiny medially, and rugose ventrally; propodeum largely rugose, with central areas smooth and shiny medio-longitudinal carinae weak and irregular.

Wings.— Fore wing: marginal cell small, short, with SR1 nearly straight (fig. 169); r:SR1 = 4:33; second submarginal cell small, triangular, with petiolus; 2-R1 short, 0.4 times 1-R1; 1-R1 strongly widened (fig. 169); pterostigma twice as long as 1-R1. Hind wing: M+CU:1-M = 13:11.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.2, 5.7 and 6.3 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.40 and 0.35 times hind basitarsus, respectively; tarsal claws slender, without distinct lobe (fig. 166); outer side of middle tibia without pegs submedially; hind femur rather slender.

Metasoma.— Length of first tergite 1.1 times its apical width, distinctly convex, its surface densely irregularly striate-rugose; length of second tergite 0.7 times its basal width, only near swelling irregularly aciculate, medio-basal swelling transverse elliptical; remainder of metasoma smooth; ovipositor sheath 0.50 times fore wing, 0.6 times metasoma, and 0.3 times body.

Colour.— Black; antenna, palpi, tegulae, pterostigma, veins, coxae, trochanters, base of fore femur narrowly, middle and hind femora (except apically), middle and hind tibia subbasally and apical third, tarsi (except basally), and metasoma (except black first tergite and second tergite laterally) dark brown; remainder of hind tibia pale yellowish; remainder of legs brownish-yellow; second tergite yellowish-brown laterally; wing membrane moderately infusate.

Distribution.— Kazakhstan (only locality of holotype); see note below.

Biology.— Unknown.

Note.— Part of the type series (viz., the paratype from Lithuania seen by Nixon (1986)) seems to belong to *A. fuscipennis* (Zetterstedt), and consequently, our interpretation of *A. rostrata* disagrees with Nixon's.

Agathis rubens Tobias, 1963
(figs 107, 109-110, 113)

Agathis rubens Tobias, 1963: 873 (Differs from the other species of the genus by the very weak or undeveloped notauli, combined with the almost complete reddish-yellow body and by the darker wings. Female. 5 mm. Head slightly wider than high, temple 0.5 times eye; ocellar triangle right-angled anteriorly; frons with distinct crest, which is branched medially; face 2.5 times wider than high; height of clypeus 0.5 times height of face; longitudinal diameter of eye 1.5 times transverse

diameter, slightly longer than malar space; rostrum shorter than length of malar space; antenna shorter than body, first flagellar segment 4 times longer than wide, segments of apical third of flagellum almost quadrate; mesosoma almost twice as long as high; notauli very weak and smooth; precoxal sulcus short and sculptured; second cubital cell of fore wing shorter than width of pterostigma, triangular; hind femur 3.5 times longer than wide; fifth hind tarsal segment longer than third segment and shorter than second; inner hind tibial spur 0.3 times hind basitarsus; first tergite of metasoma slightly longer than its apical width; width of second tergite 1.5 times its length; ovipositor slightly longer than metasoma; propodeum smooth, only laterally sculptured, with two longitudinal carinae; metasoma smooth. Reddish-yellow; head (except brown clypeus, and edges of face), antenna and lower part of mesosoma black; propodeum brown; wings infusate; pterostigma brown. Male: antenna with 20 segments, segments of apical third of antenna twice as long as wide; head posteriorly reddish-brown; mesosoma completely reddish-yellow, apex of metasoma black; wings less infusate than of females. Material. Kazakhstan, northeast sands Malie Barsuki, Koilibai, 4.viii.1931 1 ♂ (Lupova); Karagandinskaja oblast, Mt. Kok-Sadik, southwest Urkendeu, *Ferula caspica*, 22.vi.1958, 1 ♀ holotype, (V. Tobias). Translated from Russian); Shenefelt, 1970: 351; Tobias, 1986: 282 (transl. 1995: 489).

Material.— Holotype, ♀ (ZISP), “[Kazakhstan], g. [= Mt.] Kok-Sadik, yu-z. Urkendeu, (Karagand[inskaja oblast]), [on flowers of] *Ferula caspica*, 22.vi.[1]958, V. Tobias”, “*Agathis rubens* sp. n., opr. V. Tobias”.

Holotype, ♀, length of body 4.8 mm, of fore wing 4.4 mm.

Head.— Head robust, distinctly tapering ventrad (fig. 111), width of head below eyes 1.3 times median height of face and clypeus combined, its length in frontal view 1.2 times maximum width of face; face nearly completely smooth, with rather dense medium-sized greyish pilosity; clypeus convex, medio-ventrally concave, and largely smooth, except for some punctulation; lateral epistomal suture present, narrow; anterior tentorial pits large (fig. 111); height of eye 1.3 times length of malar space; stemmaticum slightly prominent (fig. 110), area in front of anterior ocellus moderately large and wide triangular and distinctly longitudinally impressed, slightly protruding and sloping ventrad, its sides raised up, wing-like (fig. 107), with distinct median keel, straight and obtuse dorsally; antenna incomplete (male with 20 segments); galea smooth and rather stout (fig. 110), 0.5 times height of eye, 0.6 times malar space, and 0.25 times height of head.

Mesosoma.— Length of the mesosoma 1.6 times its width; side of pronotum largely smooth, somewhat crenulate medio-anteriorly, narrowly densely setose postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, with some sparse punctulation; scutellum flat; notauli completely absent anteriorly, shallowly indicated posteriorly, smooth; medio-posterior groove rather deep and short, smooth; mesopleuron smooth; only posterior half of precoxal sulcus present, rather wide and largely smooth, almost reaching posterior margin; metapleuron sparsely punctate medially, rugose ventrally; propodeum largely smooth, both medio-longitudinal carinae strong and regular.

Wings.— Fore wing: marginal cell medium-sized, with SR1 straight (fig. 113); r:3-SR:SR1 = 3:1:37; second submarginal cell sessile, subtriangular (fig. 113); 2-R1 0.8 times 1-R1 (fig. 113); pterostigma 1.4 times as long as 1-R1; 1-R1 hardly widened. Hind wing: M+CU:1-M = 10:6.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.1, 6.3 and 6.4 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.40

and 0.35 times hind basitarsus, respectively; tarsal claws rather slender (fig. 112), with small acute lobe; middle tibia with a row of 4 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 1.1 times its apical width, rather convex, its surface smooth; length of second tergite 0.5 times as long as its basal width, its surface smooth, with convex and transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 0.80 times fore wing, 1.4 times metasoma, and 0.7 times body.

Colour.— Yellowish-brown; clypeus, face and frons laterally and malar space dorsally (yellowish-)brown; remainder of frons, temple, occiput and ovipositor sheath black; remainder of head, mesopleuron ventrally, and mesosternum dark chestnut-brown; palpi, antenna, pterostigma and veins dark brown; apical fifth of hind tibia slightly darker than pale brown remainder of tibia; wing membrane rather infusate. Male has apex of metasoma black and mesosoma completely yellowish.

Distribution.— Kazakhstan.

Biology.— Unknown.

Agathis rufipalpis Nees, 1814
(figs 296-301, 303, 305)

Agathis rufipalpis Nees, 1814: 192-193 (“Atra, nitida, palpibus maxillaribus (basi excepta), pedibusque ad partem rufis; alis fuscis, area secunda cubitali subsessili; primo segmento abdominis striolato; terebre corpore longiore. Long. lin. 2. Adn. Os ut in reliquis. Palpi maxillares testacei, primo articulo toto, secundo basi, nigris; labiales fusco-nigri (Caetera ut in Nro 1). Abdomen basi subrugulosum nec carinatum. Segmenta secundum et tertium obsolete partita. Pedes colorum distributione differunt: α . antici testacei, coxis, trochanteribus, femoribusque proxime ad basin subtus nigris, tarsis (ut et mediis) fuscis, primo articulo testaceo; medii nigri, femoribus apice tibiisque totis testaceis; postici nigri, tibiis testaceis, apice nigris. Nota. Individuum alterum mense Jun[io] in Pyrethro corymboso [prope Sickershausen] captum differt: terebra brevior, vix corpus aequante; caeteris tamen congruit, licet paulo minus sit. An pro species distinguendum? In priori metathorax gaudet plagis duabus oblongis laevigatis, in ista vero vestigia nulla sculpturae ejusmodi observo. β . Pedes omnes testacei, coxis nigris, trochanteribus posterioribus, femoribusque iisdem basi fusco-piceis, tibiis posticis, tarsisque anterioribusque apice, posticis totis fuscis. Alae obscurae, subhyaline, litura ordinaria obsoleta. Fem. Mas feminae omnino similis, eademque ratione variat. Variat insuper: b. area cubitali secunda minutissima, longissime petiolata, et aedeae angusta, ut vix discernatur. An species distincta? Saltem feminam, tali alarum structura insignem, nondum vidi. Hab[itat] in dumetis, sepibus, umbellatarum floribus gaudens. Aestate [prope Sickershausen].”); 1834: 129; Shenefelt, 1970: 352-353; Nixon, 1986: 199, figs 17, 36; Zettel & Beyarslan, 1992: 124 [type series lost; neotype designated below].

Material.— Neotype of *A. rufipalpis* here designated, ♀ (RMNH), “CH [= Switzerland], Graubünden, Sedrun, Ost von Zugviaduct, c. 1500 m, 11.viii.1991, P.L. Th. Beuk”; 1 ♀ + 1 ♂ (RMNH), “Finland, Turunja Porin, Lääni, SSW Dragsfjärd, 29.vii.1992, M. Söderlund, RMNH’97”; 1 ♀ (RMNH), “Switzerland, Valais, 10 km W Visp, 5.vii.1992, M. Söderlund, RMNH’97”; 1 ♀ (RMNH), “Frankrijk, 8 km OZO van La Roche Bernhard, Loire inf., 29.v.1955, exc. Museum Leiden”; 1 ♀ (MNHN), “[France], Var, Sollies-Pont, 16.vi.[19]45”; 1 ♀ (MNHN), “[France], Col de Vars, 7.viii.[19]50, B.A. Granger”; 1 ♀ (MNHN), “[France], Chartrettes, 17.viii.[19]41”; 1 ♀ (MNHN), id., but 19.vi.1942; 1 ♀ (MNHN), id., but 10.viii.1941; 1 ♀ (MNHN), id., but 17.viii.1941; 1 ♀ (RMNH), id., but 4.viii.1942; 3 ♀♀ + 4 ♂♂ (RMNH), “[Bulgaria], Rhodopi, Bojkovo, 12.vi.1977, A. Zaykov”; 1 ♀ + 2 ♂♂ (RMNH), id., but 23.v.1977; 1 ♀ (RMNH), id., but 15.v.1977; 1 ♀ + 1 ♂ (RMNH), id., but 25.v.1977; 2 ♂♂ (RMNH), “[Bulgaria], Rhodopi, Markovo, 23.vi.1978, A. Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, Belastisa, 28.viii.1977, A. Zaykov”; 2 ♀♀ + 2 ♂♂ (RMNH), “[Bulgaria], Rhodopi, Karamansi, 2.vi.1975, A. Zaykov”; 1 ♀ (RMNH), “[Bulgaria], Rhodopi, Sklaka, 23.ix.1977, A. Zaykov”; 3 ♀♀ (RMNH), “[Bul-

garia], Rhodopi, Mandrisa, 19.vi.1976, A. Zaykov"; 2 ♀♀ (RMNH), "[Bulgaria], Rhodopi, Sv. Marino, 12.vii.1976, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Strandja, Kiten, 23.vi.1983, J. Kolarov"; 1 ♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Madreck, 25.vi.1980, A. Zaykov"; 4 ♀♀ + 4 ♂♂ (RMNH), "[Bulgaria], Rhodopi, Erqupria, 21.vi.1977, A. Zaykov"; 1 ♀ (RMNH), id., but 18.vii.1980, J. Kolarov; 1 ♀ (RMNH), id., but 16.vii.1980; 1 ♀ (RMNH), "[Bulgaria], Rhodopes Mts., Martsiganitsa", "6.vii.1985, [A.] Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Batak, 4.vii.1972, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, n. Zdravets, 21.vi.1978, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Garvanovo, 18.vi.1975, J. Kolarov"; 1 ♂ (RMNH), "[Bulgaria], k. Buniovka, 26.viii.19]84, [A.] Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Trakia, Plovdiv, 29.iv.19]94, [A.] Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Rila, Borovec, 6.vii.19]94, [A.] Zaykov"; 1 ♂ (RMNH), "[Bulgaria], S. gora, P. colonii, 2.vii.19]94, [A.] Zaykov"; 2 ♀♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Petelovo, 15.vi.1977, A. Zaykov"; 1 ♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Mandrisa, 19.vi.1976, A. Zaykov"; 2 ♀♀ (BC), "Bolgarija, 10 km SV Sandanski, 600 m, lug poima r Bistritsa, 10.vii.1]978, Balevski"; 1 ♀ (BC), "Bolgarija, 5 km VSV Kljuts, 550 m, lug, 7.vii.1]978, Balevski"; 2 ♀♀ (BC), "Bolgarija, 30 km SSV Sandanski, 1100 m, lug, 12.vii.1]978, Balevski"; 1 ♀ (RMNH), "[Bulgaria], Stranja, Gramatikovo, 26.vi.1980, [A.] Zaykov"; 1 ♀ (RMNH), id., but 25.vi.1980; 2 ♀♀ (RMNH), "[Bulgaria], Stranja, Fakia, 25.vi.1980, [A.] Zaykov"; 2 ♀♀ + 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Sh. poljana, 20.vi.1976, A. Zaykov"; 7 ♀♀ + 1 ♂ (RMNH), id., but 13.vi.1977; 1 ♂ (RMNH), id., but 12.vi.1976; 2 ♀♀ (RMNH), id., but 10.vi.1977; 2 ♀♀ (RMNH), id., but 29.v.1976; 1 ♀ (RMNH), id., but 21.v.1976; 1 ♀ (RMNH), id., but 24.v.1976; 2 ♀♀ + 1 ♂ (RMNH), id., but 18.vi.1976; 1 ♂ (RMNH), id., but 28.v.1976; 2 ♂♂ (RMNH), id., but 22.v.1977; 1 ♂ (RMNH), id., but 11.viii.1976; 6 ♀♀ + 3 ♂♂ (RMNH), id., but 11.vi.1976; 1 ♀ (RMNH), "[Bulgaria], Rodopi, Nikolovo, 18.vi.1975, A. Zaykov"; 3 ♀♀ (RMNH), id., but 13.vi.1981; 1 ♀ + 1 ♂ (RMNH), id., but 29.vi.1975; 1 ♀ (RMNH), id., but 17.vi.1975; 1 ♀ (RMNH), id., but 30.v.1977; 2 ♂♂ (RMNH), id., but 10.vi.1977; 3 ♀♀ + 2 ♂♂ (RMNH), "[Bulgaria], Rhodopi, Laki, 5.vi.1978, A. Zaykov"; 1 ♀ (RMNH), "Andorra, Canillo, 1500 m, 4-23.vii.1979, J.B. Wolschrijn", "*Agathis rufipalpis* Ns, det. G.E.J. Nixon, 1985"; 2 ♀♀ + 1 ♂ (RMNH), "Spanje, ten Z van Monasterio, prov. Badajoz, 700 m, exc. Museum Leiden", "*Agathis fulmeki* Fi., det. G.E.J. Nixon, 1984" (1 ♀; 1 ♀: "*Agathis rufipalpis* Ns, det. G.E.J. Nixon, 1984"); 2 ♀♀ (RMNH), "Spanje, prov. Málaga, San Pedro de Alcantara, 12.v.1960, exc. Museum Leiden"; 2 ♀♀ + 1 ♂ (RMNH), "SE Spain, dept. Málaga, Puerto de la Torre, 7 km W of Málaga, 20.iv.1983, EIS UF 66, exc. Univ. Leiden"; 1 ♀ (RSM), "Spain, Pyrenées, Val d'Aran, 9.vii.1994, R.R.A[skew]"; 2 ♀♀ (RMNH), "SE Spain, dept. Málaga, exc. Univ. Leiden", "Calahonda, betw[een] Fuengirola & Marbella, 21-22.iv.1983, EIS UF 44"; 1 ♂ (RMNH), "Portugal, 12.v.1958, Caminha, Minho, exc. Museum Leiden".

Neotype, ♀, length of body 3.0 (mean: 3.7) mm, of fore wing 3.0 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 296), maximum width of head (including eyes) 2.4 times minimum width ventrally, width of head below eyes 1.1 times median height of face and clypeus combined, its length in frontal view 1.7 (mean: 1.7) times maximum width of face; face nearly smooth, punctulate, with rather dense, medium-sized greyish pilosity; clypeus convex and largely smooth, except some punctures; lateral epistomal suture obsolescent; height of eye 1.9 (mean: 1.8) times length of malar space; stemmaticum rather prominent, ante-ocellar area long and narrow triangular (longer than median keel in front of it) and very deeply impressed, protruding, sloping ventrad, with distinct and more or less acute median keel, straight dorsally; antenna with 24 segments (according to Nixon (1986) 24-28), apical segments rather slender; galea stout, apically obtuse (fig. 297), 0.7 (mean: 0.74) times height of eye, 1.3 times malar space, and 0.4 (mean: 0.44) times height of head; temple not widened dorsally, convex (fig. 297).

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely smooth, crenulate medio-anteriorly and punctate antero-ventrally, with few punctures postero-dorsally, and narrowly crenulate near posterior margin; mesoscutum and scutellum largely smooth, sparsely punctate; scutellum flat; notauli deep, com-

plete, narrow, very finely crenulate, and with rather long and narrow largely smooth medio-posterior groove; mesopleuron largely smooth, smooth above precoxal sulcus, distinctly punctate, posteriorly and remainder punctulate; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and finely crenulate; metapleuron rather punctate medially, coarsely punctate-rugose ventrally; subbasally propodeum with some transverse rugosity, with small smooth central areas and remainder of propodeum coarsely rugose, especially between both strong and regular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 300); r:3-SR:SR1 = 9:2.78; second submarginal cell subtriangular (or sessile triangular); 2-R1 1.1 times 1-R1 (fig. 300); pterostigma 1.8 times as long as 1-R1; 1-R1 slender. Hind wing: M+CU:1-M = 10:7.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.7, 5.9 and 6.0 times their maximum width, respectively; hind femur punctate and convex ventrally (fig. 303); length of inner and outer hind tibial spurs 0.4 times hind basitarsus, spurs slender (fig. 299); tarsal claws robust, with rather large acute lobe (fig. 298); middle tibia with a row of 6 robust pegs above apical patch of pegs.

Metasoma.— Length of first tergite equal to its apical width, distinctly evenly convex, its surface evenly and densely striate, smooth medio-posteriorly (often basal 0.8 striate, but sometimes completely so); length of second tergite 0.7 times as long as its basal width, smooth, with distinct transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.12 (mean: 1.14) times fore wing, 2.3 times metasoma, and 1.1 times body.

Colour.— Black; middle third of hind tibia pale yellowish, its apical 0.3 dark brown; remainder of hind tibia (except its weak subbasal infuscation), fore femur (except basally), fore tibia, middle femur narrowly apically, middle tibia (but infuscate apically), tarsi narrowly basally, yellowish-brown; three apical segments of maxillary palp brown, paler than both basal segments; pterostigma and vein (dark) brown; wing membrane rather infuscate. Sometimes basal half of metasoma with traces of yellowish-brown.

Distribution.— Belgium; Bulgaria; *Finland; *France; Ireland; *Portugal; *Spain; Sweden; *Switzerland; Turkey.

Biology.— Unknown.

Notes.— For characterizing *A. rufipalpis* Nees, the taxonomist encounters all the difficulties usual for dealing with species described by Nees; the original description is too imprecise to be of much use, his type series seems to be mixed, the type-material is destroyed, the species is very variable, etc. However, in this case subsequent *Agathis* revisers are all very much concordant and a neotype is designated in this paper to avoid confusion with similar species and to fix the current use of the name. Nixon (1986) correctly pointed out that this species is very much like *A. fulmeki*, and when the shape of the vertex, and the relative length of the malar space, are not carefully observed, the species are easily confused. The ante-ocellar area is usually distinct by its elongate shape, but it may be shortened or hardly impressed, and rarely it may be shaped as in *A. fulmeki*! The mesosoma is more robust (up to 1.6 times as long as high), the length of the eye may be 2.5 times (in males; in females up to 1.9 times) length of the malar space, and the hind basitarsus is largely dark brown. Nixon's sug-

gestion in the redescription of *A. rufipalpis* that the colour of the maxillary palp, the setosity of the clypeus, and the relative length of the hind tibial spurs would be of importance to separate it from *A. fulmeki* is incorrect because of the variation present in both species.

A. rufipalpis is very similar to *A. varipes* and *A. malvacearum*. From *A. varipes* it can be separated by the more tapered head (fig. 296 versus figs 311, 312, 314), but the shape of the head is similar to that of *A. malvacearum*. The latter, however, has the hind femur at least partly reddish or orange and the temple is flattened dorsally.

Agathis sculpturata Tobias, 1963
(figs 143, 145)

Agathis sculpturata Tobias, 1963: 879-880 ("Close to *A. semiaciculata* Iw., from which it differs by the smaller number of antennal segments, by the considerably longer antennal segments, by the subhyaline wings, and by its smaller size. Female.— 2.5-3 mm. Head as wide as long, temple 2.5-3 times shorter than width of eye; stemmaticum rectangular or sharp anteriorly; frontal crest weakly developed and branched; longitudinal diameter of eye 1.5-1.7 times its transverse diameter, and slightly longer than malar space; rostrum slightly longer or shorter than malar space; antenna shorter than body, with 19(3), 20(9), or 22(1) segments, segments of apical third of flagellum twice as long as wide; mesosoma 1.5 times longer than high; second cubital cell of fore wing quadrangular in 3 specimens, triangular in 7 or petiolate in 2 specimens; length of hind femur 4-5 times its width; inner hind spur 0.3 times hind basitarsus or slightly longer, fifth segment as long as second and longer than third; first metasomal tergite slightly longer than wide apically; second tergite twice as wide as long; ovipositor as long as meso- and metasoma combined, but sometimes only up to tegulae; propodeum sculptured, with smooth areas lateral of carinae, or without smooth areas, with 2-3 carinae, which may be almost fused apically; first and second metasomal tergites (sometimes except median convexity) longitudinally striate. Black; apex of fore and middle femora, fore tibia and base of middle tibia reddish-brown; basal two thirds of hind tibia yellowish, with brown basal ring, wings very pale, subhyaline, sometimes slightly darkened. Male: antenna with 19(6), or 20(2) segments; second cubital cell quadrangular (1), triangular (6) or petiolate (2 specimens). Material. Tselinogradskaya, valley of river Shabdar, Palimbia rediviva, 21.vi.1957, 2 ♀♀; 6 km Northwest from lake Ilektikol, *Ferula songorica*, 21.vi.1957, 1 ♀ (V. Tobias); Karagandinskaya oblast, Mts Koksengir, south of Zhana-Arka, *F. caspica*, 12.vi.1958, 1 ♀ + 5 ♂♂ (including holotype female); 11-16.vi.1958, 8 ♀♀ + 5 ♂♂ (V. Tobias). Note. In one male of this series collected June 14th, the second transverse cubital vein of fore wing is not developed (fig. 14g). One specimen from Mongolia (Northwest Mongolia, Khangai, 1887, 1 ♀ (Potanin)) differs from *A. sculpturata* sp. nov. only by the brown colour of the body, legs and antenna (antenna with 18 segments); possibly it is a colour aberration." Translated from Russian.); Shenefelt, 1970: 354; Tobias, 1986: 282 (transl. 1995: 494) [examined].

Material.— Holotype, ♀ (ZISP) "[Kazakhstan], Koksengir, Zhana-Arka, Karagandinskaya obl., 12.vi. [1]958, Tobias", "*Agathis sculpturatum* sp. nov., det. Tobias", "Holotypus *Agathis sculpturata* Tobias".

Length of body 2.7 mm.

Head.— Head short, distinctly tapering ventrad (fig. 145), width of head below eyes 1.15 times median height of face and clypeus combined, its length in frontal view 1.7 times maximum width of face; face nearly smooth; height of eye 1.3 times length of malar space; stemmaticum moderately prominent (fig. 145), ante-ocellar area short triangular and moderately impressed, without distinct median keel; antenna with 18 segments (up to 22 in other specimens), apical segments elongate (fig. 143); galea obtuse apically, 0.66 times height of eye, and 0.3 times height of head.

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely smooth, crenulate medio-anteriorly, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, sparsely punctulate or punctate; scutellum flat; notauli deep, complete, narrow, finely crenulate; mesopleuron mainly smooth, punctulate; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and crenulate; metapleuron sparsely punctate medially; propodeum largely smooth, with two strong and regular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell short, with SR1 weakly curved; second submarginal cell small triangular; 2-R1 about 0.5 times 1-R1. Hind wing: M+CU:1-M = 25:16 (of male paratype).

Legs.— Length of femur, tibia and basitarsus of hind leg 3.0, 6.1 and 9.3 times their maximum width, respectively; length of both hind tibial spurs 0.35 times hind basitarsus; tarsal claws without distinct acute lobe.

Metasoma.— Length of first tergite about equal to its apical width, its surface regularly and completely striate; second tergite transverse, nearly completely rugulose-striate, except latero-posteriorly; remainder of metasoma smooth; ovipositor sheath 0.78 times fore wing, and 1.3 times metasoma.

Colour.— Black; apical third and subbasal ring of hind tibia dark brown; fore leg and remainder of hind tibia dark yellowish-brown.

Distribution.— Kazakhstan.

Biology.— Unknown.

Agathis semiaciculata Ivanov, 1899
(figs 141-142, 144, 146-147)

Agathis semiaciculata Ivanov, 1899: 364 ("First and second metasomal tergites entirely or partly longitudinally striate. Body entirely black, shiny. Proboscis shorter than height of head, dark brown. Propodeum partly sculptured, with two longitudinal median carinae, which are diverging posteriorly. Tegulae black, base of wing and veins brownish. Second radiomedial [= submarginal] cell quadrangular, sessile. Legs black, fore and middle femorae apically and its tibiae more or less brownish or yellowish; hind tibia paler, with black ring subbasally and black apically; fore and middle tarsi brownish, hind one almost black. First metasomal tergite concave basally, entirely finely striate; second tergite striate, but basal convex area smooth. Rest of tergites smooth and with brownish tinge. Basally metasoma ventrally light brown with yellowish. Ovipositor sheath longer than metasoma, but shorter than body. Female. Body length 4-5 mm. June. Forest." Translated from Russian); Shenefelt, 1970: 354; Tobias, 1986: 282 (transl. 1995: 494); Nixon, 1986: 205, figs 13, 43; Sharkey, 1996: 11, figs 3f, 8b, 10a+b, 17e, 19a; 1998: 524 (syntypes from Ukraine lost).

Agathis striolata Shestakov, 1928: 224 ("Nigra. Maxillae et labium faciei a margine clypei anteriore usque ad insertionem antennarum aequilongae. Mandibulae apicibus exceptis rufae palpi labiales fusi. Carina frontalis inter antennis haud angulatim elevata. Facies nitida, punctis tenuissimis dispersis instructa. Thorax nigrum. Mesonotum nitidum, distincte punctulatum, scutellum ut mesonotum punctis instructum. Segmentum medianum rugosum, utrinque spatio laevigato minuto ornatum, in medio longitudinaliter bicarinatum carinulis postice divergentibus, spatium intercarinale punctatum, in dimidio postico carinulis tribus praeditum. Anguli prothoracis mesonoto similiter punctulati prothorace ipso antice transverso ruguloso. Mesopleurae punctulatae, medio supra sternauli spatio nitido laevi instructae, apud caulum ruguloso-punctulatum, segmenti mediani similiter, sternaulis crenulatis. Alae infuscaetae, cellula cubitalis secunda minuta, subtriangularis vel subquadrangularis, abscissa radii tertia evidenter curvata, nervus medianus trans lucidus, hyalinatus, ceteri stigmati similiter nigro-brunneo colorati. Pedes nigri. Trochantera secunda brunescencia secunda vel rufescencia, femora anteriora dimidio distali,

medio et apicae testacea; tibiae anteriores totae testaceae, mediae et posteriores apices nigrescente-infuscaetae, prope basim fusco annulatae; calcaria testacea, tarsi fusci articularum apicibus brunneo-variegatis, anteriores magis quam medii, medii magis quam posteriores. Abdominis segmenta supra et infra nigra, primum subcarinatum, totum longitudinaliter striatum, margine posteriore medio tuberculatum, ante tubercula elongato-foveolato impressem. Tergitum secundum longitudinaliter striatum, plaga basali laevi et nitida. Tergitum tertium longitudinaliter evidenter sulco transverso instructum et ut sequentia laevenitidumque. Terebra longitudinali corporis fere aequans. Long. 5 mm. Sarepta, Wolmann. *Agathis striolata* is close to *A. propinqua* Kok. but differs by the shape of the frontal crest, which is not protruding between the antennae, by the curved third part of the radial vein, by the punctate scutellum, by the sculpture of the first and second metasomal segments, by the length of ovipositor and by the colour of the legs." Translated from Russian); Shenefelt, 1970: 358; Tobias, 1986: 283 (transl. 1995: 494, as *striola!* and as synonym of *A. semiaciculata*).

Material.— 1 ♀ (RMNH), "[Bulgaria], R[h]odopi, Shiroka Polana, 24.vi.1975. A. Zaykov"; 1 ♀ (RMNH), id., but 16.v.1977, J. Kolarov; 1 ♂ (RMNH), id. but 24.vi.1975, A. Zaykov; 1 ♂ (RMNH), id., but 18.v.1976; 1 ♂ (RMNH), id., but 10.vi.1977; 1 ♂ (RMNH), id., but 13.vii.1977; 1 ♂ (RMNH), "[Bulgaria], R[h]odopi, Nikolovo, 10.vi.1977, A. Zaykov"; 1 ♀ (BC), "Bolgarija, 30 km SV G. Deltsev, 950 m, lug, 20.vii.[19]78, Balevski".

Mean length of body 4.4 mm.

Head.— Head moderately elongate, distinctly tapering ventrad (fig. 141), width of head below eyes 1.3 times median height of face and clypeus combined (fig. 141), its length in frontal view 1.6 times maximum width of face; face punctate, with rather dense medium-sized greyish pilosity; height of eye 1.2 times length of malar space; stemmaticum slightly prominent, almost flat (figs 141, 146), ante-ocellar area short triangular and very shallowly impressed, not protruding, without median keel; antenna usually with 26 segments; galea obtuse apically (fig. 146), 0.7 times height of eye, and 0.35 times height of head.

Mesosoma.— Length of mesosoma 1.25 times its height; side of pronotum punctate, rugulose dorso-anteriorly, crenulate medio-anteriorly, and distinctly crenulate near posterior margin; mesoscutum and scutellum punctate; notauli deep, complete, narrow, crenulate; mesopleuron largely smooth, punctulate dorsally and punctate ventrally; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and finely crenulate; metapleuron largely rugulose-punctate; propodeum with small smooth central areas (but their size is variable) and remainder of propodeum largely rugose-punctate, with two strong and regular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather short and narrow (fig. 147), with SR1 usually straight, sometimes slightly curved; r:3-SR:SR1 = 4:8:41; second submarginal cell small, subtriangular or subquadrangular; 2-R1 about 0.5 times 1-R1 (fig. 147). Hind wing: M+CU:1-M = 6:5.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.7, 5.8 and 7.5 times their maximum width, respectively; length of inner and outer hind tibial spurs about 0.3 times hind basitarsus; tarsal claws long, with tiny acute lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, its surface largely regularly striate; second tergite transverse, largely regularly striate, its medio-basal swelling distinctly convex, partly or completely smooth (fig. 142); remainder of metasoma smooth, transition to sculptured part of metasoma abrupt; mean length of ovipositor sheath 0.98 times fore wing, 1.9 times metasoma, and somewhat shorter than body.

Colour.— Black; apical half of hind tibia and subbasal ring dark brown; remainder of hind tibia rather dark yellowish-brown.

Distribution.— *Bulgaria; Kazakhstan; Russia (Caucasus); Switzerland.

Biology.— Unknown.

Notes.— We accept the interpretation of *A. semiaciculata* and the synonymy of *A. striolata* Shestakov with *A. semiaciculata* as proposed by Telenga (1955) because he is the first reviser and because the original descriptions agree well. We disagree with the synonymy of *A. propinqua* Shestakov as proposed by Fahringer (1937). It is clear from the remaining parts of the holotype that it concerns another species. The specimen listed by Nixon (1986) from Italy is misidentified and belongs to *A. mongolica* Tobias.

Species of *Agathis* with the second metasomal tergite entirely or largely sculptured are among the most difficult ones to separate. The size and the development of the sculpture may be related to the size of the available host larva; besides this host effect, it should be born in mind that sibling species may be involved. Therefore, our interpretation of these species is provisional, when the extent of the sculpture of the metasoma is the only difference.

Agathis syngenesiae Nees, 1814
(figs 257-263)

Agathis syngenesiae Nees, 1814: 192, 194 ("Nigra, orbita, thoracis dorso antico, abdomine (in mare antice) pedibusque rufis; metathorace undique punctato, obsolete bicarinato; terebra corpore longiore; alis fuscis, cellula secunda cubitali triangulari, petiolata. Fem. Long. lin. 3. Variat: α . Scutello rufo. - (Tab. IV. fig. 5 [length of ovipositor sheath about 1.2 times body]). α^* . Abdominis primo segmento macula nigra. β . Scutello nigro, seu nigro-fusco. β^* Abdomine ut in α^* . Mas. Caput saepe superne latius rufescens. Abdominis segmentum primum totum, vel apice saltem, secundum totum, tertium basi rufa. Variat: α . Orbita antica late rufa, occipite et vertice rufis, hic macula stemmatum nigra. Scutellum rufum, apice nigrum (fig. 4ab). β . Sola orbita rufa, scutellum nigrum. Abdominis primum segmentum basi nigrum. Habitat in floribus compositis, praecipue *Carduis* etc., rarius in *Erica*. Aestate [prope Sickershausen.]"); 1834: 133; Shenefelt, 1970: 358; Tobias, 1976: 209; 1986: 280 (transl. 1995: 488); Nixon, 1986: 196; Zettl & Beyarslan, 1992: 122 (type series lost; neotype designated below).

Vipio insularis Snellen van Vollenhoven, 1873: 192, 218-219, pl. 9-5+5a ("*Vipio niger*, in thorace castaneo-maculatus, abdomine, excepta basi, nitidissimo fulvo, sicut femoribus tibiisque, ♀, long. 5 mill. The first and only *Vipio* captured in our homecountry seems to me to be a new species of this genus, which is so strongly characterised by the ventrally lengthened head. The head is shiny black, antenna and palpi matt black; antero-dorsal border of eyes more or less yellowish. The mesosoma is black, with short and dense setosity, lateral lobes of mesothorax chestnut-brown, scutellum glabrous and very shiny black; mesothorax [ment is metathorax = propodeum!] coarsely granulate, without distinct areolation. Breast smooth and very shiny, as coxae and throchanters, which are black. Tegulae of the wings dirty brown, wings infumate except for a whitish stripe below the nutbrown [ptero]stigma. Metasoma very shiny and intensive yellow, except for the black half of the first tergite and ovipositor sheath, which is longer than the body. The belly has a yellow quadrangular protruding elongate squarish, laterally somewhat convex, plate, which seems to consist of two valves and seems to be the analogue of the cylinder of the body of the genera *Coleocentrus* and *Acoenites*. Femora and tibiae are orange, as the bases of the black tarsi; tips of hind tibiae are black. The female which is described here, was collected 6th September by Mr J.G. de Man near Koudekerke in Zeeland." Translated from Dutch.); Shenefelt, 1970: 338; Nixon, 1986: 230 (as species inquirendae) (holotype lost; synonymised with *A. syngenesiae* by the author (Snellen van Vollenhoven, 1878)).

Agathis insularis; Shenefelt, 1970: 338; Krikken et al., 1981: 258 (as synonym of *A. syngenesiae*).

Agathis tadzhica Telenga, 1955: 248 (transl. 1964: 231: "♀. Body and legs entirely reddish-yellow; hind tarsi and tips of hind tibiae black; antennae and palpi black. Head transverse, slightly tapering occipitad, entirely smooth, shining. Eyes markedly bulging laterally in anterior view of head, temporal region not visible. Genae longer than longitudinal diameter of eye. Maxillae shorter than temples. Clypeus with small lateral pits. Temples half as long as transverse diameter of eye. Distance between eye and posterior ocelli almost three times the ocellar diameter. Frontal suture very slight. Antenna filiform, thickened, 24-jointed, shorter than body. Mesoscutum and scutellum smooth, shining. Notauli deep, smooth, forming a common posterior groove. Scutocutellar suture narrow, with slight transverse notches. Prothorax and sides of mesothorax smooth, shining; latter with almost smooth ventral groove. Propodeum completely rugulose, except apically, with two longitudinal median carinae. Metasoma smooth, shining, as long as mesosoma. First tergite 1.5 times as long as wide, with lateral margins subparallel; second tergite transverse, with scarcely visible transverse median depressions. Ovipositor as long as body. Wings somewhat clouded; wing covers red; stigma and veins brown. Median vein completely visible. Second cubital cell triangular, not stalked; first cubital crossvein almost three times as long as proximal section of radius. Distal section of radius straight, submedian crossvein rising just beyond basal vein. Hind coxae more than one third as long as proximal tarsal joint. Claws with broad basal denticle. Length 5 mm. ♂ unknown. USSR, Tadzhikistan, Zavar, E. Kuznetsova."); Shenefelt, 1970: 359; Tobias, 1986: 280 (transl. 1995: 488). **Syn. nov.**

Agathis gilvus Papp, 1975: 302-306, figs 1-4 ("♀. Body 5 mm long. Head transverse, twice as broad as long (from above), as broad as high (in front, fig. 1). Eye somewhat protruding from outline of head, tempora behind eyes (from above), rounded, constricted. Ocelli on high triangle, distance between fore and hind ocelli longer than diameter of latter (5:3), distance between hind two ocelli twice as long as diameter of an ocellus; POL=OOL. Occiput strongly sinuate. Vertical diameter of eye longer than cheek (22-24; 20 in lateral view, fig. 2). Rostrum about as long as cheek, maxillar palpi somewhat longer, labial palpi shorter than cheek. Head polished, face with extraordinary very fine punctation, perceptible at x50-60. Antenna shorter than body, 4 mm, 25 jointed, flagellar joint 1 nearly 4 times as long as wide, further ones gradually shortening and hardly attenuating so that penultimate joint 1.5 times as long as wide. Thoracic length, height, and width as 65-68:40-42:23-25. Head broader than thorax (30-32:23-25). Thorax, except propodeum, polished. Parapsides evenly deep, finely crenulated, meeting each other on hind half of mesonotum and continuing in a short median furrow not reaching prescutellar furrow. Prescutellar furrow wide, with 5 crenulae. Propodeum vermiculate rugose, weakening to its anterior-lateral third-fourth, its declivous part (laterally from carina) subrugulose. Two medio-longitudinal carinae distinct but weak. Sternauli narrow, deep, finely crenulated, extending on posterior half of mesopleura and almost reaching hind marginal suture. Legs normal. Hind femur 3.5 times as long as broad. Hind tibia as long as hind trochanters and femur together. Hind tibial spurs unequal, inner one as long as one-third of basitarsus, outer one shorter. Fore wing (fig. 3 [2-R1 0.8 times 1-R1]), shorter than body, 4 mm long. Metacarp slightly longer or as long as stigma. Radial vein (r) curved. Areola (Cu1) three-sided and more or less petiolate (never sessile). d1 very short, d2 almost 5 times as long as d1. Abdomen somewhat longer than head and thorax together. Tergite 1 (fig. 4) 1.6-1.65 times as long as greatest width before its end, gradually widening posteriorly and rounded behind. Tergite 2 subquadrate, somewhat wider at its anterior margin than long. Excavate fore half of 1st tergite almost indistinctly striated, otherwise every tergite and sternite smooth and shiny. Ovipositor sheath and ovipositor nearly twice as long as body, 9-9.5 mm. Body reddish yellow, abdomen rather light reddish yellow. Antenna brown to dark brown. Margin of clypeus, subclypeus and rostrum brown; palpi brown to light brown. Ocellar field black, vertex and occiput more or less brownish. Propodeum, meso- and metasternum brown to blackish brown. Last tergite dark brown. Ovipositor sheath blackish brown. Legs rather yellow. Coxae 2, trochanters 1-2 weakly brownish fumous. End of tibia 3 blackish, tarsi 2-3 dark fumous. Wings brownish fumous. Veins brownish yellow pigmented. Male similar to female, however, differs in the following features: body 4-4.5 mm long. Antenna 26 jointed. Tergite 1 more strongly widening posteriorly, only 1.4 times as long as its greatest width before its end. Tergite 2 transverse, its hind width one-third greater than its fore width, its length shorter than fore width (16-18:22-24).

Dark colour more extended. Mesopleura, mesosternum, metanotum, propodeum, metathorax, and last five abdominal segments blackish brown. Host unknown. Localities: 1. Spalato (= Split, Dalmatia), 2 ♀♀ and 1 ♂ (1 ♀ holotype, 1 ♂ allotype, 1 ♀ paratype), leg. Horváth.- 2. Cavtat, Dalmatia, viii.1906, 1 ♂ leg. Horváth. Holotype (Hym. Typ. No. 2336), allotype (Hym. / Typ. No. 2337) and paratypes (Hym. Typ. no 2338-2340) are deposited in the Hungarian Natural History Museum, Budapest. The new species seems to be closely related to *Agathis tadzhica* Tel. (USSR: Tadjikistan), but differs as follows: 1. Cheek shorter than vertical diameter of eye (fig. 2) (Cheek longer than vertical diameter of eye in *A. tadzhica*); 2. Prescutellar furrow wide (as wide as half length of scutellum), with 5 strong crenulae (Prescutellar furrow narrow, with weak crenulation); 3. r2 curved, areola more or less petiolate (fig. 3) (r2 straight, areola (Cu2) sessile); 4. Propodeum vermiculate rugose (Propodeum weakly rugose); 5. Tergite 2 subquadrate, slightly wider anteriorly than its length (fig. 4) (Tergite 2 transverse, wider anteriorly than its length); 6. Ovipositor sheath nearly twice as long as body (Ovipositor sheath as long as body). *Agathis syngenesiae* Nees (Europe, Asiatic USSR) is another species near to *A. gilvus* sp. n., however, the differences between them are few and sufficient to warrant the specific value: 1. Cheek shorter than vertical diameter of eye (fig. 2) (Cheek longer than vertical diameter of eye in *A. syngenesiae* Nees); 2. Antenna 25 (♀) and 26(♂) jointed (Antenna 28 jointed (♀♂)); 3. Head close behind eye gradually constricted (Head behind eye not constricted); 4. Sternauli deep, finely crenulated (Sternauli as a weakly punctate furrow); 5. Ovipositor sheath nearly twice as long as body (Ovipositor sheath about the length of body); 6. Body reddish yellow with more (♂) or less (♀) blackish or brown patterns (Body black with rich reddish yellow patterns (Prothorax, mesonotum, scutellum, abdomen, head partly). *Agathis kolazyi* Fi. was described from Dalmatia, Ragusa (= Dubrovnik) (Fischer, 1959), however, much less related to the new species than the two previous ones. 1. 1st tergite 1.6-1.65 times (♀) and 1.4 (♂) as long as broad before its hind margin (fig. 4) (1st tergite as long as broad at hind margin in *A. kolazyi* Fi.); 2. Areola (Cu2) distinctly three-sided, r2 curved (fig. 3) (Areola (Cu2) four-sided, r2 straight); 3. Cheek shorter than vertical diameter of eye (Cheek as long as vertical diameter of eye); 4. Distance between hind two ocelli twice as long as diameter of an ocellus (Distance between hind two ocelli thrice as long as diameter of an ocellus); 5. Body reddish yellow with few dark patterns (Body black with few reddish patterns (side of prothorax, mesonotum, tegulae, largs partly).”). **Syn. nov.**

Material.— Neotype of *A. syngenesiae* here designated, ♀ (RMNH), “[Netherlands], [den] Haag, viii.”, “*Agathis syngenesiae* Ns, det. G.E.J. Nixon, 1984”; holotype of *A. gilvus*, ♀ (TMA), “[Croatia], Spalato [= Split, Dalmatia], Horv[áth], [1]914”, “Holotypus *Agathis gilvus* sp. n., ♀, Papp, 1975”, “Hym. Typ. No. 2336, Mus. Budapest”; 1 ♀ (ZMB), “Bst, 23.vii.”, “*Agathis syngenesiae* / *Agathis umbellatarum* N.v.E.”; 1 ♀ (ZMB), “Deutschland”, “12562”, “*Agathis syngenesiae* N.v.Es.”; 1 ♀ (RMNH), “Italia, Toscana, Lajano (PI), 21.viii.1995, P.L. Scaramozzino”; 3 ♀♀ + 1 ♂ (RMNH), “Museum Leiden, Z.W. Frankrijk, St. Girons Plage, (Landes), duinen bij [= dunes near] Camp[ing] Les Tourtelles, 8.vii.1970, Ph. Pronk (23a)”, “on flowers of *Helichrysum stoechas* L.”; 1 ♂ (RMNH), “Museum Leiden, Frankrijk, (Lot.), Souillac, langs N20, 5.viii.1970, Ph. Pronk (65)”; 1 ♀ (RMNH), “France, Carpentras, 6.viii.1912, H. Teunissen”; 1 ♂ (RMNH), “Museum Leiden, France, Villemoustassou, (Aude), 13.ix.1955, H.C. Blöte”; 1 ♀ (RMNH), “Portugal, Alg[arve], Vale do Lobo, 6-10.vii.1977, P.M.F. Verhoeff”; 1 ♀ (RMNH), “[Poland], Danz[ig; = Gdansk], Brisch[ke]”; 1 ♂ (RMNH), “[Netherlands], Terschelling, 1-7.viii.[19]50, [P.H.] v. Doesburg Jr.”; 1 ♂ (RMNH), “Museum Leiden, Holland, Exc. Terschelling, W. Terschelling, Swartdune, 19.vii.1967, C. v. Heijningen”; 1 ♂? (RMNH), id., but dunes near Doode-manskisten, 6.vii.1967, Ph. Pronk”; 1 ♂ (RMNH), id., but 11.vii.1967; 2 ♀♀ (RMNH), “[Netherlands], Terschelling, 20.vii.1947, P.M.F. Verhoeff”; 1 ♂ (RMNH), “[Netherlands], Katw[ijk] a[an] Z[ee], 15.vii.[18]66, C. Ritsema”; 1 ♂ (RMNH), “[Netherlands], Terschelling, viii.1952, opn[ame] 7, vak II”; 1 ♂ (RMNH), id., but 10.viii.1951, opn. 5, vak I; 1 ♀ (RMNH), id., but vak III; 1 ♀ (RMNH), id., but vak IV; 1 ♂ (RMNH), id., but 13.viii.1951, opn. 7, vak III; 1 ♀ + 1 ♂? (RMNH), id., but 11.viii.1951, opn. 8, vak II.

Neotype of *A. syngenesiae*: length of body 5.3 (mean: 5.9) mm, of fore wing 4.6 mm.

Head.— Head elongate, distinctly tapering ventrad (figs 257, 261), width of head below eyes about equal to median height of face and clypeus combined, its length in frontal view 1.6 (mean: 1.54) times maximum width of face; face nearly smooth, with punctulation and rather inconspicuous, short greyish pilosity; clypeus convex and largely smooth, except some punctulation; lateral epistomal suture present as a narrow line; height of eye 0.9 times length of malar space; stemmaticum not prominent (figs 257-259), frons comparatively short, ante-ocellar area absent, with median keel anteriorly and absent posteriorly (but may be complete in other specimens); antenna with 27 (25-28) segments, apical segments slender; galea obtuse apically, short and usually hardly longer than wide (figs 258-259), 0.65 (mean: 0.4) times height of eye, 0.6 times malar space, and 0.3 (mean: 0.14) times height of head.

Mesosoma.— Length of mesosoma 1.5 (mean: 1.6) times its height; side of pronotum largely smooth, densely finely punctate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, with some sparse punctulation; scutellum flat, distinctly crenulate medio-posteriorly; notauli deep, complete, narrow, finely crenulate, and with long and narrow medio-posterior groove; mesopleuron largely smooth, with some punctulation; precoxal sulcus only anteriorly absent, reaching posterior margin, very narrow, and finely crenulate; metapleuron largely smooth, sparsely punctate medially, narrowly rugose ventrally; propodeum nearly entirely coarsely reticulate, with small smooth areas anteriorly, and no distinct medio-longitudinal carinae. Some specimens have the propodeum superficially sculptured and almost smooth posteriorly.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 260); r:SR1 = 9:78; second submarginal cell triangular and with long petiolus (fig. 260; usually much shorter in other specimens, sometimes longer and second submarginal cell almost absent: fig. 263); 2-R1 1.0-1.2 times 1-R1 (fig. 260, 262-263); pterostigma 1.9 times as long as 1-R1; 1-R1 rather slender (fig. 260). Hind wing: M+CU:1-M = 10:6.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.2 6.8 and 7.2 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.45 and 0.35 times hind basitarsus; tarsal claws robust, with rather small acute lobe; middle tibia with 2 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 1.4 times its apical width, medially rather convex, and remainder rather flat, its surface smooth; length of second tergite 0.7 times as long as its basal width, smooth, with transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.40 (1.14-1.92) times fore wing, 2.7 times metasoma, and 1.2 times body.

Colour.— Yellowish-brown; head (except clypeus ventrally) temples dorsally, frons laterally, pronotum antero-dorsally narrowly and posteriorly, mesoscutum postero-laterally narrowly, scutellum laterally, remainder of mesosoma, middle coxa and ovipositor sheath black(ish); fore and middle coxae largely, fore and middle trochanters and trochantelli, tarsi (except basally) dark brown; pterostigma and veins brown; wing membrane rather infusate. Very variable in colour: colour of body varies from entirely yellowish (except stemmaticum and mesosternum) to mesosoma and head being largely black; apical half of metasoma of males largely black.

Distribution.— *Croatia, France, Germany, Netherlands, Italy, *Poland, Portugal, Spain, ?Tadzhikistan, Turkey. According to Tobias (1976) also Russia, Azerbaidzhan,

and Dagestan. In The Netherlands only known from the dune district (including the Wadden Isles).

Biology.— Unknown.

Notes.— The type-material of *A. syngenesiae* Nees does not exist any more; in addition, Nees does not give any clues concerning the shape of the mouth-parts, and the relative length of the eye and the malar space (as is also the case for *A. umbellatarum* Nees). Therefore, there might be some doubt about the separation of the two species based only on their original descriptions: and in fact they differ only slightly from each other. However, it should be possible, because according to Nees, *A. syngenesiae* has the second submarginal cell petiolate (as figured by Snellen van Vollenhoven for his *A. insularis*), while his *A. umbellatarum* has this cell sessile.

The original description of *Agathis glaucoptera* might suggest that it is close to *A. syngenesiae*. Unfortunately, Nees does not mention in the original description the length of the ovipositor (should be much shorter than the body in *A. glaucoptera*, and it is distinctly longer than the body in *A. syngenesiae*). *A. glaucoptera* does not occur in Northwest Europe and Nees (1814) states that the latter is like *Agathis deflagrator* (Spinola, 1808; = *Cremonops desertor* (Linnaeus, 1758)) which disagrees with the figure given by Nees (1814) for *A. syngenesiae*. Therefore, we know with confidence which northwestern European species was named by him as *A. syngenesiae*.

According to Tobias (1986) *A. tadzhica* Telenga, 1955, differs from *A. syngenesiae* by the smooth notauli (should be sculptured in *A. syngenesiae*), by the less sculptured propodeum and by lack of a black pattern of the body. All three characters are variable and therefore, for the moment, there is no reason to recognise *A. tadzhica* as a valid species.

The holotype of *A. gilvus* Papp differs mainly by the longer ovipositor sheath and by the reduction of the black pattern of the body; the latter is seen in all Mediterranean specimens so far examined and is also reported for the Central Asian *A. tadzhica* Telenga. This South Palaearctic variety is characterised by having the hind coxa yellowish instead of dark brown or black as in Central and West European specimens.

Agathis tatarica Telenga, 1933
(figs 154-157)

Agathis tataricus Telenga, 1933: 247 ("♀. Schwarz. Wangen länger als die Augen. Fühler kürzer als die Körper, 28-gliedrig. Maxillae so lang wie die Wangen. Palpen schwarz. Mesonotum viel länger als breit, glatt und glänzend, nach vorn schwach verschmälert. Parasidenfurchen schwach. Schildchengrube dreiseitig, krenuliert. Mesopleuren mit fein krenulierter Furche. Metanotum runzlig, mit 2 parallelen Längsleisten, seitlich davon mit glatten Feldern. 1. Hinterleibsegment fein nadelrissig, hinten glatt; 2. Segment quadratförmig, glatt und glänzend, mit einem rundlichen Mittelfeld an der Basis. Bohrer länger als der Körper. Flügel verdunkelt. Die Medialader deutlich, nur an der Basis etwas verschwommen; Tegulae und Stigma schwarz. Die 2. Cubitalzelle 4-eckig. Der 3. Radiusabschnitt gerade. Beine schwarz; Schienen weisslichrot, nahe der Basis und am Ende schwarz. Länge 7 mm. Bohrer 10 mm. ♂ unbekannt. Kasakstan. Pavlodar. 15.vi. 1929 (Belkisin). Durch das quadratförmige 2. Hinterleibsegment und die Länge des Bohrers charakterisiert."); Tobias, 1986: 280 (transl. 1995: 489) (holotype lost).

Agathis tatarica; Telenga, 1955: 252 (transl.: 1964: 235-236); Shenefelt, 1970: 359; Tobias, 1986: 282 (transl. 1995: 489).

Agathis tatarica var. *kiritshenkoi* Tobias, 1963: 868 (described in key only), 873 (type series, no holotype indicated); Shenefelt, 1970: 359 [lectotype examined, designated below].

Material.— Lectotype of *A. tatarica* var. *kiritshenkoi* here designated, ♀ (ZISP), “Mong[olija], Gob[ijskij] Altaj, W predg Ichz-boldo, 24.vii.[19]26, [A.] Kiritshenko”.

Lectotype of var. *kiritshenkoi*, ♀, length of body 5.2 mm, of fore wing 4.2 mm.

Head.— Head robust (fig. 156), width of head below eyes 1.2 times median height of face and clypeus combined, its length in frontal view 1.5 times maximum width of face, minutely punctate, with rather dense medium-sized greyish pilosity; height of eye 1.66 times length of malar space; stemmaticum and depressed area in front of anterior ocellus not prominent (fig. 155), short triangular and slightly depressed area in front of anterior ocellus hardly protruding, without median keel (fig. 156); antenna with 28 segments; galea stout and rather obtuse (fig. 155), 0.9 times height of eye, and 0.45 times height of head; clypeus truncate ventrally (fig. 156).

Mesosoma.— Length of the mesosoma 1.7 times its width; side of pronotum largely smooth medially, distinctly punctate postero-dorsally, finely punctate ventrally, with some crenulae antero-medially, and distinctly crenulate near posterior margin; mesoscutum and scutellum sparsely punctate; notauli rather shallow, distinctly crenulate, and with long medio-posterior groove; mesopleuron largely smooth, with some punctation mainly anteriorly and dorsally; precoxal sulcus only medially impressed, rather narrowly crenulate; metapleuron remotely punctate, rugulose ventrally; anteriorly propodeum with some transverse carinae, remainder of propodeum smooth, shining, especially near both medio-longitudinal carinae, and carinae distinct, continuous, posteriorly with a third carina in between.

Wings.— Fore wing: marginal cell rather wide and comparatively short, with SR1 slightly curved (fig. 154); r:SR1 = 5:38; second submarginal cell triangular, without petiolus; 2-R1 0.9 times 1-R1 (fig. 154); pterostigma 1.4 times as long as 1-R1. Hind wing: M+CU:1-M = 25:20.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.4, 6.8 and 9.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.34 times hind basitarsus; tarsal claw with minute acute lobe; middle tibia with a row of 3 pegs submedially; fore tarsus slender.

Metasoma.— Length of first tergite 1.3 times its apical width, distinctly convex, its surface striate, but apical third largely smooth; second tergite basally as wide as long medially, smooth, with circular medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.71 times fore wing, 2.5 times metasoma, and 1.25 times body.

Colour.— Black (including palpi); apices of femora, fore and middle tibiae, basitarsi (except apically) yellowish-brown; hind tibia pale yellowish, with apical third brown and slightly infuscate subbasally; remainder of femora and tarsi, tegulae, pterostigma and veins, dark brown; second and third tergites brownish-orange; wing membrane somewhat infuscate.

Distribution.— Kazakhstan (type locality of typical *A. tatarica*), Mongolia (type locality of var. *kiritshenkoi*), Russia (Siberia).

Biology.— Unknown.

Notes.— The holotype of *A. tatarica* Telenga could not be found (Tobias, 1986) and is most likely lost. The most important clue in the original description is the quadrate second metasomal tergite, which is indeed unusual within the genus *Agathis*. For the

interpretation of this species, the lectotype of *A. t.* var. *kiritshenkoi* Tobias, 1963, has been used, because it fits the original description well except for the colour of the metasoma, but this is variable even within the type series of var. *kiritshenkoi*.

Agathis taurica Telenga, 1955
(figs 82-85)

Agathis taurica Telenga, 1955: 260, (transl. 1964: 243; "♀ ♂. Body, antennae, palpi and legs black; hind tibiae whitish, black-tipped. Head transverse, strongly narrowed occipitad, smooth, shining. Occiput slightly emarginate. maxillae somewhat longer than head. Genae as long as longitudinal diameter of eye. Clypeus with small basal pits. Temples much shorter than transverse diameter of eye. Antennal pits shallow. Distance between eyes and posterior ocelli three times the ocellar diameter. Maxillary palpi slender, elongated. Antennae filiform, 24-jointed, shorter than body. Mesonotum, scutellum, prothorax and sides of mesothorax smooth, shining. Parapsides smooth, deep. Scutoscutellar suture minutely notched. Sides of mesothorax not grooved. Sides of metamesosoma rugose ventrally, smooth elsewhere. Propodeum rugulose, mostly smooth, shining, with two longitudinal median carinae. Metasoma as long as mesosoma. First tergite slightly longer than apical width, rugulose in basal half only; other tergites perfectly smooth, shining; second tergite transverse. Ovipositor slightly shorter than head and mesosoma together. Wings slightly clouded, sometimes almost clear; wing covers black; stigma and veins brown. Second cubital cell wide, quadrate; basal length less than distance between recurrent and first cubital crossvein. Proximal section scarcely shorter than second section of radius; third section straight. Submedian crossvein interstitial or arising just beyond basal vein. Large hind tibial spurs little more than 1/3 of proximal tarsal joint. Claws with basal denticle. Length 4-5 mm. Distribution. U.S.S.R.: Simferopol (Bazhenov); Sevastopol (Pliginskii."); Shenefelt, 1970: 359; Tobias, 1986: 280, lectotype designation (transl. 1995: 488); Nixon, 1986: 204; Zettel & Beyarslan, 1992: 124 [examined].

Material.— Lectotype, ♀ (ZISP), "[Ukraine, Crimea], Sevastopol [no date], Pliginskij"; 1 ♀ (RMNH), "Bulgaria, Rila Mts", "v. Jastreber, 23.vii.1982, [A.] Zaykov"; 2 ♂♂ (RMNH), "[Bulgaria], Rhodopi, Markovo, 18.vii.1978, A. Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Tshepelare, 23.v.1977, A. Zaykov".

Length of body of lectotype 4.6 mm.

Head.— Head elongate, slightly tapering ventrad (fig. 82; less rectangular than in *A. montana* and *A. brevis* (figs 56, 79), width of head below eyes 0.9 times median height of face and clypeus combined, its length in frontal view 1.7 (mean: 1.8) times maximum width of face; face nearly smooth, with rather dense medium-sized greyish pilosity; lateral epistomal suture absent; height of eye 1.24 (mean: 1.43) times length of malar space; stemmaticum not prominent (figs 82-83), ante-ocellar area short triangular and very shallow, not protruding, without distinct median keel; antenna with 22 segments (other specimens with up to 25 segments), apical segments slender; galea acute apically (fig. 83), 1.7 (mean: 1.6) times height of eye, and 0.9 (= mean) times height of head.

Mesosoma.— Length of mesosoma 1.6 times its height; side of pronotum smooth, only with row of punctures near posterior margin; mesoscutum and scutellum smooth; scutellar sulcus absent; notauli deep, complete, smooth; mesopleuron smooth; precoxal sulcus entirely absent; propodeum largely smooth with two regular medio-longitudinal carinae, in other specimens sometimes very close to each other, resembling one carina.

Wings.— Fore wing: marginal cell rather narrow, with SR1 straight; r:3-SR:SR1 = 5:7:50; second submarginal cell almost subquadrangular (in other specimens often subtriangular); 2-R1 as long as 1-R1 or somewhat longer. Hind wing: M+CU:1-M = 15:14.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.3, 5.6 and 5.6 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.26 and 0.22 times hind basitarsus, respectively; tarsal claws with distinct acute lobe; middle tibia with a dense row of about 20 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 0.9 times its apical width, distinctly convex subbasally, its surface nearly completely smooth; second and following tergites transverse, smooth; ovipositor sheath 0.92 times fore wing, and 1.3 times metasoma.

Colour.— Black (including hind femur); apical third of hind tibia brownish; remainder of tibiae yellowish.

Distribution.— Ukraine (Crimea). According to Tobias (1986) also Armenia and Nixon (1986) added Turkey.

Biology.— Unknown.

Notes.— Contrary to Nixon (1986), we have examined the lectotype of *A. taurica*. Telenga's original description of the species is quite precise, although the terminology used is somewhat different from the modern one. Hence, we do not know whether his term "genae" is exactly equivalent to our term "malar space". Also the shape of the stemmaticum and the ante-ocellar area are not described as it would be necessary nowadays for a clear recognition of the species.

Agathis tibialis Nees, 1814
(figs 174, 176-180)

Agathis tibialis Nees, 1814: 194 ("Nigra, tibiis anticis totis, posterioribus basi, nigris [= fuscis, see following part of description]; terebra longitudine corporis; alis obscure fuscis [second submarginal cell quadrangular]. Long. lin. $2\frac{1}{2}$. Adn[otatio]. Os nigrum. Abdomen ut in praecedentibus [= *A. breviseta*]; segmento primo basi striato-subrugoso, deinceps laevi, impressione media profunda, angulum obtusum efformante; eadem tertii segmenti obsoleta. Terebrae valvulae nigrae, hirtae; seta laevis, picea. Pedes nigri, femoribus anticis apice; tibiisque iisdem totis, rufo-testaceis; tibiis posterioribus basi piceo-rufis, apice late nigris, mediis in quibusdam totis rufis, extremo tantum apice nigro; tarsis nigro-fuscis, basi rufescentibus. Alae obscurae, nervis et stigmatibus nigro-fuscis; litura solita distincta. Fem. β . Tibiis posterioribus annulo nigro versus basin, in parte rufa. Mas. Pedibus posterioribus basi latiori spatium rufis, colore laetiore. Hab. in sylvis. Mense Junio capta [prope Sickershausen]. Viennae. Dahl."); 1834: 132; Shenefelt, 1970: 360-361; [syntypes lost; neotype designated below]. Not: Nixon, 1986: 201-202, figs 33, 48, 53!

Agathis genualis Marshall, 1898: 192 ("♀ Corps luisant, noir, mâchoires et lèvres épaisses, plus courtes que la tête; ailes très peu enfumées; tarière aussi longue que corps. Semblable à *A. anglica* (page 565). Palpes noirâtres. Antennes de 24 articles. Metanotum giseux, avec deux carènes parallèles au milieu, et quelques rugosités vers les côtés. Stigma et nervures noirâtres; 2e cellule cubitale sessile, quadrangulaire, ses côtés très épaissis, interrompus. Pattes noires; les 4 tibias antérieurs et le sommet des cuisses roussâtres; tibias de derrière blanchâtres avec un anneau sombre près du milieu. Premier segment faiblement striolé, les suivants lisses. Cette espèce diffère d'*A. nigra* (page 564) par la taille, la longueur de la tarière, et la couleur des pattes; d'*A. anglica* par les antennes, où le nombre des articles est beaucoup moindre. ♂ Inconnu. Long $3\frac{1}{2}$ mm; Env. $6\frac{1}{2}$ mm. Patrie: Inconnue."); Shenefelt, 1970: 334 (holotype lost). **Syn. nov.**

Material.— Neotype of *A. tibialis* here designated, ♀ (RMNH), "[Netherlands], Otterlo, 15.viii.1975, B.

v. Aartsen"; 1 ♀ (RMNH), "Nederland, Nbr., Best, 19.viii.1986, A.P. Teunissen"; 11 ♀♀ (RMNH), "Netherlands, L., St. Pietersberg, 10. (1)-15. (10 ♀♀) viii.1986, C.J. Zwakhals [& Br. V. Lefeber]"; 1 ♀ (RMNH), id., but 17.viii.1985, B. v. Aartsen & Br. V. Lefeber; 1 ♀ (RMNH), id., but 24.ix.1986, C.J. Zwakhals; 1 ♀ (RMNH), id., but 21-28.viii.1989, B. v. Aartsen; 1 ♀ (RMNH), "Hungary, Törökbalint, swept, 24.viii.1986, H.J. Vlуг".

Length of body of neotype, ♀, 3.3 mm, and of fore wing 3.1 mm.

Head.— Head rather robust in frontal view (fig. 177), its width below eyes equal to height of face and clypeus combined, its length 1.6 times width of face; face with some short pilosity, largely smooth, and sparsely punctulate; clypeus hardly protruding in lateral view (fig. 178), smooth, but laterally finely punctate; length of eye 1.45 times malar space; stemmaticum rather prominent; ante-ocellar area slightly developed, no median keel, depression of ante-ocellar area shallow, narrow triangular (fig. 177); galea obtuse apically, shiny, superficially scaly micro-sculptured, its length 0.9 times height of eye, 1.3 times malar space, and 0.5 times height of head; antenna with 23 segments, slender (fig. 174).

Mesosoma.— Length of mesosoma 1.6 times its height; side of pronotum smooth, shiny, rugulose-crenulate anteriorly, sparsely punctulate dorsally and distinctly crenulate along posterior edge; mesoscutum and scutellum finely punctate or punctulate; notauli distinctly impressed, narrow, complete and crenulate; medio-posterior groove absent (in other specimens); mesopleuron smooth, shiny; precoxal sulcus long, narrow, reaching posterior mesopleural edge, deep and finely crenulate; meta-pleuron punctate, partly smooth and coarsely rugose ventrally; propodeum coarsely transversely rugose basally, with large smooth central areas, rugose laterally and between both strong, parallel longitudinal carinae.

Wings.— Fore wing (fig. 179): marginal cell rather small, robust, with SR1 straight; r:SR1 = 3:34; second submarginal cell sessile subtriangular and somewhat oval (fig. 179); length of vein 2-R1 weakly widened, 0.5 times vein 1-R1. Hind wing: M+CU:1-M = 20:13.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.6, 6.4 and 7.8 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.35 and 0.25 times hind basitarsus; tarsal claws robust, with rather small lobe (fig. 180); middle tibia with a row of 4 pegs above apical patch of pegs.

Metasoma.— Length of first tergite equal to its apical width, its basal 0.8 irregularly rugose-striate medially, finely striate laterally, with some finer sculpture among striae; second tergite superficially and irregularly rugulose around smooth and distinctly convex medio-basal swelling; second metasomal suture distinctly impressed; following tergites smooth, shiny; length of second tergite 0.6 times its basal width; length of ovipositor sheath 1.07 times fore wing, as long as body, and 2.1 times metasoma.

Colour.— Black; apical 0.4 of fore femur, fore tibia, fore tarsus (but apically darker), middle tibia (but subbasal ring and apical third dark brown), yellowish-brown; hind tibia (except apical third and subbasal ring) infuscate, rather dark yellowish-brown; middle and hind tarsi (but narrowly yellowish basally), pterostigma and veins dark brown; wing membrane distinctly infuscate.

Distribution.— Germany, *Hungary, *Netherlands.

Biology.— Unknown. Adults occur late in the season. According to Nixon (1986)

A. tibialis is a parasitoid of *Apodia bifractella* (Duponchel, 1843) and possibly *Ptocheuusa paupella* (Zeller, 1847) (both species belong to the Gelechiidae and are feeding in the flower-heads of *Pulicaria dysenterica* Linnaeus and *Inula squarrosa* Linnaeus) but his specimens belong in most cases to *A. varipes* Thomson.

Notes.— Nees' description of the species hardly provides a useful clue (only the length of the ovipositor, the colour of the hind tibia and the size of the body (one sixth smaller than *A. umbellatarum* or *A. syngenesiae*) excludes several species), and the syntypes (from Germany and Austria) are lost. Fahringer (1937) is the first reviser and he indicated that it is a parasitoid of *Coleophora* spp. (= *A. fuscipennis* (Zetterstedt)) Telenga (1955) accepted this view, but Tobias (1976, 1986) did not recognise the species. Nixon's (1986) interpretation is different and is not accepted here, because the specimens he identified do not fit with the original description; according to his redescription the hind femur is partly bright brownish-red and actually, these specimens belong to *A. varipes* Thomson. Other specimens identified by Nixon as *A. tibialis* have the hind femur dark and the ovipositor distinctly shorter than the body (and are conspecific with *A. fuscipennis* (Zetterstedt)). On the contrary, the interpretation by Fahringer fits the original description by Nees better except for the length of the ovipositor. We found an unrecognised species with darkened hind tibia, which was mentioned as a diagnostic character by Nees, which fits the original description better. A neotype is designated in this paper to stabilise the use of the name.

Agathis transcaucasica Abdinbekova, 1970
(figs 148-153)

Agathis transcaucasica Abdinbekova, 1970: 1882, fig. 2 ("Close to *A. caucasica* Tobias, from which it differs by its thicker femora (3 times longer than its maximum width, in *A. caucasica* 4 times), by the shorter ovipositor, and by having the second tergite almost completely sculptured and red, contrasting with the remaining black parts. Female.— 3.4-4.2 mm. Head higher than wide, temple 0.4 times eye; ocellar triangle rectangular anteriorly; longitudinal crest of frons distinct; longitudinal diameter of eye 1.5 times its transverse diameter, 1.5 times longer than malar space; rostrum slightly longer than malar space; antenna shorter than body, 25 segmented, first flagellar segment 3.5 times longer than wide, segments of apical part of flagellum 1.5 times longer than wide, apical segment twice as long as wide (fig. 2.1); mesosoma almost twice as long as high; second radio-medial cell of fore wing triangular or almost quadrangular (fig. 2.2); hind femur 3 times longer than wide; inner hind tibial spur 0.3 times hind basitarsus; fifth tarsal segment of hind leg as long as third segment and shorter than second segment. First metasomal segment slightly longer than its apical width; second tergite 1.3 times wider than long. Ovipositor as long as length of metasoma and mesosoma combined; propodeum sculptured, with two longitudinal carinae, first tergite of metasoma longitudinally striate, second tergite almost completely rugose. Black; apex of fore and middle femora and fore and middle tibiae and base of hind tibia reddish-brown; second tergite of metasoma red; fore and middle tarsi, and apex of hind tibia brown; wings slightly infuscate. Material: Azerbaidzhan, Masalli, village Tazekend, 14.v.1965, 1 ♀ (holotype), on clover; village Sevindzhli, 26.v.1965, 1 ♀, in vegetable garden, on cabbage." Translated from Russian.); Tobias, 1976: 210; 1986: 283 (transl. 1995: 494).

Material.— Holotype, ♀ (ZISP), "Az.SSR [= Azerbaidzhan], Masally, [illigible], 26.v.[19]65, Abdinbekova", "Holotypus *Agathis transcaucasica* Abdinbekova sp. nov."

Holotype, ♀, length of body 3.8 mm, of fore wing 3.3 mm.

Head.— Head moderately elongate (fig. 148), width of head below eyes equal to

median height of face and clypeus combined, its length in frontal view 1.8 times maximum width of face, finely punctulate, with rather short greyish pilosity; height of eye 1.8 times length of malar space; stemmaticum and ante-ocellar area nearly flat medially, distinctly prominent and sloping anteriorly in lateral view (fig. 149), comparatively long triangular, with straight and distinct median keel (fig. 151), not protruding near antennal sockets; antenna with 25 segments, penultimate segments subquadrate (fig. 153); galea rather robust (fig. 149), 1.4 times malar space, 0.7 times height of eye, and 0.4 times height of head.

Mesosoma.— Length of the mesosoma 1.7 times its width; side of pronotum largely smooth, punctulate postero-dorsally and antero-medially, finely crenulate near posterior margin; mesoscutum and scutellum mainly smooth, sparsely punctulate; notauli distinctly impressed, narrow and nearly smooth (posterior groove invisible because of pin); mesopleuron smooth; precoxal sulcus only medially distinctly impressed, distinctly crenulate, about 0.3 times length of mesopleuron; metapleuron remotely finely punctate dorsally, very coarsely reticulate-punctate ventrally; propodeum largely coarsely and irregularly rugose, with central areas superficially granulate, shiny, longitudinal carinae of propodeum irregular, only median carina rather distinct.

Wings.— Fore wing: marginal cell rather large, with SR1 slightly curved (fig. 152); r:SR1 = 11:100; second submarginal cell triangular and without petiolus (left wing: fig. 152) or trapezoid-quadrangular (right wing); 2-R1 0.7 times 1-R1; pterostigma about as long as 1-R1; 1-M strongly curved. Hind wing: M+CU:1-M = 15:12.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.5, 5.2 and 6.8 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.5 and 0.4 times hind basitarsus, respectively; tarsal claws with medium-sized acute lobe; middle tibia with a row of 10 pegs above apical row; hind femur rather punctate, robust (fig. 150).

Metasoma.— Length of first tergite 1.1 times its apical width, distinctly convex, its surface nearly completely coarsely and rather densely striate, with some micro-sculpture; second tergite 0.7 times as long as its basal width, its posterior half distinctly striate, with transverse elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.90 times fore wing, 1.65 times metasoma, and 0.4 times body.

Colour.— Black; second tergite orange-brown; fore femur, fore and middle tibiae, base of basitarsus brownish-yellow; trochantelli, basal half of middle femur, apical 0.4 of hind tibia, tarsi (except basally), palpi, pterostigma and veins mainly dark brown; subbasal infuscation of hind tibia obsolescent, remainder of tibia pale yellowish; wing membrane somewhat infuscate.

Distribution.— Azerbaidzhan.

Biology.— Unknown.

Agathis umbellatarum Nees, 1814
(figs 264-268)

Agathis umbellatarum Nees, 1814: 195 ("Nigra, thoracis dorso antico, abdomine (toto vel aliqua saltem parte in mare) pedibusque rufis; metathorace distincte bicarinato, rugulose, area utrinque juxta carinis laevisima, terebra corpore longiore; alis nigris, cellula secunda cubitali subquadrata, (in

aliis fere triangulari) sessili. Fem. Long. lin. 3. Mas. Abdomine nunquam toto rufo, valde variate: a. Abdominis primo secundoque segmento totis, tertio basi rufis; thoracis lobo antico toto, scapulis, tegulis, pleuris que anticis rufis. b. Abdominis segmento primo plus minus nigro; secundo rufo, (hoc in nonnullis margine postico nigricante). [Lists several varieties]. Hab. in umbellatis, praecipue Anetho graveolente, aestate [Sickershausen, Germany]. Obs. Species duae supra enarratae, licet notionibus suis distinctivis, essentiali caractere expressis, ab invicem separari facili negotio queant, immo vero earum prior ex methodo artificiali vel ad diversam familiam ableganda esset, si universum corporis habitum spected, nec partibus unice inhaereas, eodem fere typo its conformatas reperies, ut, nisi artis ope, vix distinguantur, licet pro genuinis speciebus habere eas, rationibus l. c. allatis, persuadeamur. Descr. Caput ut in reliquis, ore semper nigro. Thorax antice angustior, lateribus compressus, dorso antico lineis 2, profundis, punctatis, ante scutellum coeuntibus in lobos, sue colliculos 3, distinctos, laeves, pubescentes, diviso, quorum medius late obovatus, laterales oblongi, extus itidem linea punctate circumscripti. Pleurae laevia, arcu punctorum transversim impressorum, a parte antica ascendente, dein sub alis retrorsum curvato, et ad latera metathoracis descendente, insculptae. (Qualis sculptura et in reliquis hujus et praecedentis generis speciebus, plus minusve distincte expressa, observatur.) Scutellum laeve, punctorum impressorum transversali serie discretum. Metathorax sculpturae in utraque specie diversae. Abdomen laeve, dorso convexiusculo, primo segmento versus basin angustiore, ipsa basi retusa, subrugulosa, vel laeviuscula, deinceps laevi; - secundo ad basin et in medio profunde impresso, impressione media subangulata; reliquis decrescentibus; tertio impressione obsoleta. Venter ut in genere praecedente. Terebra corpore longior, valvulis hirtis, nigris, seta picea. Pedes ut in reliquis, rufi, coxis trochanteribus, tibiisque posticis apice, nigris, tarsis fuscis, articulo priimo testaceo, vel rufis, ungue nigro. Alae obscurae, nervis et stigmatibus fuscis; litura ordinaria distincta. Notae differentiales Agathidis syngenesiae et Agathidis umbellatarum. [Follows extensive comparison of both species.]; Shenefelt, 1970: 363-364; Nixon, 1986: 197; Tobias, 1986: 282 (transl. 1995: 491) [type-series lost; neotype designated below].

?*Agathis thoracica* Lucas, 1849: 338 ("Long. 5 millim.¹/₂, enverg. 11 millim.¹/₂. A. atre, prothorace antice rubro maculato; alis fusconigris, nervuris atris; abdomine rubro, segmento primo supra nigro maculato; pedibus rubris, horum duobus primis articulis femoribusque antice nigris, tibiis in tertio pari tantum ad basim totisque tarsis fuscis, his subtiliter rubescente annulatis. Femelle. La tête est lisse, d'un noir brillant. Les mandibules, ainsi que les palpes maxillaires et labiaux, sont de même couleur que la tête. Les antennes sont noires. Le prothorax, le mésothorax et le métathorax sont d'un noir brillant, avec le prothorax orné en dessus d'un tache rouge triangulaire; ils sont lisses, à l'exception cependant du métathorax, qui est finement ponctué sur ses parties latérales, et qui, en dessus, est assez fortement sillonné longitudinalement. Les ailes sont d'un brun noirâtre, avec les nervures noires et leur stigma de cette couleur. L'abdomen est rouge, avec le premier segment taché de noir en dessus et la tarière de cette couleur. Les pattes sont rouges, à l'exception des trochanters, de l'exinguinal, et de la naissance du fémoral, qui sont noirs. Je ferai aussi remarquer que le tibial, dans la troisième paire de pattes, est taché de brun, que tous les tarsi sont de cette couleur et finement annelés de rougeâtre. Cette petite espèce, dont je ne connais pas le mâle, habite les environs de Constantine; je l'ai prise, dans les premiers jours de mai, sur l'*Asphodelus ramosus* en fleurs."); Shenefelt, 1970: 360.

?*Agathis brullaei* Lucas, 1849: 338, pl. 19-2 ("Long. 6 millim.¹/₂, enverg. 12 millim. A. capite nigro-nitido, mandibulis rufescentibus, palpibus antennisque nigris; prothorace, mesothorace metathoraceque rubris, his attamen supra nigris; alis fusconigris, nervuris fuscis; abdomine pedibusque rubris, horum secundo articulo nigro. Femelle. La tête est lisse, d'un noir brillant. Les mandibules sont roussâtres; quant aux palpes maxillaires et labiaux, ils sont noirs, ainsi que les antennes. Tout le prothorax est rouge, ainsi que les parties latérales; quant au mésothorax et au métathorax, ils sont noirs en dessus et rouges sur leurs parties latérales. Je ferai aussi remarquer que le métathorax en dessus, est assez profondément sillonné longitudinalement. Les ailes sont d'un brun noirâtre, avec les nervures brunes et leur stigma noir. L'abdomen est rouge, ainsi que la tarière, avec les filets de chaque côté de celle-ci noirs. Tout le sternum, en dessous, est d'un noir brillant. Les pattes sont rouges, à l'exception de l'exinguinal, qui est noir. Je possède une variété femelle chez laquelle le mésothorax et le métathorax sont rouges. Quant au sternum et à l'exinguinal des pattes, ils sont légèrement teintés de brun. Cette espèce, dont je ne connais pas le mâle,

- et que j'ai trouvée, en mai, dans les environs du cercle de Lacalle, se plait sur les fleurs du *Thapsia garganica*.").
- ?*Agathis aurantiaca* Fahringer, 1937: 445 ("Rostrum so lang wie der Kopf. Fühler 24-gliedrig. Schaft kurz-eiförmig, Endglieder perlschnurartig abgesetzt. Clipeus am oberen Rand mit 2 Seitenrübchen. Gesicht wie der übrige Kopf, glatt, weißlich behaart. Fühlergruben mäßig groß, ohne Randleisten. Mesonotum glatt. Notauli crenuliert. Schildchen glatt, nicht gerandet. Praescutellargrube als crenulierte Furche angedeutet. Mediansegment glatt, nur hinten mit einigen Querrunzeln, an den Seiten mit Runzelspuren, ferner mit 3 Längskielen, der mittlere sehr fein. Radialzelle klein, schmal, endet weit vor der Flügelspitze. 2. Rcu-zelle (areola) viereckig, sitzend, z. T. klaffend. 3. Abschnitt des Radius gerade. Nervulus postfurkal. Klauen einfach. Hinterleib eiförmig, etwas gestreckt, vollkommen glatt, glänzend. 1. Tergit an den Seiten scharf gerandet, vorne in der Mitte tief ausgehöhlt. 2. Tergit an der Basis mit 2 Seitengrübchen, nahe der Mitte mit undeutlicher Querrunzel. Bohrer von Körperlänge. Bohrerklappen am Ende leicht verbreitert. Länge 5 mm. Schwarz mit orangeroter Zeichnung. Diese Farbe haben: Pro- und Mesonotum sowie Basis des Schildchens, dessen Ende pechbraun. Hinterleibstergite 1-4, Endrand des letzteren sowie die folgenden Tergite pechbraun. Beine rotgelb, ausgenommen Hüften, Trochanteren und Basis aller Schenkel, Spitzen aller Schienen und die Tarsen. Metatarsus aller Beine mehr weniger rötlichgelb. Flügel leicht gelblich getrübt. Stigma und Nerven braun (Cubitus nicht ausgebläst). Tegulae braungelb. 1 ♀, Tunis (leg. Schmiedeknecht). Type in meiner Sammlung."); Shenefelt, 1970: 319.
- Agathis kolazyi* Fischer, 1959: 2 ("Nach der Bestimmungstabelle von Telenga kommt diese Art der *A. umbellatarum* Nees am nächsten. Sie ist jedoch kleiner und u. a. viel reicher schwarz gezeichnet. Nach Fahringer würde sie in der Nähe von *A. umbellatarum* Nees oder *A. aurantiaca* Fahr. zu stehen kommen. Von letzterer Species ist sie vor allem durch das bedeutend kürzere Rostrum unterschieden. Beschreibung des Männchens: Kopf: etwa doppelt so breit wie an den Seiten lang, ganz glatt, Augen etwas vorstehend, Nacken tief ausgeschnitten, Schläfen halb so lang wie die Augen, Ocellen nicht vortretend, der Abstand des inneren Augenrandes vom äußeren Ocellus dreimal so lang wie ein Ocellusdurchmesser, Abstand der hinteren Ocellen voneinander ebenso groß. Fühlergruben glatt. Gesicht gleichmäßig fein punktiert und schütter behaart; Clypeus durch eine seichte Furche vom Gesicht getrennt, nach vorne zu glatt werdend, mit zwei tiefen Grüben an der Basis, vorne gerade abgeschnitten. Wangen so lang wie die Augenhöhe. Rostrum etwas länger als die Wangen. Fühler borstenförmig, um ein Drittel kürzer als der Körper, 24 gliedrig, das dritte Glied etwa viermal so lang wie breit, die mittleren und terminalen allmählich an Länge, die terminalen Glieder auch an Breite abnehmend, das vorletzte Glied nur wenig länger als breit, die Geißelglieder mit Ausnahme etwa der letzten zehn kaum voneinander abgesetzt. Thorax: Von der Seite gesehen rechteckig, um die Hälfte länger als hoch, wenig breiter als der Kopf. Mesonotum glatt und glänzend, nur mit äußerst feiner Behaarung, Notauli vollständig und fein krenuliert, in den Vorderecken kaum verbreitert, nach hinten geradling konvergierend, sie vereinigen sich vor der Mitte des Mesonotums, von hier aus zieht ein medianer Einschnitt nach rückwärts. Seiten überall fein gerandet; Praescutellarfurche krenuliert; Scutellum und Postscutellum glatt; Propodeum mit zwei nach hinten schwach divergierenden Längskielen. Zwischen diesen runzelig, seitlich mit deutlicher Krenulierung, Vorderecken runzelig, Vorderrand krenuliert, der Rest glatt und glänzend, seitlich beiderseits gekielt, diese Kiele verlieren sich aber vorne. Seiten des Prothorax glatt und glänzend; Mesopleurum mit scharf krenuliertem, schmalen, vorne verkürzten, hinten vollständigen Sternaulus, hintere Mesopleuralfurche krenuliert, Vorderecken durch eine punktierte Furche abgetrennt, sonst glatt und glänzend ohne Skulptur; Metapleurum mit sehr tiefer, krenulierter Querrunzel, glänzend, nur mit äußerst feiner Punktierung und Behaarung. Beine gedrunken gebaut, Hinterschenkel dreimal so lang wie dick, Hinterschienen distalwärts mäßig verbreitert, das Ende nur wenig schmaler als die Schenkel. Flügel: Stark braun getrübt, mit hellem Fleck unter dem Stigma; Stigma halbelliptisch, Radius gerade, Areola nach vorne verengt, aber deutlich viereckig. Abdomen: Erstes Tergit so lang wie hinten breit, nach vorne schwach, gleichmäßig verengt, die seitlichen Kiele an der Basis kaum angedeutet, fast ganz glatt und glänzend. Der Rest des Abdomens ohne Skulptur. Färbung: Schwarz. Rot sind: Mesonotum, Seiten des Prothorax, Tegulae, alle Schenkel und Schienen, nur die Vorder- und Mittelschenkel an der Basis dunkler, alle Tarsen mit Ausnahme der

Klauenglieder, erstes Abdominaltergit und die mediane Partie des zweiten. Flügelnervatur braun. Alle Hüfte und trochanteren sowie die Mundwerkzeuge und ganzen Fühler schwarz. Weibchen: unbekannt. Jugoslavischer Fundort: Dalmatien, Ragusa, 1 ♂, leg. Reitter, Coll. Kolazy, Holotype im Naturhistorischen Museum in Wien.); Shenefelt, 1970: 338; Nixon, 1986: 197 (as synonym of *A. umbellatarum*).

?*Agathis gussakovskiyi* Tobias, 1963: 868 (indirectly described in key), 874 ("Holotype, ♀, Tadzshikistan, canyon Kondara, 1100 m, 9.vi.1937, V. Gussakovskij"); Shenefelt, 1970: 336; Tobias, 1986: 283 (transl. 1995: 491; "Height of head equal to its width or slightly less; longitudinal diameter of eye greater than height of gena; proboscis equal to height of face and clypeus combined or slightly longer; head distinctly narrowed ventrad; ocellar field slightly elevated, its width twice ocellular distance; notaulices deep, sculptured; sternauli developed; hind femora of normal length (not more than 5 times as long as their width in the middle); tarsal segments shorter; second metasomal tergite broad, with broadly oval central elevation; ovipositor as long as mesosoma and metasoma together; mesosnotum and pronotum or only along notaulices reddish-yellow; head, mesosoma ventrally and laterally black; metasoma black apically and reddish-yellow basally; wing membrane distinctly infusate; length of body of holotype 6 mm. Crimea; Central Asia.").

Material.— Neotype of *A. umbellatarum* here designated, ♀ (RMNH), "France, B[asse] Alp., Digne, 7.vi.1972, G.J. Slob"; 1 ♀ (RMNH), id.; 1 ♀ (RMNH), France, Aude, Leucate, 5.vii.1965, exc. Gron. Biol., J. v. d. Vecht", "on *Centaurea calcitrapa* L.", "*Agathis umbellatarum* Ns, det. G.E.J. Nixon, 1984"; 1 ♀ (MNHN), "[France], Brôut-Vernet, H. de Buysson"; 1 ♀ (MNHN), "[France], Var, Toulon, 16.v.[19]57, J. Barbier"; 1 ♀ + 1 ♂ (MNHN, RMNH), id., but 1.v.1955; 1 ♀ (MNHN), id., but 10.v.1952; 1 ♀ (MNHN), id., but 11.v.1965; 1 ♀ (RMNH), "[France], Var, Ollioules, 14.vii.[19]54, J. Barbier"; 1 ♀ (MNHN), "[France], Le Puy, 6.viii.[19]37, H. Maneval", "pendant dans les têtes de chardons"; 1 ♀ (MNHN), "[France], la Trett, 2.ix., J. de Gaulle"; 1 ♂ (RMNH), "France, Corse, J.A.W. Lucas", "Asco, 620 m, 9.vii.1967"; 1 ♂ (RMNH), "France, Pyr. Or., Banyuls, 2.vii.1965, J. v. d. Vecht, exc. Gron. Biol."; 2 ♀♀ (RSM), "France: Bedoin, Vaucluse, 7-16.vii & 16-26.vii.[19]86, M.R. Shaw"; 1 ♀ (CNR, Roma), "[Italy], Capo Circeo, 21.vii.[19]39, XVII, Dune di Torre Paola"; 1 ♀ (CNR, Roma), "[Italy], Portonaccio, 13.vii.[19]41, XIX"; 1 ♀ (BC), "Bolgarija, 25 km SV Petrits, 850 m, lug, 9.vii.[19]78, Balevski"; 2 ♀♀ (RMNH), "[Bulgaria], Trakia, Radnevo, 6.vi.[19]94, [A.] Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rodopi, Nikolovo, 12.vi.1976, A. Zaykov"; 1 ♀ (RMNH), id., but 30.ix.1977"; 1 ♂ (RMNH), id., but 22.vi.1975"; 1 ♀ (RMNH), id., but 13.vi.1976"; 1 ♀ (RMNH), id., but 30.v.1977"; 1 ♀ (RMNH), id., but 18.vi.1975, "on *Medicago sativa*"; 1 ♀ (RMNH), "[Bulgaria], Rodopi, Sh. poljana, 29.v.1976, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rodopi, D. Lukovo, 20.v.1977, A. Zaykov"; 2 ♀♀ (RMNH), "[Bulgaria], Rodopi, Bojno, 24.vii.1975, A. Zaykov", "*Agathis umbellatarum* Ns, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), "[Bulgaria], Rodopi, j. Orcharica, 7.vii.1981, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], s. Gabrovo, 12.viii.1975, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, [Mts], Borovitysa, 27.v.1998, J. Kolarov"; 1 ♀ (RMNH), "Yugoslavia, Makedonija, ca 800 m, Gorica, 5 km S Ohrid, 4.ix.1979, C. v. Achterberg"; 1 ♀ (RMNH), "Greece, Paros Isl., 12.vi.1966, J. v. d. Vecht", "on *Centaurea spinosa* L."; 2 ♀♀ (RMNH), "S Greece, Pilos-Methoni, 28.v.1971, J. v. d. Vecht & E. v. d. Vecht-B."; 1 ♀ (ZMA), "Ellas, Kriti, Nom. Lasithi, Xeró kamos, 2.vi.1972, M.C. & G. Kruseman"; 1 ♀ (MNHN), "[Spain], Viscaya, Las Arenas, G. Schramm"; 1 ♀ (RMNH), "W Malta, Ghajn Tuffieha, 21.v.1986, J.A.W. Lucas"; 1 ♀ (MNHN), "[Spain], Murcia, Mar Menir, 9hvg [?], G. Schramm"; 1 ♀ (MNHN), "[Spain], Murcia, Marmean, 9hV9, G. Schramm"; 1 ♀ (RMNH), "E. [= Spain], Malaga, Benahavis, 26.iv.1979, H. Teunissen"; 1 ♀ (RMNH), "SE Spain, dept. Mélega, exc. Univ. Leiden", "Benalmádena, 4 km S Torremolinos, 10-14.iv.1983, EIS UF65, 0-50 m, n[ea]r [sea]coast"; 1 ♂ (RMNH), "E. [= Spain], Baza, Granada, 26.v.1983, H. Teunissen", "*Agathis malvacearum* Latr., det. G.E.J. Nixon, 1985"; 1 ♀ (RMNH), "Spain, Pr[ovince] Leon, La Magdalena, 1000 m, 11.vii.1987, W. Schacht"; 2 ♀♀ (MNHN), "Portugal, 129-40"; 1 ♀ (RMNH), "P[ortugal], Algarve, Loulé, 15.v.1982, J. Teunissen"; 1 ♂ (RSM), "Portugal: Algarve, Carragateira, nr Bordiera, ex flowers [of] *Thapsia villosa* w[ith] *Epinotia thapsiana* + *Agonopterix thapsiella*, [coll.] 21.iv.[19]72, em. 22.v.[19]92, M.F.V. Corley"; 1 ♀ (RMNH), "Cy[prus], Yermosoyia, 3.iv.1978, H. Teunissen"; 1 ♀ (RMNH), "Turkey, Pr. Erzurum, Pass W Oltu, 2200 m, 6.vii.1985, W. Schacht"; 7 ♂♂ (RMNH, ZMA), "Türkye, Istanbul, H. & Th. v. Oorschot & H. Wiering", "Yakuplu, 30 km W of Istanbul, 6.vi.1979"; 1 ♀ (MNHN), "Turquie, Constantinople"; 1 ♀ (RMNH), "Algeria], Richter" (identified as *Agathis* [= *Disophrys*] *nigricornis* Brullé); 1 ♀ (MNHN), "[Algeria], Oran, 24.v.[19]58, J. Barbier"; 1 ♀ (MNHN), "[Algeria], Oran, Bou-Sfer, 22.vi.[19]58, J. Barbier"; 1 ♀

(RMNH), id., but 25.v.1960, "ex *Atractylis gummifera* [L.; Compositae]"; 1 ♀ (MNHN), "[Algeria], Oran, Font-Gazelles, 7.iv.[19]58, J. Barbier"; 1 ♀ (MNHN), "[Algeria], Oran, Route D.18, 14.v.[19]60, J. Barbier"; 1 ♀ (MNHN), "[Algeria], Oran, Bouisseville, 18.iv.[19]60, J. Barbier"; 1 ♀ (MNHN), id., but 12.v.1960; 1 ♀ (MNHN), "[Algeria], Oran, St. Leu, 29.v.[19]60, J. Barbier"; 2 ♀♀ (MNHN, RMNH), "[Algeria], S. Messaoud, á El Djem", "*Agathis Brullei* Luca[s]", "Museum Paris, coll. J. Pérez, 1915"; 1 ♀ (MNHN), Maroc[co], 1908, ex musaeo H. Vaucher".

Neotype of *A. umbellatarum*: length of body 5.3 mm, of fore wing 4.6 mm.

Head.— Head moderately elongate (fig. 266; in lateral view more elongate than *A. malvacearum*: fig. 302), distinctly tapering ventrad (fig. 267), width of head below eyes 1.2 times median height of face and clypeus combined, its length in frontal view 1.5 times maximum width of face; face smooth (except for punctulation because of setae), with rather dense medium-sized greyish pilosity; clypeus strongly convex and largely smooth, except some punctures; lateral epistomal suture narrow, distinct; height of eye 1.15 times length of malar space; stemmaticum and ante-ocellar area rather prominent (figs 267-268), area medium-sized and wide triangular, shallow, with moderate median keel (fig. 267), concave postero-dorsally and not protruding anteriorly; antenna with 25 segments, apical segments rather robust; galea largely smooth, obtuse apically (fig. 266), 1.1 times height of eye, 1.3 times malar space, and 0.5 times height of head; temple rather flat and protruding dorsally (fig. 266); head in dorsal view rather strongly concave postero-medially.

Mesosoma.— Length of the mesosoma 1.5 times its width; side of pronotum largely smooth, punctate-crenulate medio-anteriorly, punctulate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, sparsely and punctulate; scutellar sulcus deep and coarsely crenulate; scutellum rather flat; notauli deep, complete, rather narrow, distinctly crenulate, and with distinct medio-posterior groove; mesopleuron smooth; precoxal sulcus narrow and reaching posterior margin, finely crenulate; metapleuron punctate medially, coarsely rugose-punctate ventrally; subbasally propodeum with some transverse rugosity, with large smooth central areas and remainder of propodeum coarsely rugose-punctate, with crenulation between two strong and regular medio-longitudinal carinae, diverging apicad, with a third indistinct carina medially.

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 264); r:3-SR:SR1 = 5:2:44; second submarginal cell quadrangular; 2-R1 0.5 times 1-R1 (fig. 264); pterostigma 1.2 times as long as 1-R1; 1-R1 slender. Hind wing: M+CU:1-M = 10:7.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.1, 6.4 and 8.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.40 and 0.35 times hind basitarsus; tarsal claws robust, apical tooth hardly bent, with rather obtuse and small rugose lobe (fig. 265); middle tibia with 2 pegs above apical patch of pegs.

Metasoma.— Length of first tergite 1.2 times its apical width, moderately convex, its surface largely smooth; length of second tergite 0.8 times as long as its basal width, smooth, with elliptical medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.28 times fore wing, 2.1 times metasoma, and 1.1 times body; hypopygium comparatively large.

Colour.— Black; mesoscutum (except postero-laterally), tegulae (including humeral plate), pronotum largely and metasoma (except hypopygium and apex nar-

rowly), femora (except narrowly basally), tibiae (except apex of hind tibia), hind trochantellus, apex of first, second and base of third tergites yellowish or brownish-orange; tarsi more or less and apex of hind tibia narrowly infuscate; pterostigma and veins, hypopygium largely, and femora basally dark brown; wing membrane dark brown. Most specimens are coloured as neotype but extent of black pattern is very variable, sometimes only small part of the head (or head black with only the malar space yellowish) and apex of metasoma narrowly dark brown, but specimens with a completely black body occur; hind femur nearly always yellowish or brownish apically, but rarely completely blackish or dark brown; hind coxa may be partly orange-brown.

Distribution.— Europe (north up to central Germany and including Mediterranean), Turkey, Caucasus, Central Asia, North Africa.

Biology.— Reared from *Epinotia thapsiana* Zeller, 1847 (Tortricidae) or *Agonopterix thapsiella* Zeller, 1847 (Oecophoridae). Tobias (1986) reports as hosts *Metzneria lappella* (Linnaeus, 1758), and *M. aestivella* Zeller, 1839 (Gelechiidae), but specimens from The Netherlands reared from the first host belong to *A. varipes* Thomson.

Notes.— Remnants of the type series of *A. umbellatarum* could not be found in the collection of the Berlin Museum, therefore the types are considered to be lost and a neotype is designated in this paper. For additional notes on the recognition of *A. umbellatarum*, and its separation from *A. malvacearum*, see under *A. malvacearum* Latreille.

Agathis varipes Thomson, 1895
(figs 307-312, 314, 316)

Agathis varipes Thomson, 1895: 2228 ("Nigra, femoribus anterioribus apice late tibiisque anterioribus pallide rufis, his posticis apice late annuloque basali cum tarsis nigro-fuscis; sternaulis abbreviatis, terebra corporis longitudine; alis cubito basin alae versus distincto. ♀ ♂ Long. $1\frac{1}{2}$ - $1\frac{3}{4}$ lin. *Agathis rufipalpis* Nees l. c. (pro parte). A. griseifronti simillima, sed paullo minor et angustior, facie haud griseo-sericea, maxillis et labio paullo longioribus; alis magis fumatis, cubito basin alae versus haud deletis; radii appendice brevior, areola superne magis angustata, subtriangulari, femoribus obscurioribus, sternaulis abbreviatis distinctus.); Shenefelt, 1970: 360-361 (as synonym of *A. nigra*"); Nixon, 1986: 199-200, figs 16, 50 (as valid species; lectotype designation); Zettel & Beyarslan, 1992: 124.

Agathis simulatrix Kokujev, 1895: 390 ("Nigra, nitida. Facie laevi, subtilissime et sparsim, vix distincte, pubescenti. Maxillis labioque longis sed capite brevioribus; palpis nigris. Antennis 25-articulatis. Mesonoto sat distincte punctulato; scutello laevi. Metanoto rugoso, utrinque spatio minuto laevigato nitidoque ornato et in medio longitudinaliter tricarinato, carinis parallelis et valde approximatis. Alis leniter infuscatis; cellula secunda cubitali triangulari; abscissa 3a radii recta. Segmento primo abdominis bicarinato, basi excavato et laevigato, medio longitudinaliter convexo, angulos apicales versus depresso, striato, apice laevi, striis prope margines laterales irregularibus; segmento 2o toto laevi, sulco transverso medio fere interrupto, prope angulos basales in faveolas profundas converso; segmento 3o haud depresso. Terebra corpore distincte longiore. Pedibus rufo-testaceis; coxis, trochanteribus (articulo 2o posteriorum excepto), femoribus anticis intermediisque basi, posticis subtus prope basin, tibiis intermediis posticisque apice et omnibus tarsis nigris."); Shenefelt, 1970: 356 [examined]. **Syn. nov.**

Agathis rufipes Ivanov, 1899: 362 ("Propodeum with 3 carinae, medial one shiny, but shiny part variable and both others normal; hind femur more or less reddish-brown or yellowish. Black, shiny, palpi entirely black, or apical segments brownish; rostrum of ♂ long, of ♀ shorter than head. Antenna with 24-26 segments. Metapleuron smooth. Wings somewhat infuscate, with small pale

- parts, (well visible in live specimens but less so in dead specimens); eye and wing veins greyish-brown; area of veins darker; radial vein of fore wing almost straight; second submarginal cell sessile, triangular. Legs testaceous, hind coxa, trochanter (but not trochantellus), femur entirely or basally. tibia apically and tarsus partly black. First part of metasoma dorso-basally concave, medially with two weak carinae, with some rugosity or with striae, not reaching apex of tergite, apically shiny and smooth as remaining parts of metasoma; convexity of second tergite not well developed; ovipositor longer than body. [Body] 4-6 mm. *Ag. rufipes* Ivanow. Ch[aracterised by] reddish-brown legs. June, July. Forest. Very rare. Remarks. Very close, if not the same, as *Ag. simulatrix* ♀ Kokoujew, or you may consider it a variation of *Ag. nigra* var. *Wesmael*." Translated from Russian.); Shenefelt, 1970: 356 (as synonym of *A. simulatrix*); Tobias, 1986: 283 (as synonym of *A. malvacearum*; transl. 1995: 493). **Syn. nov.**
- ?*Agathis malvacearum* var. *rufilabialis* Fahringer, 1937: 466 ("Palpen rot. Die 4 vorderen Beine ganz rot, nur Hüften und Trochanteren schwarz. Hinterschenkel größtenteils schwarz. Hinterleib größtenteils schwarz, nur 1. Tergit an den Seiten rötlich, dieses Tergit am Ende und Basis des 2. pechbraun. Länge $4\frac{1}{2}$ mm. (Var. I, Marshall)."); Shenefelt, 1970: 343.
- Agathis dissimilis* Shestakov, 1928: 225 ("Nigra. Maxillae et labium longitudine capitis breviores. Antennae 25-articulatae. Facies nitida, punctulis parvis. Carina interantennalis haud angulatum elevata. Mesonotum nitidum, punctis parvis, parapsidibus laevibus. Mesopleurae politae, nitidae, sine punctis, sternalis laevibus. Epicnemialia nitida, polita. Metanotum tenuiter punctatum utrinque spatio laevigato ornatum, bicarinatum, carinis parallelis, spatio intercarinali rugoso, prope costula externa punctis utrinque in linea unica longitudinaliter dispositis instructum. Tergitum primum carinula media nulla, longitudinaliter striatum, prope marginem posteriorem mediopunctis nonnullis instructum, ad marginem posteriore laevigatum haud foveolatum. Tergitum secundum politum nitidumque sulco transverso mediocriter profundo instructum, tertium sine sulcis. Alae infuscaetae, margine anteriore a cellula cubitali secunda hyalinata, abscissa radii tertia recta, cellula cubitali secunda triangulari. Terebra corpori aequilonga. Pedes nigri, femora anteriora aspicibus rufescentia, tibiae testaceae, mediae posteriores que apicibus infuscaetae, posteriores praeterea prope basim fusco-annulatae. Long. 3.5 mm. Habitat: Osetia: Kora, fl. Ardon, distr. Vladikavkazensis, 1.viii.1925, A. Kiritsenko. *Agathis dissimilis* is close to *A. nigra* Nees, but differs by the sculpture of the first metasomal segment, by the shorter ovipositor and by the 25-segmented antenna. From *A. anglica* Marsh. it differs by the number of antennal segments, by the straight third part of the radial vein, and by the different sculpture of the second metasomal segment; other species of *Agathis* with triangular second cubital cell have 3 carinae on the propodeum." Translated from Russian.); Shenefelt, 1970: 330; Tobias, 1986: 283 (as synonym of *A. malvacearum*; transl. 1995: 493). **Syn. nov.**
- Agathis glabricollis* Telenga, 1955: 260, transl. 1964: 243 ("♀ ♂. Body, antennae, palpi and legs black; base and middle of hind tibiae whitish. Head transverse, tapering occipitad, smooth, shining. Occiput deeply emarginate. Clypeus with small basal pits. Maxillae as long as face. Genae as long as longitudinal diameter of eye. Temples more than a half as long as transverse diameter of eye. Antennal pit deep. Distance between eyes and posterior ocelli almost three times the ocellar diameter. Maxillary palpi slender, elongated. Antennae filiform, 24-jointed, much shorter than body. Mesonotum, scutellum and sides of mesothorax smooth, shining. Parapsides deep, rugose. Scutoscutellar suture with minute transverse notches. Sides of mesothorax with short, smooth grooves. Sides of metathorax punctulate ventrally, smooth elsewhere. Propodeum smooth, shining, with three posteriorly divergent carinae. Metasoma perfectly smooth, shining, as long as head and mesosoma together. First tergite tapering basad, almost 1.5 times as long as apical width; second tergite transverse. Ovipositor scarcely longer than body. Wings very faintly clouded; wing covers black, stigma and veins brown. Second cubital cell quadrate, narrowed apically; basal length slightly exceeding distance between recurrent and the first cubital crossvein. Proximal scarcely longer than second section of radius; third section straight. Submedian crossvein arising just beyond basal vein. Large hind tibial spurs scarcely more than $\frac{1}{3}$ as long as proximal tarsal joint. Claws with basal denticle. Length 5-6 mm. Distribution. U.S.S.R.: Tadzhikistan (Kondara - Gussakovskij)."); Shenefelt, 1970: 335; Tobias, 1986: 283 (as synonym of *A. malvacearum*; transl. 1995: 493). **Syn. nov.**
- Agathis serratulae* Tobias, 1963: 875 ("Close to *A. malvacearum* Latr., from which it differs by the gener-

ally darker colouration, also by its longer ovipositor, by the paler wings and by the shorter rostrum. Female.— 4.5-6.5 mm. Head as long as wide, temples 0.3-0.4 times width of eye; ocellar triangular obtuse anteriorly; frontal crest distinct and branched; longitudinal diameter of eye 1.5-1.6 times its transverse diameter, 1.5 times or slightly longer than malar space; height of face 0.5 times its width, twice as long as height of clypeus; rostrum as long as malar space; antenna with 24-25 segments, considerably shorter than body, first flagellar segment 4 times longer than wide, segments of apical third of flagellum largely longer than wide or quadrate; mesosoma 1.5 -1.6 times longer than high; second cubital cell of fore wing quadrangular or triangular; length of hind femur 4-5 times its width; inner hind tibial spur 0.3 times hind basitarsus, fifth segment as long as third segment and shorter than second segment; first metasomal tergite slightly longer than its apical width; second tergite 1.5-1.6 times wider than long; ovipositor longer than body; propodeum almost completely smooth, with two or three longitudinal carinae, first metasomal tergite smooth or slightly sculptured, its sculpture baso-laterally; second tergite smooth. Black; fore leg (except coxa, trochanter and sometimes base of coxa), middle femur (except basally or only apically), middle tibia (except apically), sometimes hind femur (except basally) brownish-red; basal two thirds of hind tibia yellowish, except brownish basal ring; apical part of middle tibia, middle and hind tarsi brown; wings pale, slightly dark yellowish; second metasomal tergite sometimes dark brown. Male unknown. Material. Tselinogradskaya oblast, river Terisikan, near Mt. Koksetau, on flowerhead of *Serratula cardunculus*, 13.vi.1957, 3 ♀♀ (including holotype); North of Lake Zharkol, *Ferula caspica*, 29.vi. 1958, 1 ♀ (V. Tobias).” Translated from Russian.; Shenefelt, 1970: 355; Tobias, 1986: 283 (transl. 1995: 493) [examined]. **Syn. nov.**

Agathis lederi Fischer, 1968: 121 (“♀. Kopf: Zweimal so breit wie lang, 1.1 mal so breit wie das Mesonotum, Augen an den Seiten stark vorstehend, Schläfen gerundet, Augen zweimal so lang wie die Schläfen, Hinterhaupt stark ausgeschnitten, Oberseite glatt, nur mit einzelnen, unscheinbaren Haarpunkten. Ocellen vorstehend, in einem Dreieck stehend, dessen Basis länger ist als eine Seite, der Abstand zwischen den Ocellen größer als ein Ocellusdurchmesser, der Abstand des äußeren Ocellus vom inneren Augenrand kleiner als die Breite des Ocellarfeldes. Stirn mit einem schwachen U-förmigen Kiel, der aber nicht vortritt. Kopf nach unten stark ausgezogen, unterer Rand gerade. Fühlergruben ungefähr in halber Augenhöhe, Augenränder parallel. Gesicht wenig höher als breit, schwach gewölbt, glänzend, fein und gleichmäßig haarpunktiert. Clypeus vom Gesicht nicht getrennt, Paraclypealgruben groß, liegen etwa in der Mitte zwischen dem Vorderrand des Clypeus von unten gesehen ausgeschnitten. Schläfen etwas schmaler als die Augenzänge, Augen 1.3mal so hoch wie die Wangen, Maxillen so lang wie die Augenzänge, Taster von normaler Länge. Fühler von drei Viertel Körperlänge, fadenförmig, überall ungefähr gleich breit; erstes Geißelglied viermal so lang wie breit, die folgenden kürzer werdend, die letzten zehn Glieder wenigstens um die Hälfte länger als breit und etwas deutlicher voneinander getrennt als die vorhergehenden, Behaarung sehr kurz. Thorax: 1.7 mal so lang wie hoch, Oberseite flach, mit der Unterseite parallel. Mesonotum ganz wenig länger als breit, vor den Tegulae oval, glatt, glänzend, mit zerstreuten, über die ganze Oberfläche verteilten haartragenden Punkten, Notauli vorn tief eingedrückt, schwach gekerbt, auf der Scheibe verflachend, hier nicht gekerbt, die flachen Eindrücke vereinigen sich auf der Scheibe, dahinter ein flacher längseindruck, der nicht an den Hinterrand reicht, Seiten überall gerandet und fein gekerbt. Praescutellarfurche gekrümmt und gerippt. Scutellum glatt, nur mit zerstreuten haartragenden Punkten. Postaxilla glatt, nur an den Rändern gekerbt. Seitenfelder des Metanotums gekerbt. Propodeum mit zwei parallelen Kielen, die nur hinten ganz wenig divergieren, der Raum zwischen den Kielen, die nur hinten ganz wenig divergieren, der Raum zwischen den Kielen uneben, glänzend, außen an den Kielen schwache Kerben, die Seitenfelder glatt, nur an den äußersten, abfallenden Teilen runzelig; Spirakel unscheinbar. Seite des Prothorax glatt, hintere Furche schmal gekerbt, vordere nur oben runzelig, ganz am Vorderrand etwas uneben-runzelig. Mesopleurum glatt und glänzend, nur gegen die Ränder unscheinbar haarpunktiert, Sternaulus schmal und gekerbt, beiderseits abgekürzt, hintere Randfurche deutlich gekerbt, die bogenförmig geschwungene Epiknemialfurche schmal gekerbt. Metapleurum vor der Mitte durch eine tief eingeschnittene, krenulierte Furche geteilt, der obere Rand gekerbt, sonst glänzend und mit zahlreichen, deutlich eingestochenen haartragenden Punkten. Beine gedrungen, Hinterschenkel wenig mehr als dreimal so lang wie breit, der längere Sporn der Hinterschiene zwei Fünftel so lang wie der Basitarsus. Flügel:

Zweite Cubitalzelle viereckig, nach vorn verjüngt, r3 gerade, sonst vom Typus der Gattung. Abdomen: Eine Spur länger als Kopf und Thorax zusammen, an der breitesten Stelle nicht ganz so breit wie der Thorax. Erstes Tergit um ein Drittel länger als hinten breit, Seitenränder nach vorn nur schwach und geradlinig konvergierend, ohne seitliche Häcker, Basalkiele nur schwach ausgebildet, enden vor der Mitte; das Tergit fast ganz glatt, nur in der Basalhälfte mit mehr oder weniger schwachen Streifen. Der Rest des Abdomens ganz glatt. Bohrerklappen um ein Drittel länger als der Körper. Färbung: Schwarz. Bohrer und Beine rot, nur die Hüften, Trochanteren, Spitzen der Hinterschienen, Hintertarsen und ein Teil der Vorder- und Mitteltarsen geschwärzt. Mundwerkzeuge schwarz. Flügelnervatur braun, Flügel gleichmäßig gebräunt. Körperlänge: 5.5 mm. Untersuchtes Material: Nördliche Mongolei, leg. Leder, 1892, 4 ♀♀, eines davon wurde als Holotype bezeichnet und wird im Naturhistorischen Museum in Wien aufbewahrt. Die Art steht der *Agathis griseifrons* Thomson am nächsten und unterscheidet sich von dieser durch die in der Bestimmungstabelle angegebenen Merkmale.“); Shenefelt, 1970: 340 [examined]. **Syn. nov.**

Agathis ariadne Nixon, 1986: 206-207, fig. 1 (“♂♀, ca 4.5 mm (excluding ovipositor). Black. Gaster with no trace of red colour on tergites 2+3. Mandibles deep yellow; in the single female (holotype) labrum also deep yellow. Except for weak, basal infuscation, hind femur bright reddish yellow in holotype and two out of three males. ♀ Head in facial view moderately elongate, wide across clypeus, appearing very black and shiny, especially across clypeus owing to sparsity of pubescence. A well-defined keel between antennal insertions and a fairly deep, V-shaped impression in front of the anterior ocellus. Galea about 3 times as long as its basal width and 1.5 times longer than malar space. Antenna thin, rather short, not tapering towards apex, 26-segmented. Thorax in profile somewhat elongate. notaulices well defined. Sternaulus short, deep, not reaching posterior corner of mesopleurum. Side panels of propodeum polished except towards antero-lateral corner. Areolet of fore wing almost triangular; distal abscissa of postmarginalis about 0.5 times as long as proximal abscissa; radial cell rather long, much as in *varipes*. Outer side of middle tibia with 5 teeth arranged more or less in row; inner spur of hind tibia reaching virtually middle of basal segment of hind tarsus; hind claw with strong lobe. Gaster of generalised form. Tergite 1 only slightly longer than its apical width and with only a very weak indication of sculpture. Ovipositor sheath about as long as gaster plus propodeum; hairs of sheath very bristly, those in apical fifth hardly different from those proximal to it. ♂. Like female except for sexual differences. Antenna with 23-24 segments, long, rather thin. In one male, tergite 6 is fully extruded and shows at base a specialised area (?sex gland), from which arise two pencils of hairs.”) [examined]. **Syn. nov.**

A. tibialis; Nixon, 1986: 201-202, figs 33, 48, 53.

Material.— Lectotype of *A. varipes*, ♀ (ZIL), “Fg”, “*Agathis varipes* Th. Lectotype ♀, G.E.J. Nixon, 1983”; holotype of *A. simulatrix*, ♀ (ZISP), “Jaroslav”, “*Ag. simulatrix* Kokw”; holotype of *A. lederi*: ♀ (NMW), “N. Mongolei, Leder 92”, “*Agathis Lederi* Fischer, nov. sp.”; holotype of *A. serratulae*, ♀ (ZISP), “[Kazakhstan], g [= Mt.] Koksjetau, pojta, [river] Tersakkan, W. Akmol., 13.vi.[1]957, Tobias”, “*Agathis serratulae* sp. n., holotyp, Tobias det.”; holotype of *A. ariadne*, ♀ (TMA), “CSSR, Slovak Érchs, Selmečbánya, 600 m, 22.vii.1976, J. Papp”; 1 ♂ (RMNH), “Finland, Vaasan Lääni, E. Jakobstad, Edsevö, 25.viii.1992, M. Söderlund, RMNH’97”; 2 ♀♀ (RMNH), “Sverige, Stället-Värmland, 30.vi-19.vii.1975, G. van Rossem”; 3 ♂♂ (RMNH), “Sweden, Ang., Ålska, Petäset, 21.vii.1981, L. Huggert”; 2 ♀♀ (RMNH), “[Poland], Stettin, Zeller”, “e *Carlinella*, 14.viii.[18]64”, “*Agathis varipes* Th., det. G.E.J. Nixon, 1984”; 1 ♂ (RSM), “[England], Dunnow disused railway line NR TL 6121, swept, 6.vii.1996, C.W. Plant”; 3 ♂♂ (RSM), “[England], Effingham Common, Surrey, [ex] *Metzneria lapella* [on] *Arctium majus*, coll. 28.ii.[19]46, em. 15.vii.[19]46, H. Britten”; 1 ♀ + 1 ♂ (RSM), “[England], Orpington, Kent, ex *Apodia bifractella* in seedhead of *Pulicaria dysenterica*, em., vii.1982, P.A. Sokoloff”; 1 ♀ (RSM), “[England], Wicken Fen, coll. 29.xi.[19]75, em. 1976, em. ex seedheads of *Pulicaria dysenterica*. Host probably *Apodia bifractella*, poss. *Ptocheusa paupella*, A.M. Emmet”; 11 ♀♀ (RMNH), “Netherlands, Z., Goes, Ankerveensedijk, 1.vii.1986, ex *Metzneria lappella* [Linnaeus, Gelechiidae] in *Arctium*, M. Jansen, RMNH”; 1 ♂ (RMNH), “[Netherlands], Nieuwe Doline, Pruisweg, St. Pietersberg, 22.viii.1950, exc. Museum Leiden”; 1 ♂ (RMNH), id., but Oude Luikerweg, boven Encigroev, 14.viii.1950; 1 ♀ (RMNH), “Netherlands, L., St. Pietersberg, 10.viii.1986, C.J. Zwakhals”; 1 ♀ (RMNH), id., but 21-28.viii.1989, B. v. Aartsen; 1 ♀ (RMNH), id., but 30.viii.1985, 5, V. Lefeber; 1 ♀ (RMNH), “[Nether-

lands], Bergentheim, 9.vii.1975, B. v. Aartsen", "*Agathis tibialis* Ns, det. G.E.J. Nixon, 1984"; 1 ♀ + 3 ♂♂ (RMNH), "[Netherlands], Oostkapelle, 54°34'N, 8°31'E, 6-18.vii.1969, J.B. Wolschrijn"; 1 ♀ (RMNH), "Holland, exc. Terschelling, 11.vii.1967, W Terschelling, dunes nr Dodemanskisten, C. v. Heijningen", "*Agathis tibialis* Ns, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), id., but 6.vii.1967, M.J. Delfos; 1 ♀ (RMNH), "Holland, exc. Terschelling, nr Rijsplak, 14.vii.1967, Ph. Pronk"; 1 ♂ (RMNH), "[?Netherlands], excl. 20.vi.[18]74, ex Arctio"; 1 ♀ (RMNH), "[Belgium], Westende, 15-28.vii.[19]63, G. Batische"; 2 ♀♀ (ZMB), "[Germany], *Carlina vulg.*, 6.vi.[1]860, Kolber", "*Agathis tibialis* Ns", "Coll. H. R[ein]h[ar]d"; 1 ♂ (RMNH), "France, dépt. Gard, M.J. Gijswijt", "Crespian, 3.vii.1977, garrigue"; 2 ♀♀ (MNHN), "[France], Maisons, Laff., 19.viii.", "saz bardaue, Maisons-Laffitte, Seine et Oise, coll. J. de Gaulle, 1991"; 1 ♀ (MNHN), "[France], C[ôte] d'Or, Gevrolles, 11.ix.[19]60, J. Barbier"; 1 ♀ (MNHN), "[France], Esbarres, 1.ix.[19]51, J. Barbier"; 1 ♀ (MNHN), "[France], env. Bordeaux, Laborderie, Giraud"; 1 ♀ (MNHN), "[France], Paris, coll. Chretien", "eclos 8.vii.[18]99"; 1 ♀ (MNHN), "[France], Nemotois, Vernet", "*A. barbatella* [= *Adela barbatella* Zeller, 1847; Incurvariidae], 14.vii.[18]99, "Vernet, les B., P. Or., coll. Chretien"; 1 ♀ (MNHN), "[France], Nemotois, ex M. Jul. [?], e.l. 22.vii.[18]99"; 1 ♀ (MNHN), "[?France], 27.vii., 2.Ps", "Muséum Paris, 1867, coll. O. Sichel"; 1 ♀ (MNHN), "[?France], Muséum Paris, 1867, coll. O. Sichel"; 1 ♀ (MNHN), "[France], Chartrettes, 28.viii.[19]43"; 1 ♀ (MNHN), "[France], Bis., Esbarres, 1.ix.[19]51"; 1 ♀ (MNHN), "[France], B[asse] A[lp]s, Allos, 26.vii.[19]39"; 1 ♀ (MNHN), "[France], La Leyne, v.[19]01, [L. Fairmaire]"; 1 ♀ (MNHN), "[France], Col de Vars, 7.viii.[19]50, B.A. Granger"; 1 ♀ (MNHN), "[France], Ristolos, H[aut]es Alp[es], 1700-1900 [m], 14.vii.[19]65, G. Tempere"; 1 ♂ (RMNH), "[France], Var, Montouroux, ix.1977, H. Teunissen"; 1 ♀ + 1 ♂ (RSM), "France, Availles-Limouzine, Vienne, 5.viii.[19]90, M.R. Shaw"; 1 ♀ + 1 ♂ (RSM), "France: Briançon district, H[aut]es Alpes, La Vachette, 1400 m, 24.vii.1991, M.R. Shaw"; 5 ♀♀ + 4 ♂♂ (RSM, RMNH), "France: Var, Nans les Pins, 9.vii.[19]97, M.R. Shaw"; 1 ♀ (RMNH), "France, Dépt. Drôme, M.J. Gijswijt", "Saon, 30.viii.1981"; 1 ♂ (RSM), "France, nr Orleans, ex *Melilotus* stems, coll. 5.i.[19]89, em. 1989, R.R. Askew"; 1 ♀ (RSM), "France, H[aut]es Alpes, Col. du Lautaret, 2000 m, 20.vii.[19]97, M.R. Shaw"; 1 ♀ (MNHN), "Suisse, Jura, Luit, viii.[19]35, A. Seyrig"; 1 ♀ (RMNH), "[Austria], Salzburg, Parsch, 22.viii.1965, P.P. Babi, an Waldschla"; 1 ♀ (ZMA), "Österreich, Tirol, Ötztal, ent exc. Zool. Mus.", "Vent, 1850-2000 m, 2-4.viii.1967"; 3 ♀♀ (RMNH), "[Hungary], Budapest, Gellerthegey, 9.ix.1896, Szépliget"; 1 ♀: "*Agathis genualis* Marsh., det. Papp, 1976"; 1 ♂ (RMNH), "Budapeszi, 15.vii.1895, Szépliget"; 4 ♂♂ (RMNH), "[Bulgaria], Rodopi, Chrabrino, 3.vii.[19]94, [A.] Zaykov"; 1 ♂ (RMNH), "[Bulgaria], Petelovo, 18.viii.1975, A. Zaykov", "*Agathis tibialis* Ns, det. G.E.J. Nixon, 1984"; 2 ♀♀ + 1 ♂ (RMNH), "[Bulgaria], Rodopi, Boikovo, 18.vii.[19]94, [A.] Zaykov"; 1 ♂ (RMNH), id., but from Galabovo; 1 ♂ (RMNH), "[Bulgaria], Rhodopi, Nikolovo, 17.viii.1976, A. Zaykov.", "*Agathis tibialis* Ns, det. G.E.J. Nixon, 1984"; 1 ♀ (RMNH), id., but 16.viii.1976; 1 ♀ (RMNH), id., but 14.viii.1975, "*Agathis varipes* Th., det. G.E.J. Nixon, 1983"; 1 ♀ (RMNH), id., 19.viii.1976; 1 ♀ (RMNH), id., but 20.viii.1976; 1 ♀ (RMNH), "[Bulgaria], Rhodopi, Markovo, 8.ix.1977, A. Zaykov"; 1 ♀ (RMNH), "[Bulgaria], Rhodopi [Mts], Belastivo, 28.viii.1977, A. Zaykov"; 2 ♀♀ (RMNH), "[Bulgaria], Kamtchia-U, 21.viii.1981, J. Kolarov"; 1 ♀ (RMNH), "[Bulgaria], Trakia, Trud, 20.x.[19]94, [A.] Zaykov"; 1 ♀ (BC), "Bolgarija, 10 km SV Sandanski, 400 m, lug poita r Bistritsa, 7.vii.[1]977, Balevski"; 1 ♂ (BC), "Bolgarija, 15 km SZ Sandanski, 120 lnts, 1.ix.[1]977, Balevski"; 1 ♀ (RMNH), "[Yugoslavia, Serbia], Topoli, Do, 13.vii.1979, M. Brajkovic"; 1 ♀ (RMNH), "[Yugoslavia, Serbia], Zugica Boze, 5.viii.1982, M. Brajkovic"; 2 ♀♀ (RMNH), "Yugoslavia, Makedonija, ca. 800 m, Gorica, 5 km S Ohrid, 2.ix.1979, C. v. Achterberg"; 1 ♀ (RMNH), "Yugoslavia, 10 km ZZO Novalia, 46°15'N, 17°13'O, exc. Leiden"; 2 ♀♀ (RMNH), "Yu[goslavia] [= Croatia], Istria, Rasa river valley, 6.vii.1979, H. Teunissen"; 2 ♀♀ (RMNH), "Greece, Crete, dept. Rethymnon, Anogia, 27.iv.1973, v. Ooststroom", "*Agathis tibialis* Ns, det. G.E.J. Nixon, 1984"; 2 ♀♀ (RMNH), "Greece, Corfu, Acharávi, 9.v.1966, v. Ooststroom", "*Agathis umbellatarum* Ns, det. G.E.J. Nixon, 1984"; 5 ♀♀ (RMNH), "Italia, Albano Laziale, 7.vii.[19]85, G.G.M. Schulten"; 1 ♂ (RMNH), "Esp. [= Spain], Burgos, Nava de Roa, 23.vi.1981, H. Teunissen"; 1 ♂ (RMNH), "Spanje, San Pedro de Alcantara, 12.v.1960"; 2 ♀♀ (RMNH), "Esp. [= Spain], Villa Nueva del Campo, Xamora, 4.vi.1981, H. Teunissen"; 1 ♀ (RMNH), "España, Málaga, M.J. Gijswijt", "Casares, 8-10.vi.1986"; 2 ♀♀ (RMNH), "C Spain, nr Málaga, C. v. Achterberg", "Torremolinos, 9.iv.1984, ruderal area"; 2 ♀♀ (RMNH), id., but 12.iv.1984; 1 ♀ (RMNH), "[Spain], prov. Badajoz, ten Z van Monasterio, 700 m, 7-8.v.1960"; 1 ♀ (RMNH), "SE Spain, dept. Málaga, Exc. Univ. Leiden", "Alcuzcuz, N of San Pedro de Alcántara, maquis, 18.iv.1983, EIS UF14"; 2 ♀♀ (MNHN), "[Spain], Catalonia, Centelles, Mas de Xaxars"; 1 ♀ (RMNH), "NW Spain, Villajuan, SW of Villagarcia, Pontevedra, 14.vii.1963, J.A.G. Delfos", "*Agathis*

tibialis Ns, det. G.E.J. Nixon, 1984"; 1 ♂ (RMNH), "Portugal, Caminha, Minho, 11.v.1958, exc. Museum Leiden"; 1 ♀ + 1 ♂ (RMNH), "P[ortugal], Algarve, Monchique, 10.iv.1983, H. Teunissen" (with aberrant head); 1 ♀ (RMNH), "P[ortugal], Algarve, Quarteira, 12.iv.[19]87, A. T[eunissen]" 1 ♀ + 1 ♂ (RMNH), id., but 6-13.iv.1987.

Lectotype of *A. varipes*: length of body 4.1 mm, of fore wing 3.8 mm.

Head.— Head moderately elongate, moderately tapering ventrad, maximum width of head (including eyes) 2.6 times its minimum width ventrally, and width of head below eyes 1.2 times median height of face and clypeus combined (fig. 311), its length in frontal view 1.3 times maximum width of face; face smooth, with rather dense medium-sized greyish pilosity; clypeus strongly convex and largely smooth, except some distinct punctures (frequently absent in other specimens); lateral epistomal suture narrow, distinct; height of eye 1.5 times length of malar space (1.55 times in holotype of *A. lederi*, 1.7 times in holotypes of *A. simulatrix* and *A. serratulae*); stemmaticum and ante-ocellar area rather prominent (fig. 307), area medium-sized and triangular (triangular and shallow in holotype of *A. ariadne* (fig. 310), almost oval-shaped in holotype of *A. lederi* (fig. 312)) and moderately impressed, with moderate median keel, concave postero-dorsally (but may be straight dorsally) and not protruding anteriorly; antenna of examined specimens with 21-26 segments, and apical segments subquadrate (antenna of lectotype of *A. varipes* and of holotype of *A. simulatrix* incomplete, antennal segments 23-24 in holotype of *A. lederi*, and 26 in holotype of *A. ariadne*); galea largely smooth, obtuse apically (fig. 310), as long as height of eye, 1.5 times malar space, and 0.5 times height of head (in other types: ratio of length of galea versus height of eye and length of galea versus height of head of *A. ariadne* 0.66 and 0.6, respectively, for *A. serratulae* 0.7 and 0.4, and 1.3 times as long as malar space in *A. serratulae*); temple convex and not or slightly widened dorsally (figs 307, 310); head in dorsal view moderately concave postero-medially.

Mesosoma.— Length of the mesosoma 1.5 times its width (1.4 times in holotype of *A. serratulae*); side of pronotum largely smooth, rugose-punctate medio-anteriorly and postero-ventrally, punctulate postero-dorsally, and distinctly crenulate near posterior margin; mesoscutum and scutellum largely smooth, sparsely and finely punctate; scutellar sulcus deep and coarsely crenulate; scutellum rather flat, somewhat rugulose medio-posteriorly or smooth; notauli deep, complete, moderately wide and smooth, and without distinct medio-posterior groove); mesopleuron largely smooth, with some punctures below scrobe; precoxal sulcus only medially present, not reaching posterior margin, rather wide and deep, and finely crenulate (narrow and reaching posterior margin in holotype of *A. simulatrix*, but absent posteriorly in holotype of *A. serratulae*); metapleuron punctulate medially, coarsely rugose-punctate ventrally; subbasally propodeum with some transverse rugosity, remainder of propodeum largely smooth, with crenulation between medio-longitudinal carinae (in other specimens sometimes irregular and frequently interrupted).

Wings.— Fore wing: marginal cell rather large, with SR1 straight (fig. 308); r:3-SR:SR1 = 7:4:70; second submarginal cell subtriangular (fig. 308; but wide quadrangular (fig. 316) in holotype of *A. serratulae*, and triangular in its paratypes!); vein 2-R1 0.9 (0.7 in holotype of *A. serratulae* and holotype of *A. lederi*, about 0.6 in holotype of *A. ariadne*) times 1-R1 (fig. 308); pterostigma 1.8 (1.3 in holotype of *A. serratulae*) times as long as 1-R1; 1-R1 rather slender (fig. 308). Hind wing: M+CU:1-M = 30:19.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.7, 6.2 and 6.6 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.45 and 0.40 times hind basitarsus, respectively; tarsal claws robust, with medium-sized acute lobe; middle tibia with a row of 4 pegs above apical patch of pegs.

Metasoma.— Length of first tergite equal to its apical width, moderately convex, its surface rather coarsely and irregularly rugose and its apical half mainly smooth; length of second tergite 0.6 times as long as its basal width, smooth, with broad oval medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.17 times fore wing, 2.2 times metasoma, and 3.6 times hind tibia (sheath distinctly longer than body, 1.56 times fore wing and 2.8 times metasoma in holotype of *A. lederi*, 1.65 times fore wing, and 2.3 times metasoma in holotype of *A. serratulae*; in holotype of *A. ariadne* 1.07 and 1.8 times, respectively).

Colour.— Black; palpi, tarsi (except basally), and apical quarter of hind tibia dark brown; hind tibia without subbasal ring; legs (except coxae and trochanters) brown; second tergite brown. Labrum of holotype of *A. ariadne* yellow and hind femora more or less dark brown.

Distribution.— Europe (north up to *Finland, Sweden, *Netherlands and England, and including Mediateranean region), Turkey, Caucasus, Central Asia.

Biology.— Reared from Gelechiidae: *Metzneria lappella* (Linnaeus, 1758), *Apodia bifractella* (Duponchel, 1843), and possibly *Ptocheuusa paupella* (Zeller, 1847) (latter two hosts in flowerheads of *Pulicaria dysenterica* Linnaeus), and Incurvariidae: *Adela barbatella* Zeller, 1847.

Notes.— Some specimens have a similar dark orange-brown band on the metasoma as is found in *A. malvacearum*, which may have caused part of the obvious confusion. If melanistic specimens of *A. umbellatarum* exist with black mesoscutum, and a have a rather short malar space, then they will be hard to separate from *A. varipes*. It is obvious that both belong to a species-complex and more controlled breeding experiments may be the best way to resolve these taxonomic problems.

The paper by Thomson (1895) has priority over Kokujev's paper (1895) because the latter appeared 20 December 1895 (Mr G. Tweehuysen, pers. comm.) and it is not reported for 1895 in the Trans. ent. Soc. London (1895): xxviii, but instead is listed in the preceding volume. However, Thomson's 19th and 20th volumes of the "Opuscula entomologia" are listed as received in 1895 and must have been published before December 1895.

Agathis verae Tobias, 1986

Agathis verae Tobias, 1986: 280-283, fig. 1 (indirectly described in key; translation 1995: 491; "Height of head equal to its width or slightly less; longitudinal diameter of eye greater than height of gena; proboscis shorter than height of face and clypeus combined; head distinctly narrowed ventrad; ocellar field slightly elevated, its width twice ocellular distance; notaulices deep, sculptured; vein 2-R1 of fore wing virtually absent; second radiomedial cell small, its width less than width of pterostigma, wide, quadrangular; sternauli developed; medio-longitudinal carinae of propodeum obsolescent; hind femora of normal length (not more than 5 times as long as their width in the middle); tarsal segments shorter; second metasomal tergite broad, with broadly oval central elevation; ovipositor as long as mesosoma and metasoma together; body completely reddish-yellow; pterostigma yellowish; wing membrane slightly infuscate; length of body 3.3 mm. Holotype, ♀, western Kazakhstan, River Derkul, Block Kuznetsovo, 25.vi.1949, V. Rudolf.")

Distribution.— Kazakhstan.

Biology.— Unknown.

Note.— According to Dr S.A. Belokobylskij (in litt.) the holotype has no median keel on the frons, the ante-ocellar area is weakly protruding in lateral view and its depression is triangular; length of eye 1.6 times malar space, galea 0.7 times length of malar space, and 0.4 times height of eye, the precoxal sulcus is distinct, narrow and crenulate, long (only anterior fifth absent), length of mesosoma is 1.4 times its height, and length of ovipositor sheath 0.95 times fore wing.

Agathis zaisanica Tobias, 1963
(figs 50-52)

Agathis zaisanica Tobias, 1963: 881 ("Quite isolated within the genus *Agathis*, because it differs from the other species by the yellow tegulae and pterostigma, by the wide face. Female, 3 mm. Head wider than long, temple 0.3 times width of eye; stemmaticum rectangular anteriorly; frontal crest very slightly developed, branched part obsolescent; longitudinal diameter of eye 1.5 times its transverse diameter, and almost twice longer than malar space; antenna shorter than body, with 22 segments; first flagellar segment 4 times longer than wide, segments of apical third of antenna almost twice longer than wide; inner spur of hind tibia slightly longer than 0.3 times hind basitarsus, fifth hind tarsal segment longer than third segment and shorter than second segment; first metasomal tergite slightly longer than wide apically; second tergite twice wider than long; ovipositor as long as meso- and metasoma combined; propodeum sculptured, with small smooth patches lateral of carinae, with 2 carinae and a very weak third one; first metasomal tergite sculptured, second tergite smooth. Black; fore leg (including coxa), middle (except apex of coxa and base of femur), trochanter and apical part of femur of hind leg yellowish-red; basal two thirds of hind tibia pale yellow, with brown ring; apex of middle tibia, base of fore femur, middle and hind tarsi brown; wings subhyaline; pterostigma and tegulae yellow. Male unknown. East Kazakhstan oblast, sandy area Taskum, Northwest of town Zaisan, 29.v.1961, 1 ♀, holotype (V. Tobias)." Translated from Russian.); Shenefelt, 1970: 366; Tobias, 1986: 283 (transl. 1995: 493); Sharkey, 1998: 524 [examined].

Material.— Holotype, ♀ (ZISP), "[Kazakhstan], Taskum, Zaisan, 29.v.1961, V.I. Tobias", "*Agathis zaisanicum* Tob. det.", "Holotypus".

Holotype, ♀, length of body 3.1 mm.

Head.— Head short, moderately tapering ventrad, quadrate (fig. 50), width of head below eyes 1.5 times median height of face and clypeus combined, its length in frontal view 1.4 times maximum width of face; height of eye 1.56 times length of malar space; stemmaticum distinctly prominent (fig. 51), ante-ocellar area rather oval and not impressed, protruding, without median keel (fig. 52); antenna with 20 segments, comparatively slender as in *A. sculpturata* (fig. 143); galea obtuse apically (fig. 51), 0.4 times height of eye, and 0.2 times height of head.

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely smooth, punctate medio-anteriorly, and distinctly crenulate near posterior margin; mesoscutum and scutellum punct(ul)ate; notauli deep, complete, crenulate, and with long medio-posterior groove; mesopleuron largely smooth, punct(ul)ate except above precoxal sulcus; precoxal sulcus only anteriorly absent, reaching posterior margin, narrow, and crenulate; propodeum largely smooth, and with two strong and regular medio-longitudinal carinae.

Wings.— Fore wing: marginal cell rather large, with SR1 slightly curved; r:3-SR:SR1 = 3:1:22; second submarginal cell small, triangular, with short petiolus; 2-R1 less than 0.5 times 1-R1. Hind wing: M+CU:1-M = 5:4.

Legs.— Length of femur, tibia and basitarsus of hind leg 2.6, 5.6 and 8.0 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.4 and 0.3 times hind basitarsus, respectively; tarsal claws without acute lobe.

Metasoma.— Missing in holotype. According to original description about 1.1 times its apical width, its surface sculptured; second tergite transverse, smooth; ovipositor sheath somewhat shorter than body (= about as long as fore wing).

Colour.— Black; apical third and subbasal ring of hind tibia dark brown; tegulae, pterostigma, fore leg and remainder of hind tibia yellowish-brown.

Distribution.— Kazakhstan, Mongolia (Tobias, 1986).

Biology.— Unknown.

Notes on East Palaearctic species of the genus *Agathis* Latreille

Agathis asternaulus Sharkey, 1996: 7, fig. 18a; 1998: 523. Resembles *A. melpomene* Nixon, but has the precoxal sulcus absent and the hind tibia with 8-12 spines.

Agathis cama Sharkey, 1998: 524. Position uncertain; original description without any illustrations!

Agathis extinator Papp, 1971: 332-333, figs 30-32. The holotype female and a male paratype (TMA) from Mongolia have been examined. They are very similar to *A. fuscipennis* (Zetterstedt), but *A. extinator* has no distinct central areas of the propodeum (sometimes also in *A. fuscipennis*; fig. 214), the subapical antennal segments of ♀ are rather slender (fig. 234), and the marginal cell of the fore wing is comparatively slender (fig. 236).

Agathis kumatai Sharkey, 1996: 8-9, fig. 18c; 1998: 523. Probably closely related to *A. anglica* Marshall, may differ by a slightly longer ovipositor sheath (1.6-2.0 times length of metasoma).

Agathis maetoi Sharkey, 1996: 9-10, fig. 18b; 1998: 524. Very close to *A. fuscipennis* (Zetterstedt), but hind femur yellowish-brown.

Agathis medinai Sharkey, 1998: 525. Position uncertain; original description without any illustrations!

Agathis watanabei Sharkey, 1996: 12-13, figs 3d, 4f, 8d, 10c, 11d, 12a, 16a, 18d; 1998: 524 (with *Bassus spatulatus* Sharkey, 1996 as synonym). The short malar space (fig. 4f, l.c.), the presence of the medio-posterior depression of the scutellum, the absence of the median keel of the frons, and of the ante-ocellar area, and the long vein 2-R1 of fore wing may indicate that it belongs to the genus *Bassus*.

Species excluded from the genus *Agathis* Latreille

Agathis ebula Nixon, 1950: 469; Shenefelt, 1970: 331. Belongs to *Bassus* according to Chou & Sharkey (1989) and Sharkey (1996); a junior synonym of *B. romani* (Sheshtakov, 1940) according to Sharkey (1998).

Agathis festiva Muesebeck, 1953: 149; Shenefelt, 1970: 333. Belongs to *Bassus* according to Chou & Sharkey (1989) and Sharkey (1996, 1998).

- Agathis imperialis* Costa, 1888: 9; Shenefelt, 1970: 397 (as *Disophrys imperialis*). Belongs to *Disophrys caesa* (Klug, 1835) according to Papp (1993).
- Agathis initiator* Fonscolombe, 1846: 40; Shenefelt, 1970: 337. Belongs to *Disophrys caesa* (Klug, 1835) according to Graham (1992).
- Agathis kaszabi* Papp, 1971: 334-335, figs 33-34. Holotype and four paratypes (TMA) from Mongolia are examined. The head is comparatively long, but of the *Bassus*-type (ratio of malar triangle 1.5), the area between antennal sockets with pair of crests, vein 2-R1 of fore wing much longer than vein 1-R1 and vein M+CU of hind wing distinctly longer than vein 1-M. Belongs to the genus *Bassus* (**comb. nov.**) and is a junior synonym of *B. linguarius* (Nees, 1814) **syn. nov.**
- Agathis major* Fonscolombe, 1846: 39; Shenefelt, 1970: 341. May belong to *Earinus delator* (Fabricius, 1804) according to Graham (1992).
- Ichneumon purgator* Fabricius, 1793: 156; 1804: 104 (as *Bracon purgator*; *B. luteus* *antennis aculeoque migris, alis hyalinis: fasciis duabus fuscis*); Shenefelt, 1970: 350-351 (as *Agathis purgator*). In 1804 Fabricius refers to the illustration given by Coquebert (1799), of which he has seen the specimens according to the introduction of this paper; from this illustration it is clear that this species is incorrectly included in the Braconidae but belongs to the Ichneumonidae-Cryptinae. There is one specimen in the Fabricius collection, but this is most likely not a type. The type material should be from France and was deposited in the Fonscolombe collection (which via the Brullé collection may have been deposited in the Paris Museum).
- Lissonota semistriata* Walker, 1874: 305; Shenefelt, 1970: 355 (as *Agathis semistriata*). Belongs to *Bassus* according to Sharkey (1996, 1998).
- Agathis ussuriensis* Telenga, 1933: 246; Shenefelt, 1970: 365. Belongs to the genus *Bassus* according to Dr S.A. Belokobylskij (in litt.) and Sharkey (1996, 1998).

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BC = Balevski collection, Sofia; BMNH = The Natural History Museum, London; MNHN = Muséum National d'Histoire Naturelle, Paris; CNR = Museo del Istituito di Zoologia, Rome; NMW = Naturhistorisches Museum, Wien; RMNH = Nationaal Natuurhistorisch Museum. Naturalis, Leiden; RMS = Royal Museum of Scotland, Edinburgh; TMA = Magyar Természettudományi Múzeum, Budapest; ZIL = Zoological Institute, Lund; ZISP = Zoological Institute, St. Petersburg; ZMB - Zoologisches Museum der Humboldt-Universität, Berlin; ZSBS = Zoologische Sammlung des Bayerischen Staates, Munich.

References

- Abdinbekova, A.A., 1970. Novye vidy Brakonid (Hymenoptera, Braconidae) iz fauny SSSR.— Zool. Zh. 49: 1880-1883, figs 1-2.
- Abdinbekova, A.A., 1975. Braconidy (Hymenoptera, Braconidae) Azerbaidzhana, 1-323, figs 1-124.— Baku.
- Achterberg, C. van, 1982a. Notes on some type-species described by Fabricius of the subfamilies Braconinae, Rogadinae, Microgastrinae and Agathidinae (Hymenoptera, Braconidae).— Ent. Ber., Amst. 42: 133-139, figs. 1-9.
- Achterberg, C. van, 1988. Revision of the subfamily Blacinae Foerster (Hymenoptera, Braconidae).— Zool. Verh. Leiden 249: 1-324, figs 1-1250.
- Achterberg, C. van, 1990. Illustrated key to the subfamilies of the Holarctic Braconidae (Hymenoptera: Ichneumonoidea).— Zool. Med. Leiden 64: 1-20, figs 1-26.
- Achterberg, C. van, 1993. Illustrated key to the subfamilies of the Braconidae (Hymenoptera: Ichneumonoidea).— Zool. Verh. Leiden 283: 1-189, 1-66, photos 1-140, plates 1-102.
- Achterberg, C. van, 1994. New morphological terms.— Ichnews 14: 5.
- Alexeev, Ju.I., 1971. Novye vidy Brakonid (Hymenoptera, Braconidae) iz Turkmenii.— Ent. Obozr. 50: 404-415, figs 1-15.
- Ashmead, W.H., 1900. Classification of the Ichneumon flies, or the superfamily Ichneumonoidea.— Proc. U. S. natn. Mus. 23: 1-220.
- Belokobylskij, S.A. & M.A. Jervis, 1998. Descriptions of two new species of the genus *Agathis* Latreille (Hymenoptera, Braconidae, Agathidinae) from Spain, with a record of mating by one species on flowers.— J. nat. Hist. 32: 1217-1225, figs 1-20.
- Chou, L-Y. & M.J. Sharkey, 1989. The Braconidae (Hymenoptera) of Taiwan. I. Agathidinae.— J. Taiwan Mus. 42: 147-233, figs 1-309.
- Coquebert de Montbret, A.J., 1799-1804. Illustration iconographica insectorum quae in Musaeis Parisinis observavit et in lucem edidit. Joh. Christ. Fabricius Decas i-III: 1-142,— Parisis.
- Fabricius, J.C, 1793. Entomologia systematica 2: 1-519.— Hafniae.
- Fabricius, J.C, 1804. Systema Piezatorum: 1-439.— Brunsvigae.
- Fähringer, J., 1937. Opuscula braconologica. 4. Palaarktische Region 4-6: 257-520.
- Fischer, M., 1957. Beiträge zur Kenntnis der paläarktischen Braconiden.— Mitt. Münch. ent. Ges. 47: 1-20.
- Fischer, M., 1959. Neue und wenig bekannte Braconiden aus Jugoslawien (Hymenoptera).— Acta Mus. maced. Sci. nat. 6: 1-25.
- Fischer, M., 1966. Gezüchtete Braconiden aus Niederösterreich und aus dem Burgenland (Hymenoptera).— Z. angew. Zool. 53: 385-402.
- Fischer, M., 1968. Über gezüchtete Raupenwespen.— Pflanzenschutzberichten 37: 121-124.
- Foerster, A., 1862. Synopsis der Familien und Gattungen der Braconen.— Verh. naturh. Ver. preuss. Rheinl. 19: 225-288.
- Fortuner, R & Y. Wong, 1984. Review of the genus *Helicotylenchus* Steiner, 1945. 1: a computer program for identification of the species.— Revue Nematol. 7: 385-392.
- Graham, M.W.R. de Vere, 1992. Hymenoptera collections of Boyer de Fonscolombe, with an account of his work and description of the natural features of his estate.— J. nat. Hist. 26: 1089-1111, figs 1-7.
- Hellén, W., 1956. Zur Kenntnis der Agathidinen Finnlands (Hym., Brac.).— Notul. ent. 36: 116-125.
- Ivanov, P., 1899. Braconides cryptogastres et aréolaires des environs de Koupiansk avec tableaux synoptiques des genres et des espèces de ces insectes.— Trudy Obshch. Isp. Prir. I. Kharkov. Univ. 33: 273-382.
- Jurine, L., 1807. Nouvelle méthode de classer les Hyménoptères et les Diptères: 1-319.— Genève.
- Kokujev, N., 1895. Fragments Braconologiques IV-V.— Horae Soc. ent. ross. 29: 363-392.
- Krikken, J., C. van Achterberg, P.H. van Doesburg, R. de Jong & K.W.R. Zwart, 1981. Samuel Constant Snellen van Vollenhoven (1816-1880) and his entomological work.— Tijdschr. Ent. 124: 235-268, figs 1-3, 1 colour-plate.

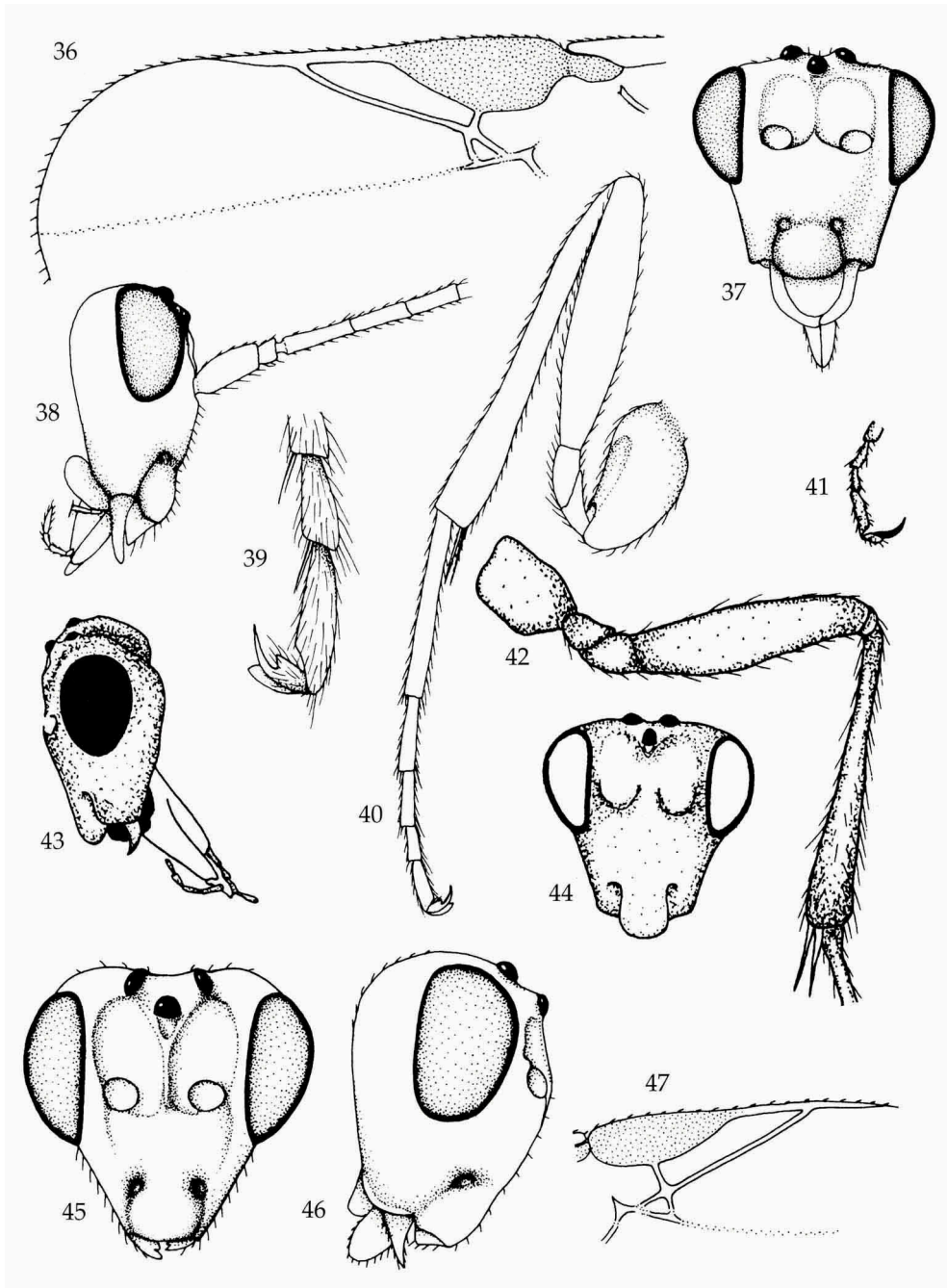
- Latreille, P.A., 1804. Nouveau dictionnaire d'histoire naturelle: 1-285.— Paris.
- Latreille, P.A., 1805. Histoire naturelle générale et particulière des crustacés et des insectes 13: 175.— Paris.
- Latreille, P.A., 1806-1809. Genera crustaceorum et insectorum secundum ordinem naturalem in familias disposita, iconibus exemplisque plurimis explicata, vols 1-4.— Paris, Strasbourg.
- Latreille, P.A., 1810. Considérations générales sur l'ordre naturel des animaux composant les classes des crustacés, des arachnides, et des insectes: 1-444.— Paris.
- Lucas, H., 1849. Exploration scientifique de l'Algérie, Zoologie 3: 1-403.—Paris.
- Marshall, T.-A., 1885. Monograph of British Braconidae. I.— Trans. R. ent. Soc. Lond. 1885: 1-280.
- Marshall, T.-A., 1888-1890. Species des Hyménoptères d'Europe & d'Algérie (Ed.: E. André) 4: 1(i)-609, pls 1-18.
- Marshall, T.-A., 1898. Species des Hyménoptères d'Europe & d'Algérie (Ed.: E. André) 5bis: 145-288, pls 7-12.
- Muesebeck, C.F.W., 1927. A revision of the parasitic wasps of the subfamily Braconinae occurring in America north of Mexico.— Proc. U.S. nat. Mus. 69: 1-73.
- Muesebeck, C.F.W. & L. Walkley, 1951. Braconidae. In: Muesebeck, C.F.W., K.V. Krombein & H.K. Townes. Hymenoptera of America north of Mexico. Synoptic Catalog.— Agriculture Monogr. 2: 90-184.
- Muesebeck, C.F.W., 1953. Three new reared Braconidae.— Proc. ent. Soc. Wash. 55: 149-151.
- Nees von Esenbeck, C.G., 1814. Ichneumonides adsciti, in genera et familias divisi.— Mag. Ges. Naturf. Fr. Berlin 6 [1812]: 183-221.
- Nees von Esenbeck, C.G., 1834. Hymenopterorum Ichneumonibus affinium monographia, genera Europaea et species illustrantes 1: 1-320.— Stuttgartiae & Tubingae.
- Niezabitowski, E.L., 1910. Materyaly do fauny Brakonidów Polski 1.— Spraw. Kom. fizyogr. Krajow. 44: 47-106.
- Nixon, G.E.J., 1950. New Indian Braconidae bred from lepidopterous defoliators (Hymenoptera).— Ann. Mag. nat. Hist. (12)3: 453-474.
- Nixon, G.E.J., 1986. A revision of the European Agathidinae (Hymenoptera: Braconidae).— Bull. Br. Mus. nat. Hist. (Ent.) 52: 183-242, figs 1-68.
- Papp, J., 1971. Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei, 265. Braconidae (Hymenoptera) 3.— Annls hist.-nat. Mus. natn. hung. 63: 307-363, figs 1-57.
- Papp, J., 1975. Contribution to the braconid fauna of Yugoslavia (Hymenoptera: Braconidae). II.— Folia ent. hung. 28: 301-319, figs 1-14.
- Papp, J., 1993. Critical revision of A. Costa's braconid species (Hymenoptera, Braconidae).— Boll. Lab. Ent. agr. Filippo Silvestri 48(1991): 41-51, figs 1-8.
- Papp, J., 1994. A revision of the Braconidae (Hymenoptera) species described by J.W. Zetterstedt.— Ent. scand. 25: 303-310, figs 1-6.
- Papp, J., C. van Achterberg, J.W.A. van Zuijlen, P.V. Atanassova, X. Chen & E. Haeselbarth, 1996. Braconidae (Schildwespen), p. 119-128. In: Zuijlen, J.W. van et al. Brand-stof. Een inventarisatie van de entomofauna van het natuurreservaat "De Brand" in 1990: i-vi + 1-228.— Insektenwerkgroep KNNV-afdeling Tilburg.
- Pintureau, B. & J. Daumal, 1995. Effects of diapause and host species on some morphometric characters in *Trichogramma* (Hym. Trichogrammatidae).— Experientia 51: 67-72.
- Reinhard, H., 1867. Beiträge zur Kenntnis einiger Braconiden-Gattungen 4.— Berl. ent. Z. 11: 351-374.
- Pungerl, N.P., 1986. Morphometric and electrophoretic study of *Aphidius* species (Hymenoptera: Aphidiidae) reared from a variety of aphid hosts.— Syst. Ent. 11: 327-354.
- Richards, O.W., 1956. Hymenoptera. Introduction and key to families.— Handbk Ident. Br. Insects 6(1): 1-94, figs 1-127 + 22.
- Richards, O.W., 1977. Id., second ed.: 1-100, figs 1-196 + 22.
- Sharkey, M.J., 1992. Cladistics and tribal classification of the Agathidinae (Hymenoptera: Braconidae).— J. nat. Hist. 26:425-447, figs 1-30.
- Sharkey, M.J., 1996. The Agathidinae (Hymenoptera: Braconidae) of Japan.— Bull. nat. Inst. Agro-Environm. Sci. 13: 1-100, figs 1-26.

- Sharkey, M. J., 1997. Subfamily Agathidinae, p. 68-83 figs 1-54. In: Wharton, R.A., et al. (eds). Manual of the New World genera of the family Braconidae (Hymenoptera).— Special Publ. Int. Soc. Hym. 1: 1-439, figs.
- Sharkey, M. J., 1998. Podsem. Agathidinae, p. 520-531, figs 196-200. In: P.A. Ler (ed.) Opređelitel nasekomych Dalnego Vostoka Rossii (4) 3: 1-708, pls 1-274.
- Shaw, M.R. & T. Huddleston, 1991. Classification and biology of braconid wasps (Hymenoptera: Braconidae).— Handbk Ident. Br. Ins. 7(11): 1-126, figs 1-126.
- Shenefelt, R.D., 1970. Braconidae, 3.— Hym. Cat. (nov. ed.) 6: 307-428.
- Shestakov, A., 1928. Ad cognitionem Braconidarum tribus Agathidini. 1.— Ent. Obozr. 22: 223-228.
- Shestakov, A., 1932. Zur Kenntnis der asiatischen Braconiden.— Zool. Anz. 99: 255-263.
- Simbolotti, G. & C. van Achterberg, 1992d. Revision of the West Palaearctic species of the genus *Bassus* Fabricius (Hymenoptera: Braconidae).— Zool. Verh. Leiden 281: 1-80, figs 1-156.
- Snellen van Vollenhoven, S.C., 1873. Beschrijving der nieuwe soorten. Bijlage tot de lijst van inlandse Hymenoptera.— Tijdschr. Ent. 16: 209-220, pl. 9.
- Telenga, N.A., 1933. Einige neue Agathididae-Arten aus U.S.S.R. (Braconidae, Hymenoptera).— Konowia 12: 245-247.
- Telenga, N.A., 1955. Hymenoptera 5(4). Fam. Braconidae: Subfam. Microgasterinae, Subfam. Agathinae.— Fauna Rossii (n. s.) 61: 1-312.
- Thomson, C.G., 1895. 52. Bidrag till Braconidernas k nnekedom.— Opusc. ent. 20: 2141-2339.
- Tobias, V.I., 1961. Outline of the Ichneumonid-Braconid fauna (Hymenoptera, Braconidae) of central Kazakhstan in Svyazi from supplementary sustenancxe on flowers.— Akad. Sci. Kazakh. S.S.R.1961: 86-90 (in Russian).
- Tobias, V.I., 1963. Parazititseskie perepontosatokrylye roda *Agathis* Latr. (Hymenoptera, Braconidae) Kazachstana i srednej Azii.— Ent. Obozr. 42: 864-883, figs 1-19.
- Tobias, V.I., 1964. O dvuch vidach roda *Agathis* Latr. (Hymenoptera, Braconidae) s Kavkaza.— Izv. Akad. Nauk Armyan SSR (Biol.) 17: 59-66.
- Tobias, V.I., 1966. Novye bidy Brakonid (Hymenoptera, Braconidae) iz Turkmenii i sopredelnykh territorij.— Trudy zool. Inst. Leningr. 37: 111-131.
- Tobias, V.I., 1976. Brakonidy Kavkaza (Hymenoptera, Braconidae).— Opređ. Faune SSSR 110: 1-287, pls 1-67.
- Tobias, V.I., 1986. Agathidinae: 276-291. In: Medvedev, G.S. (ed.). Opređelitel nasekomych Evropeiskoi tchasti SSSR 3, Perepontchatokrylye 4.— Opr. Faune SSSR 145: 1-501, figs 1-263. Translation 1995: 480-507.— Lebanon, U.S.A.
- Villers, C.J. de, 1789. Caroli Linnaei Entomologia, Faunae Suecicae Descriptionibus aucta 1: 1-24 + 1-765.— Lugduni.
- Wesmael, C., 1837. Monographie des Braconides de Belgique.— Nouv. M m. Acad. sci. R. Bruxelles 10: 5-68.
- Zettel H. & A. Beyarslan, 1992.  ber Agathidinae aus der T rkei (Hymenoptera, Braconidae).— Entomofauna 13: 121-132, figs 1-5.
- Zetterstedt, J.W., 1838. Sectioi secunda Hymenoptera, Braconidae, p. 398-407. In: Zetterstedt, J.W., 1838-40. Insecta Lapponica descripta : 1-1139.— Lipsiae.

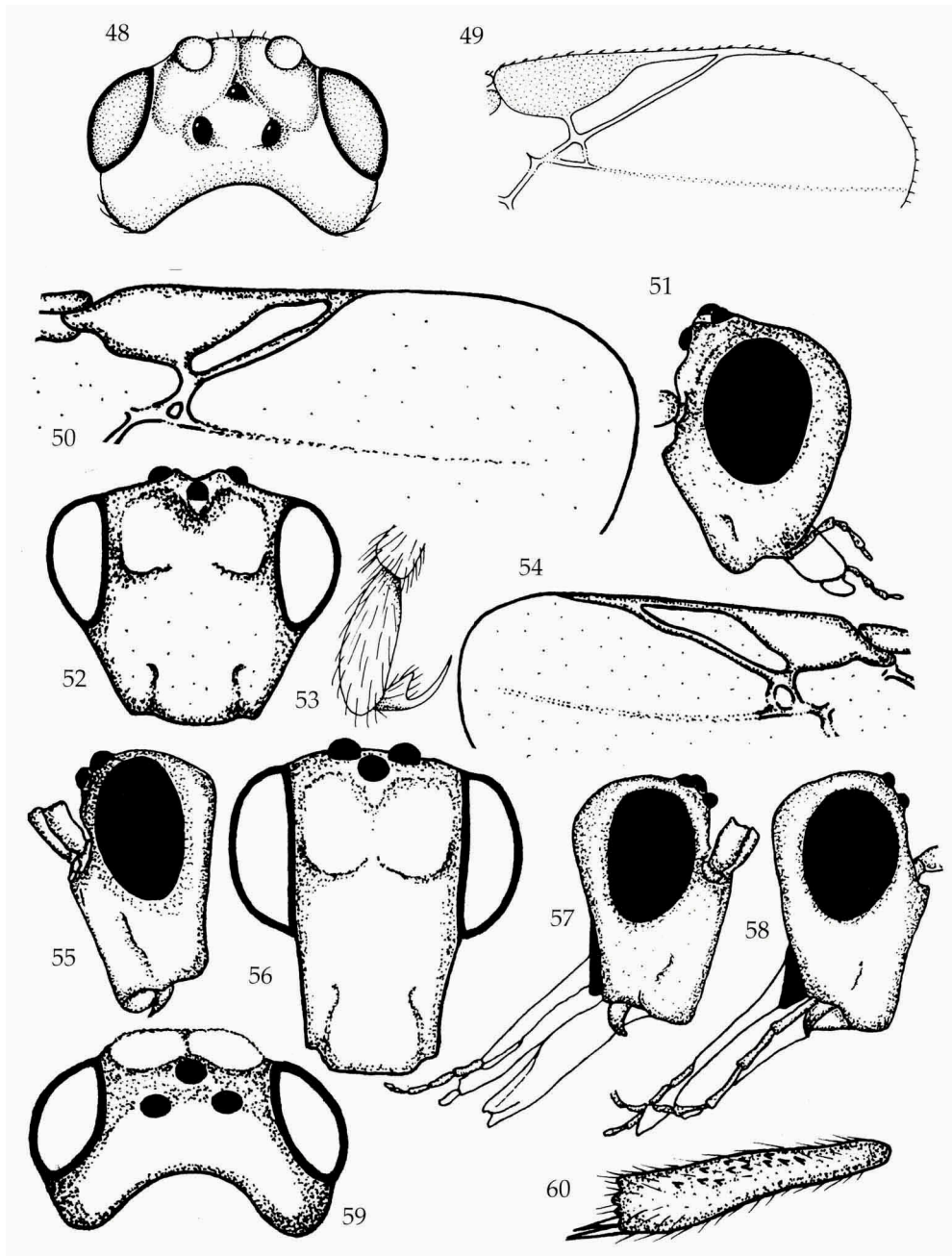
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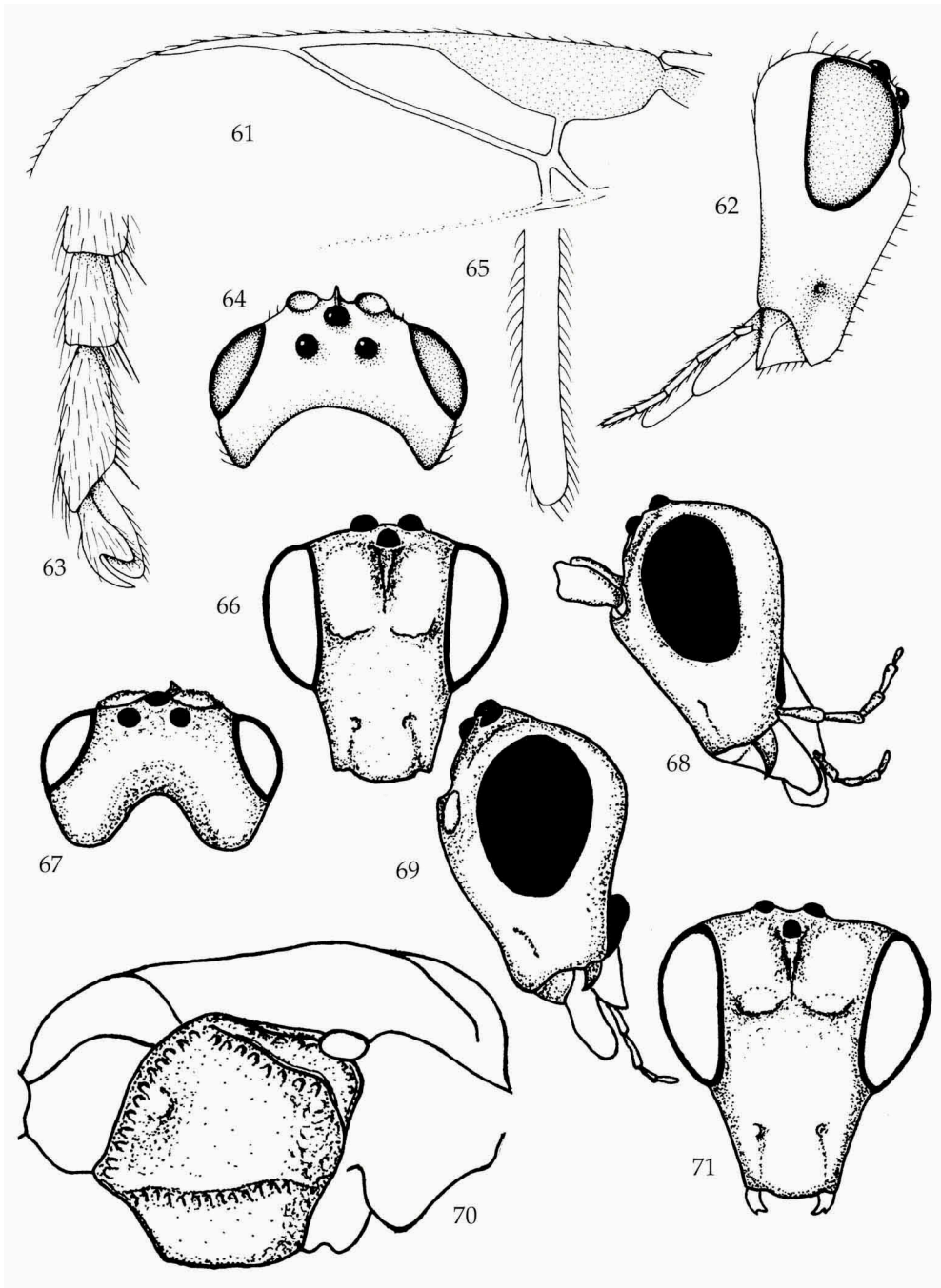
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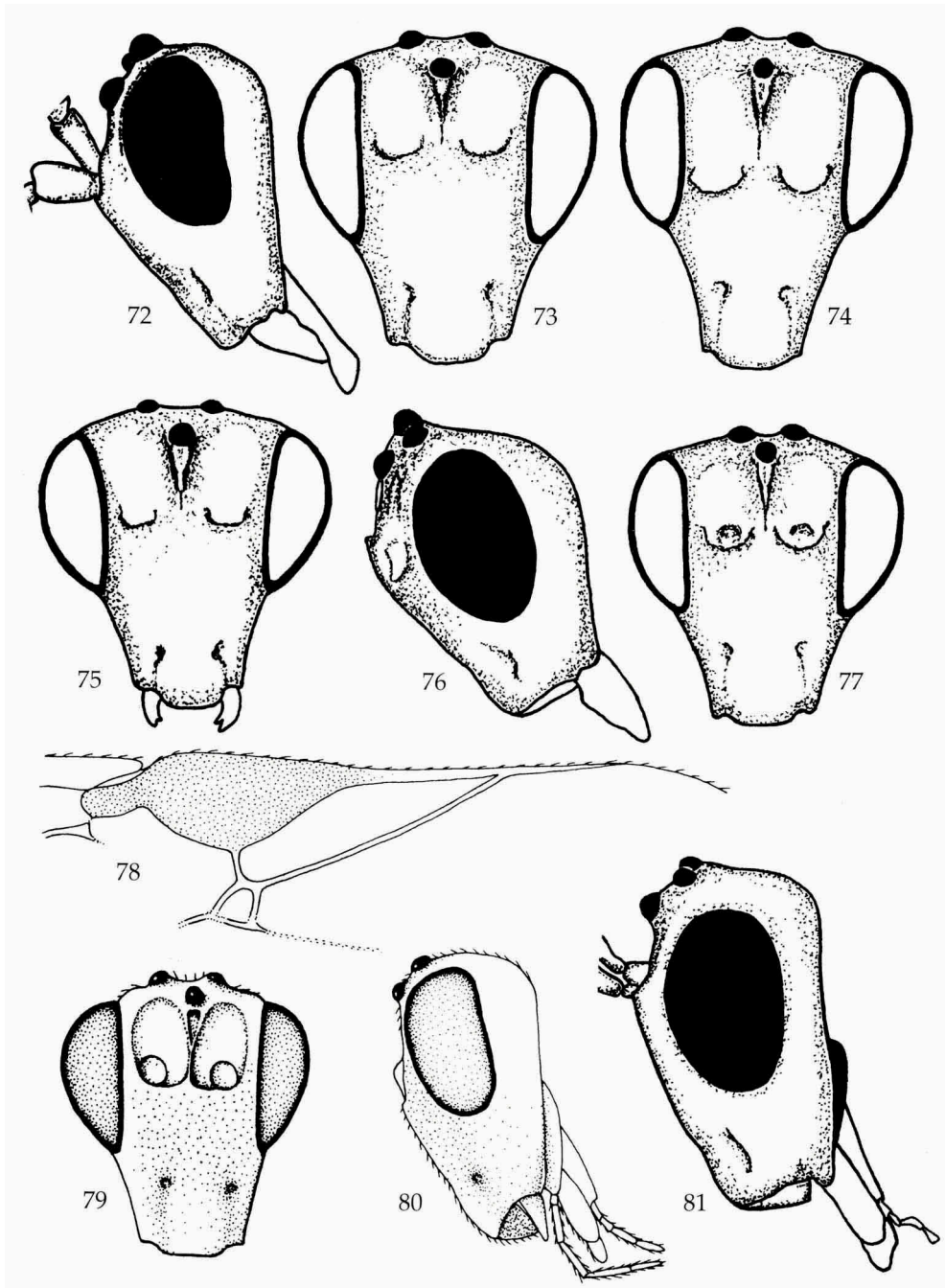
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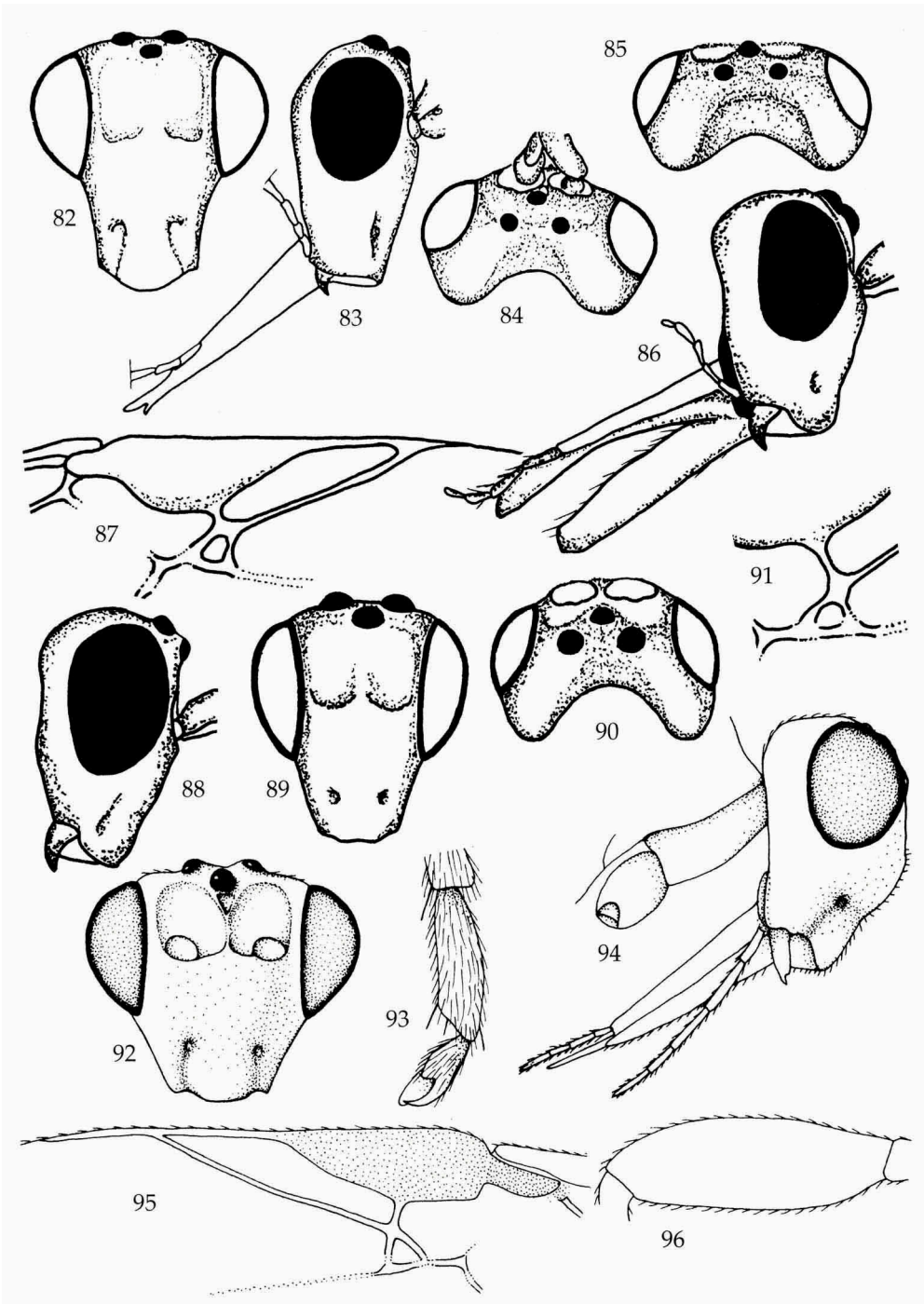
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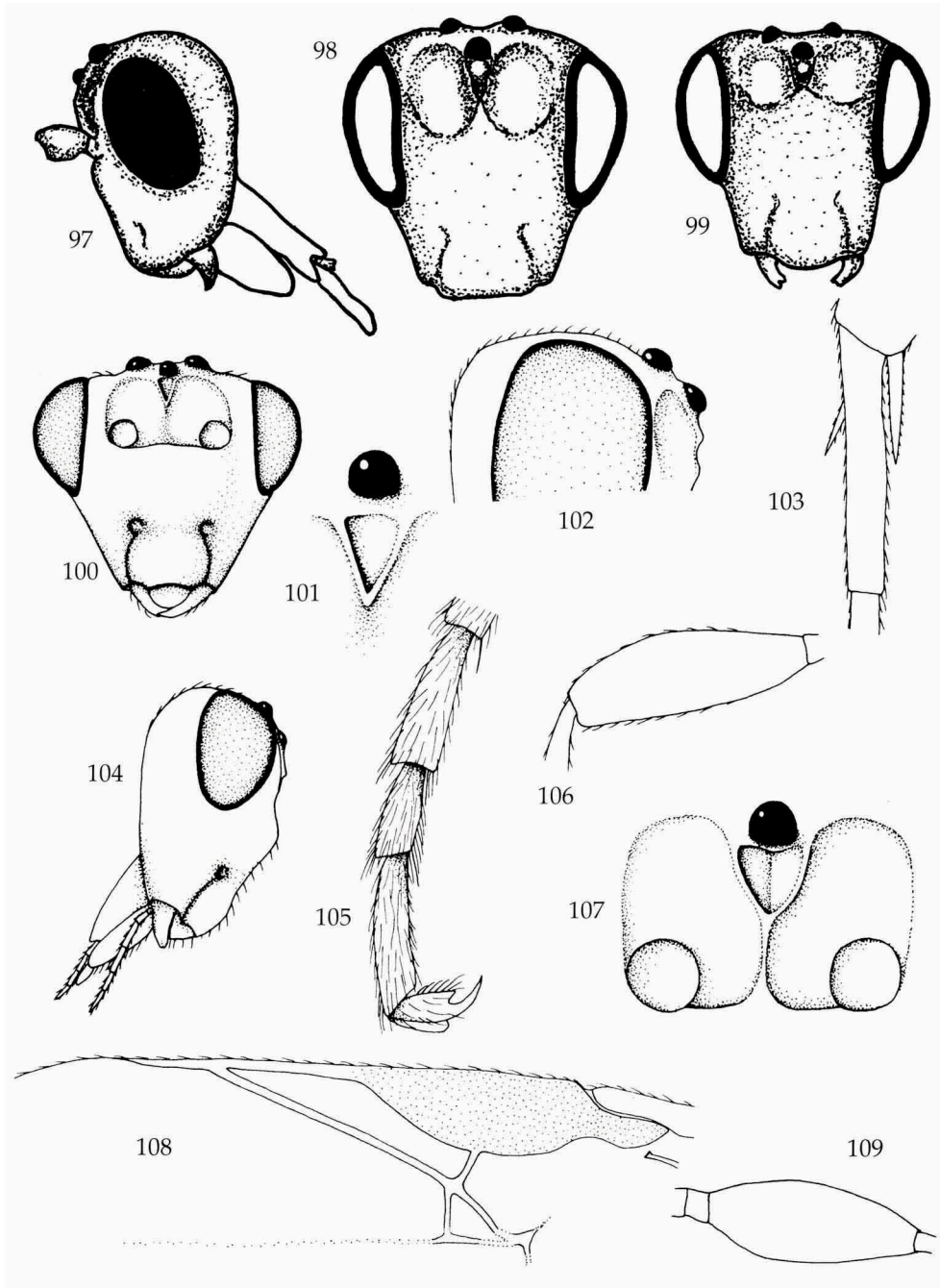
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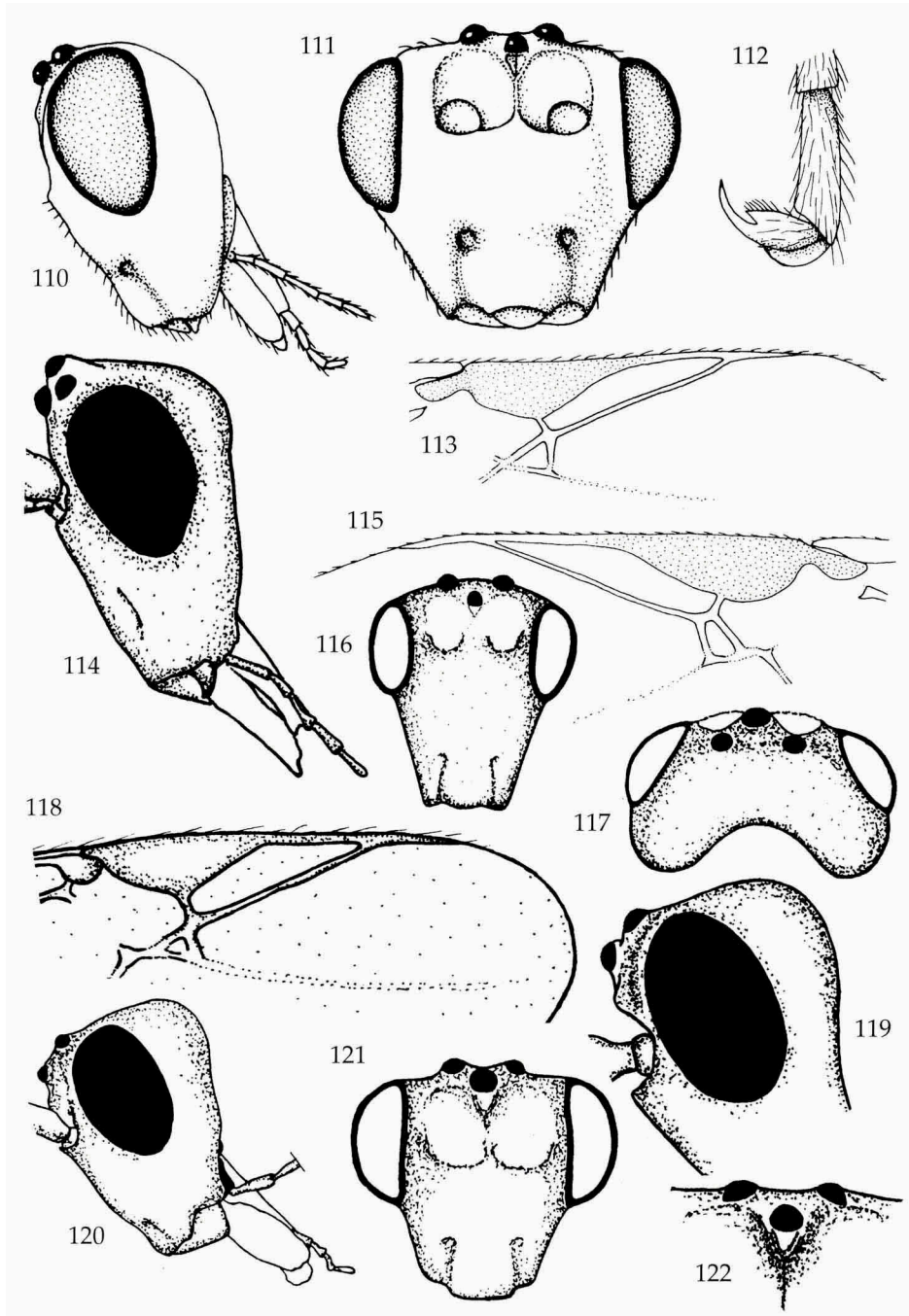
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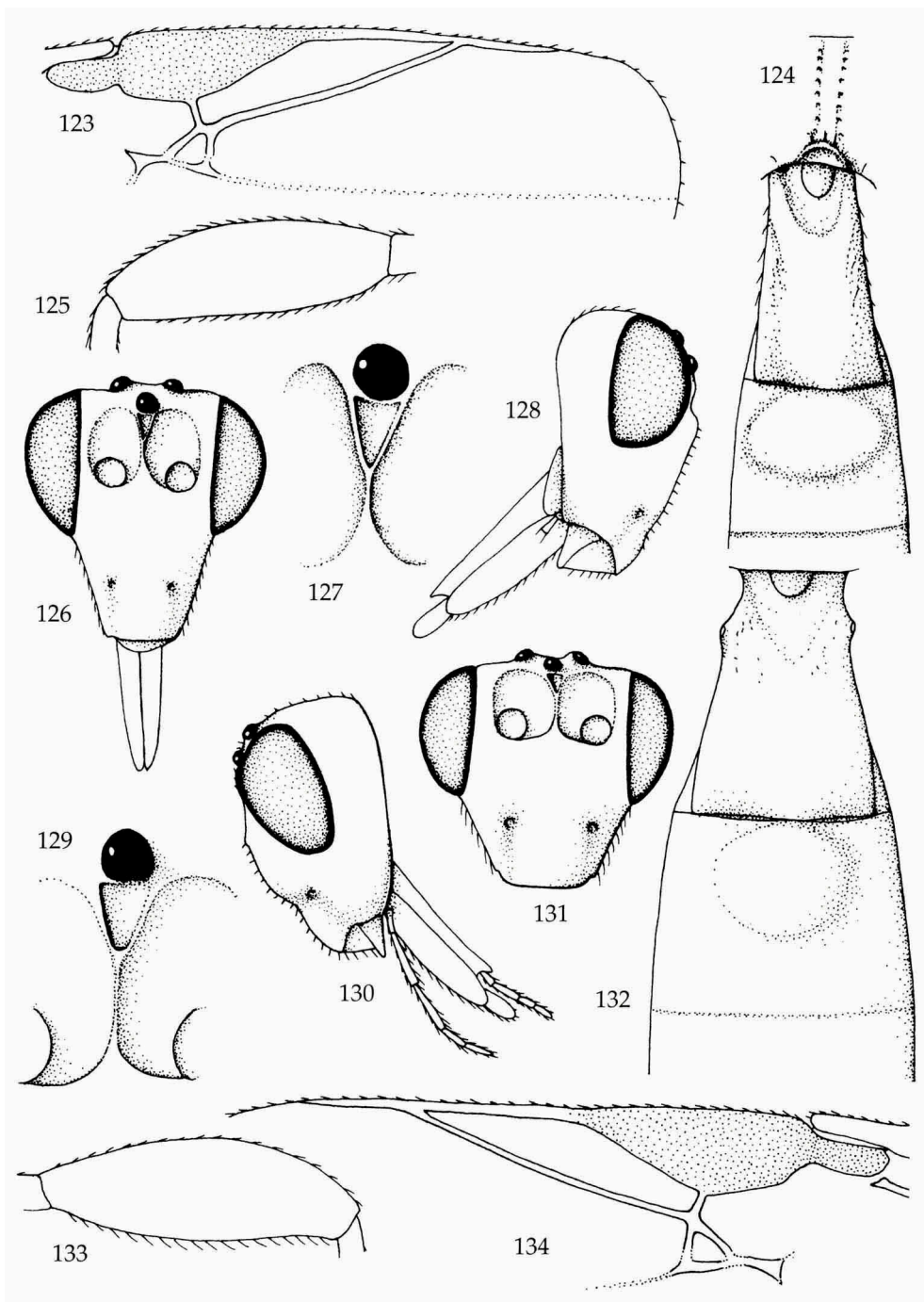
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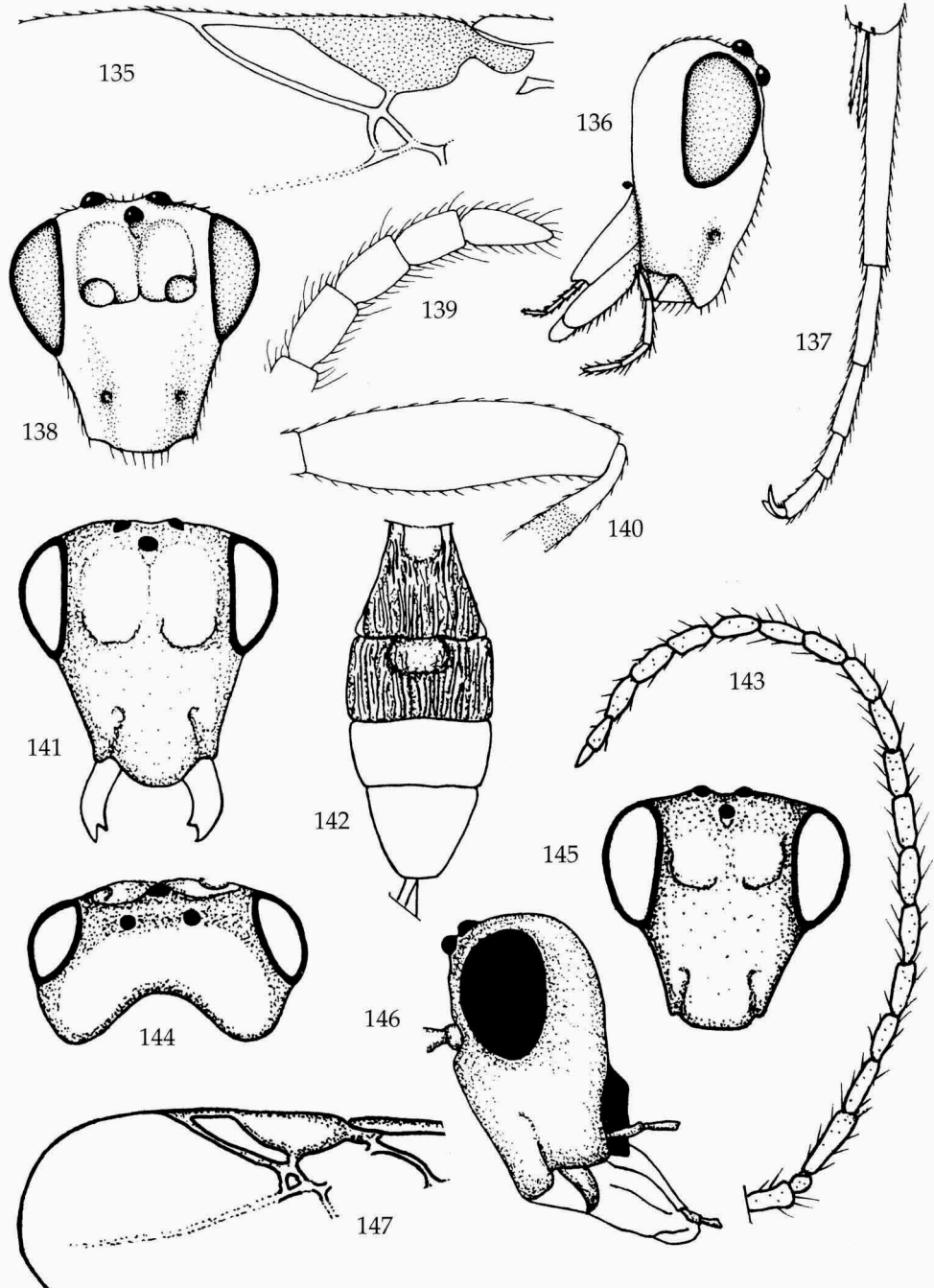
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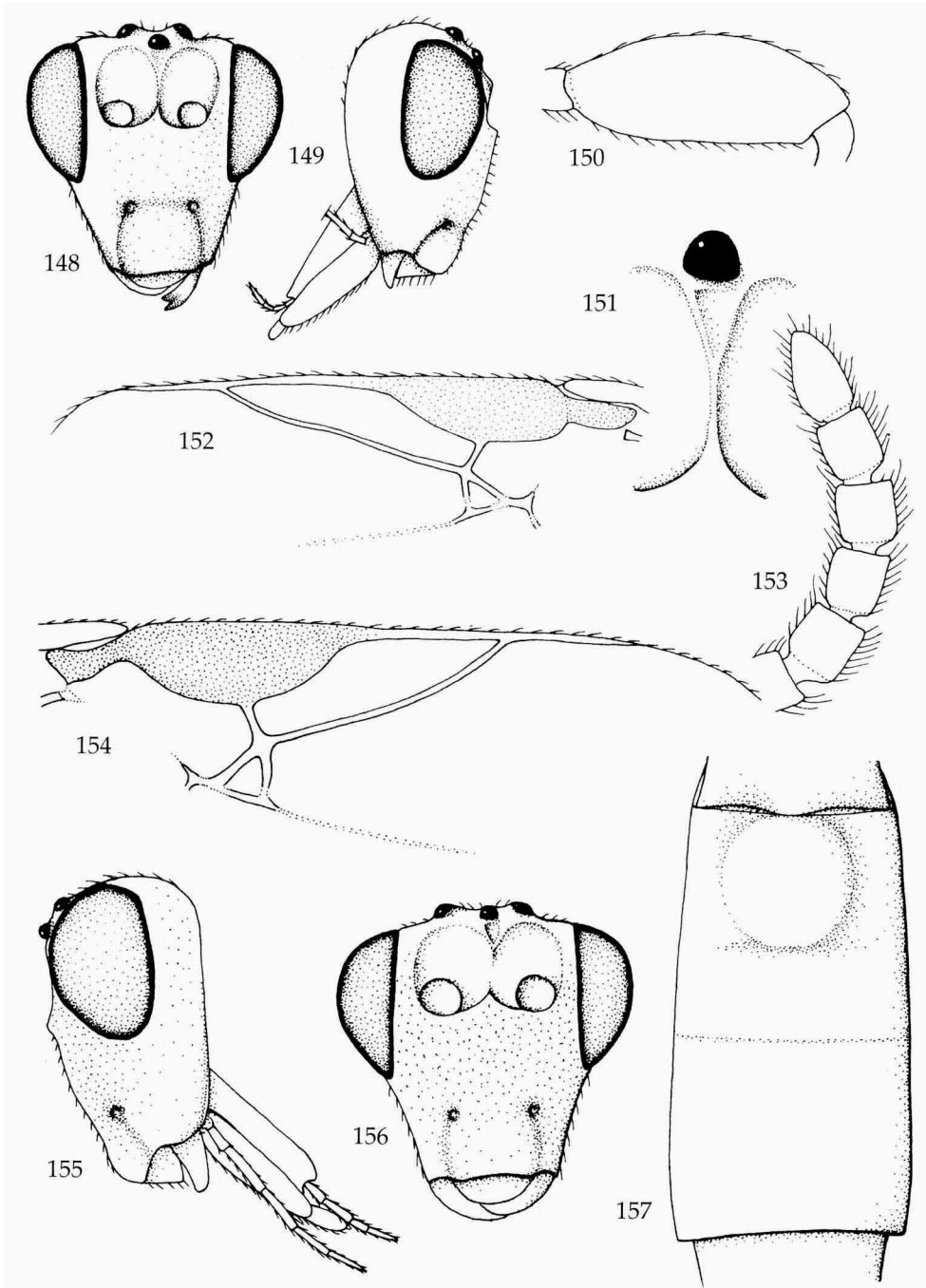
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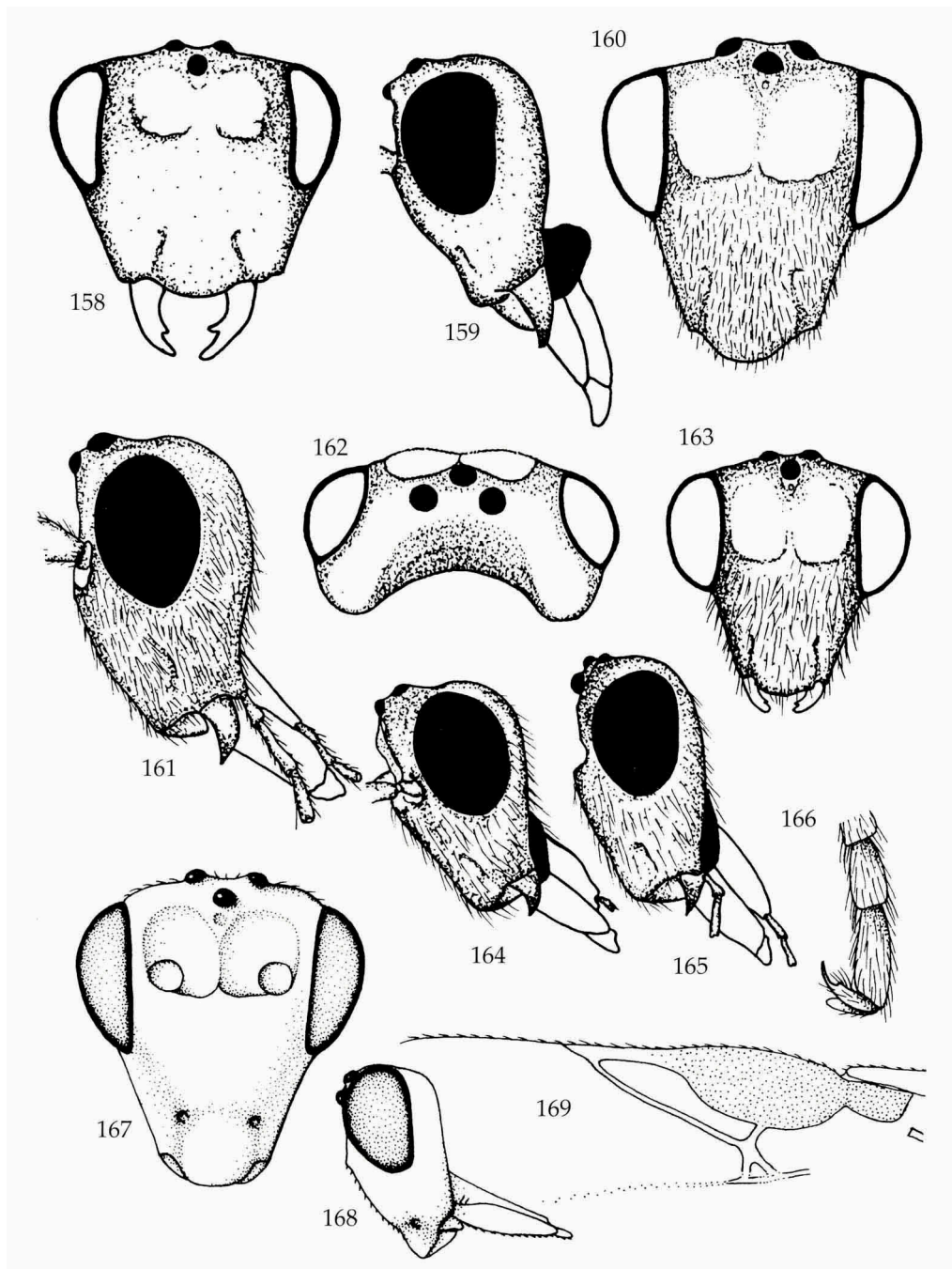
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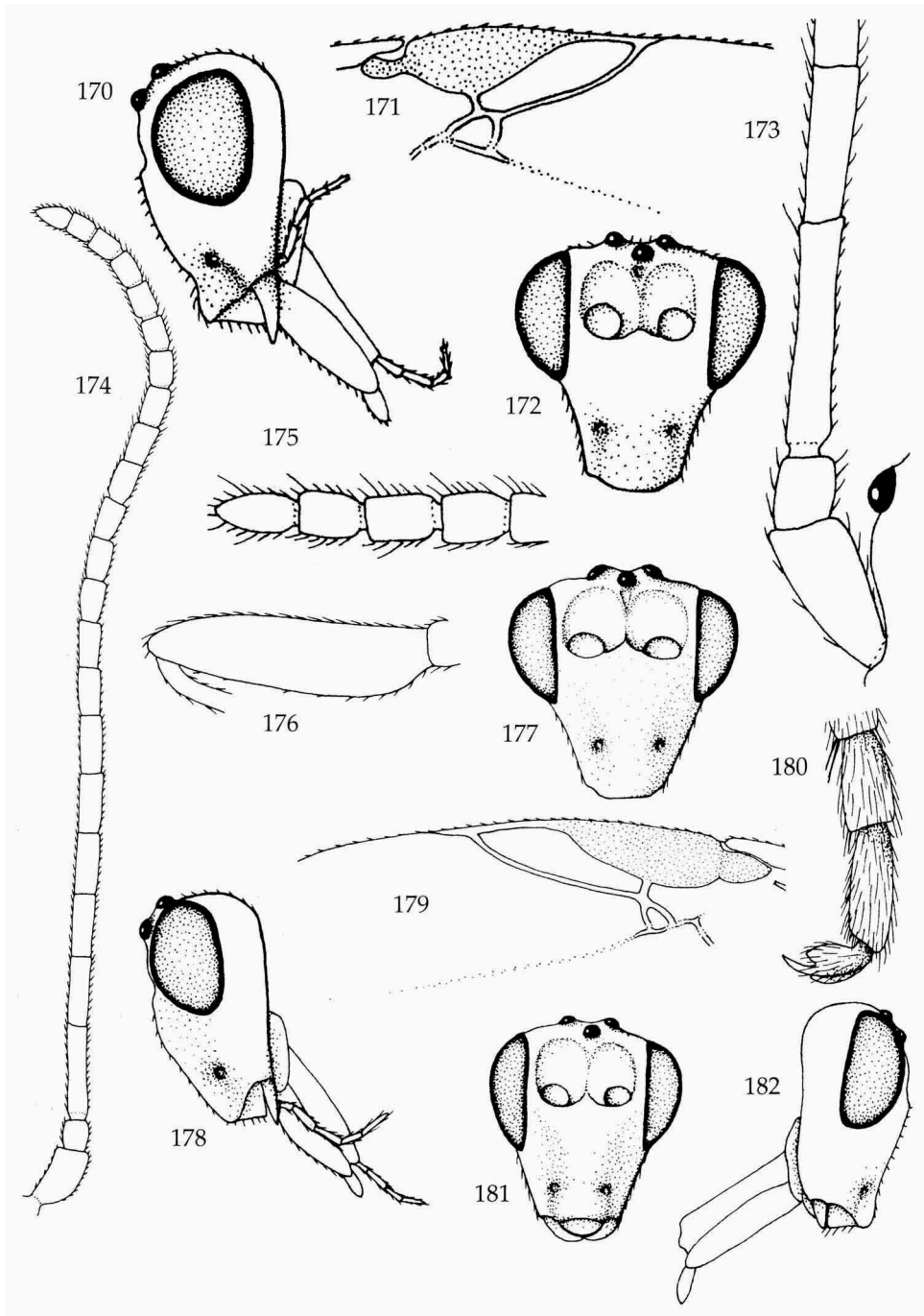
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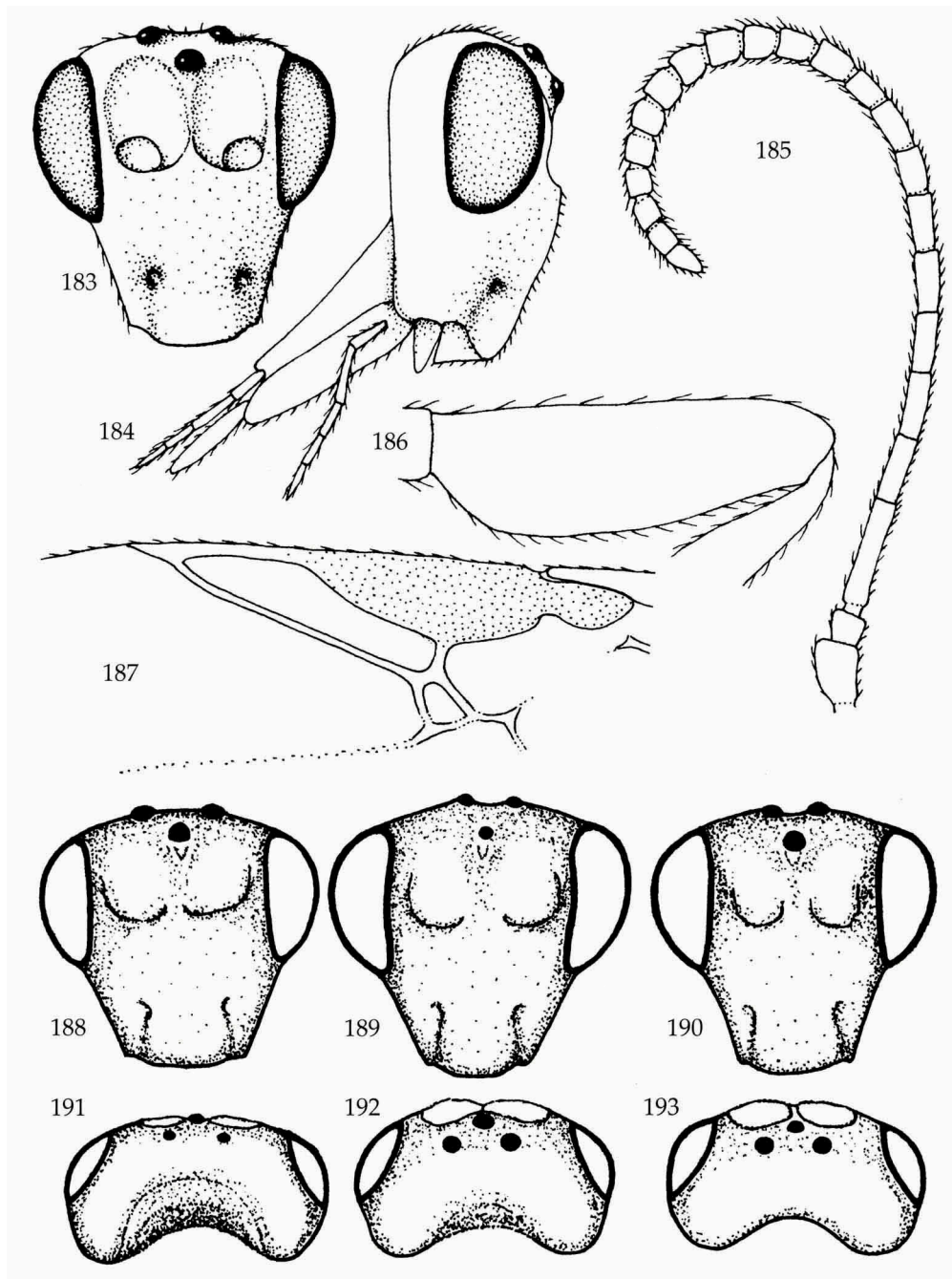
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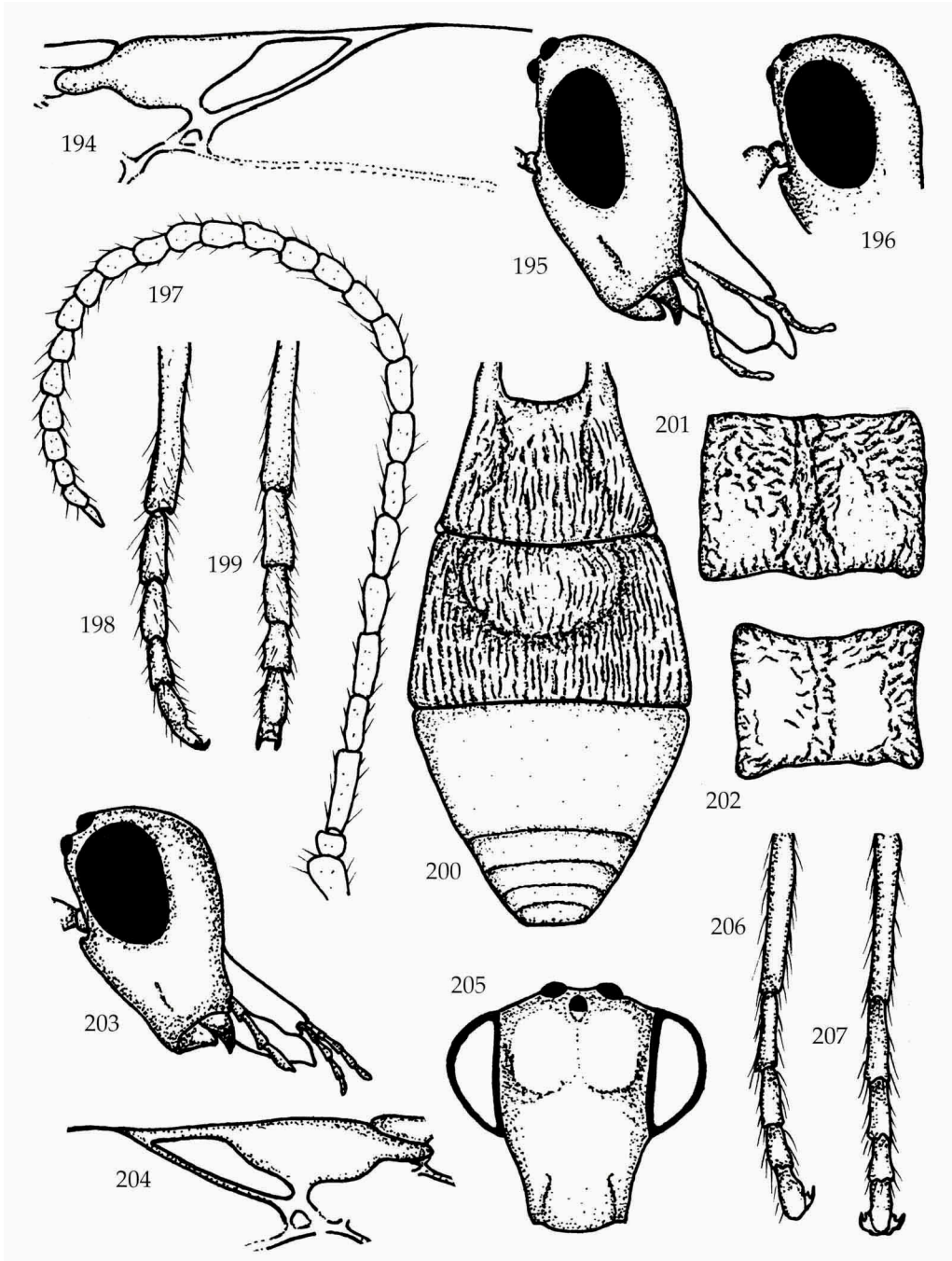
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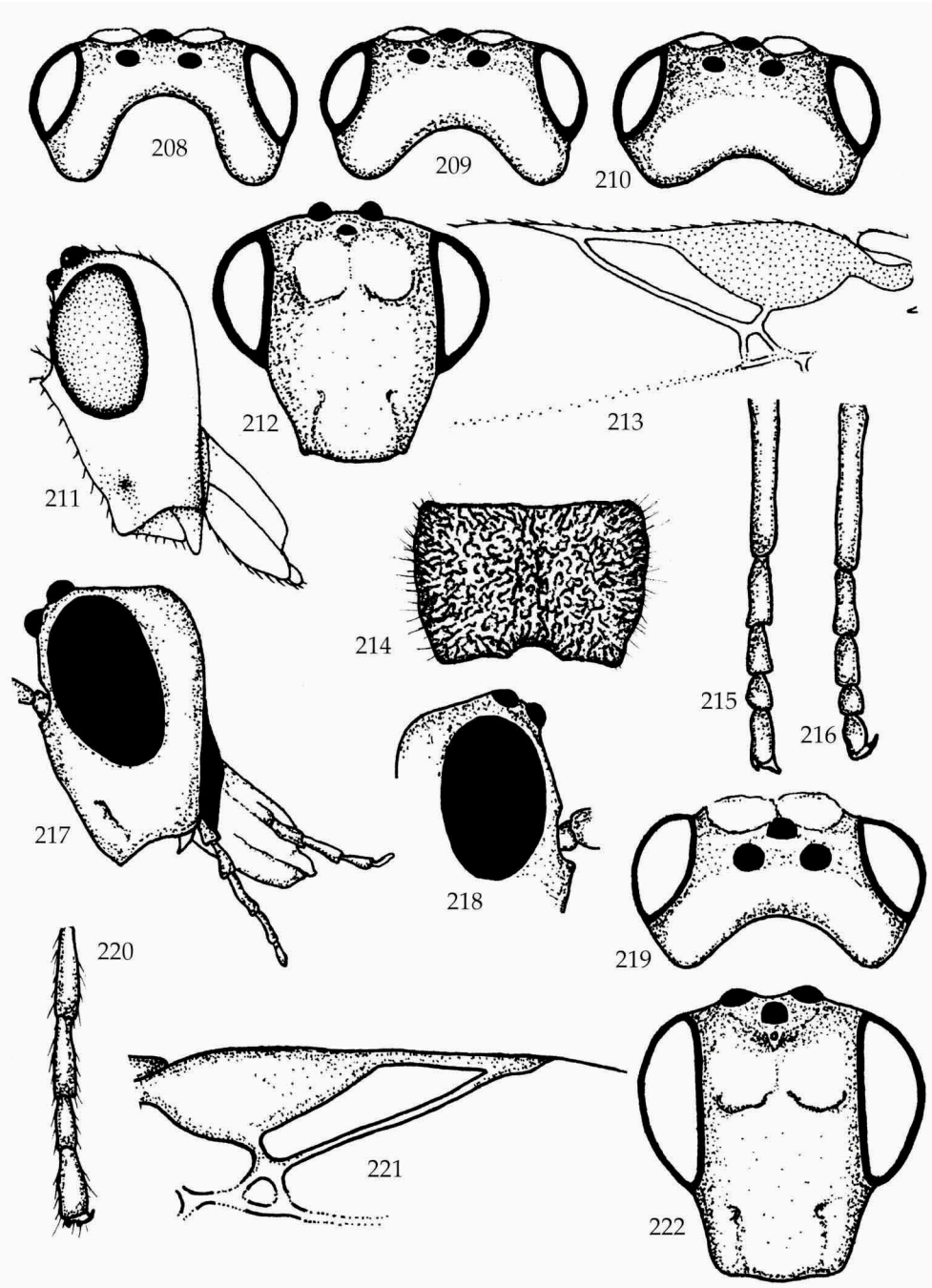
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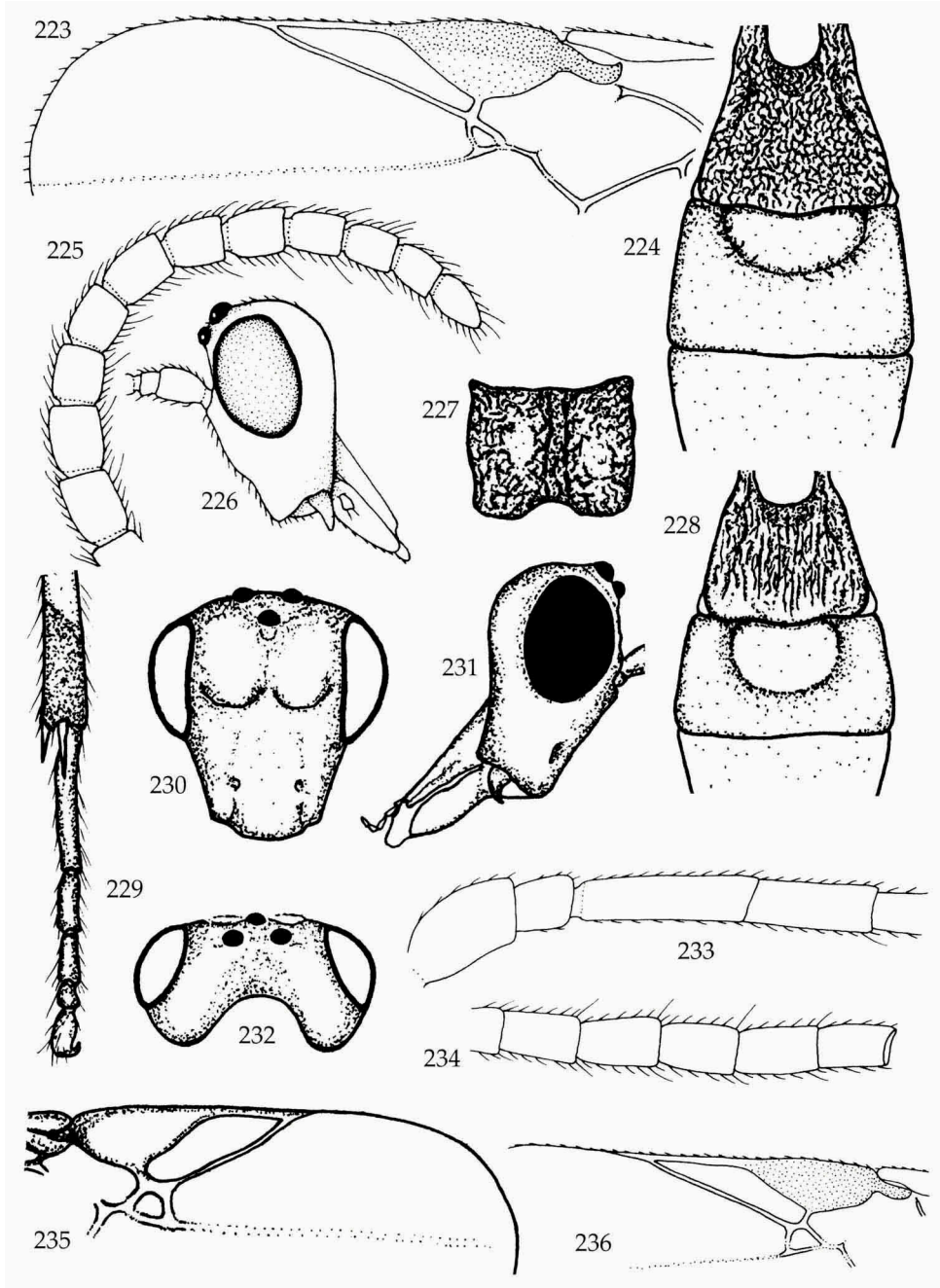
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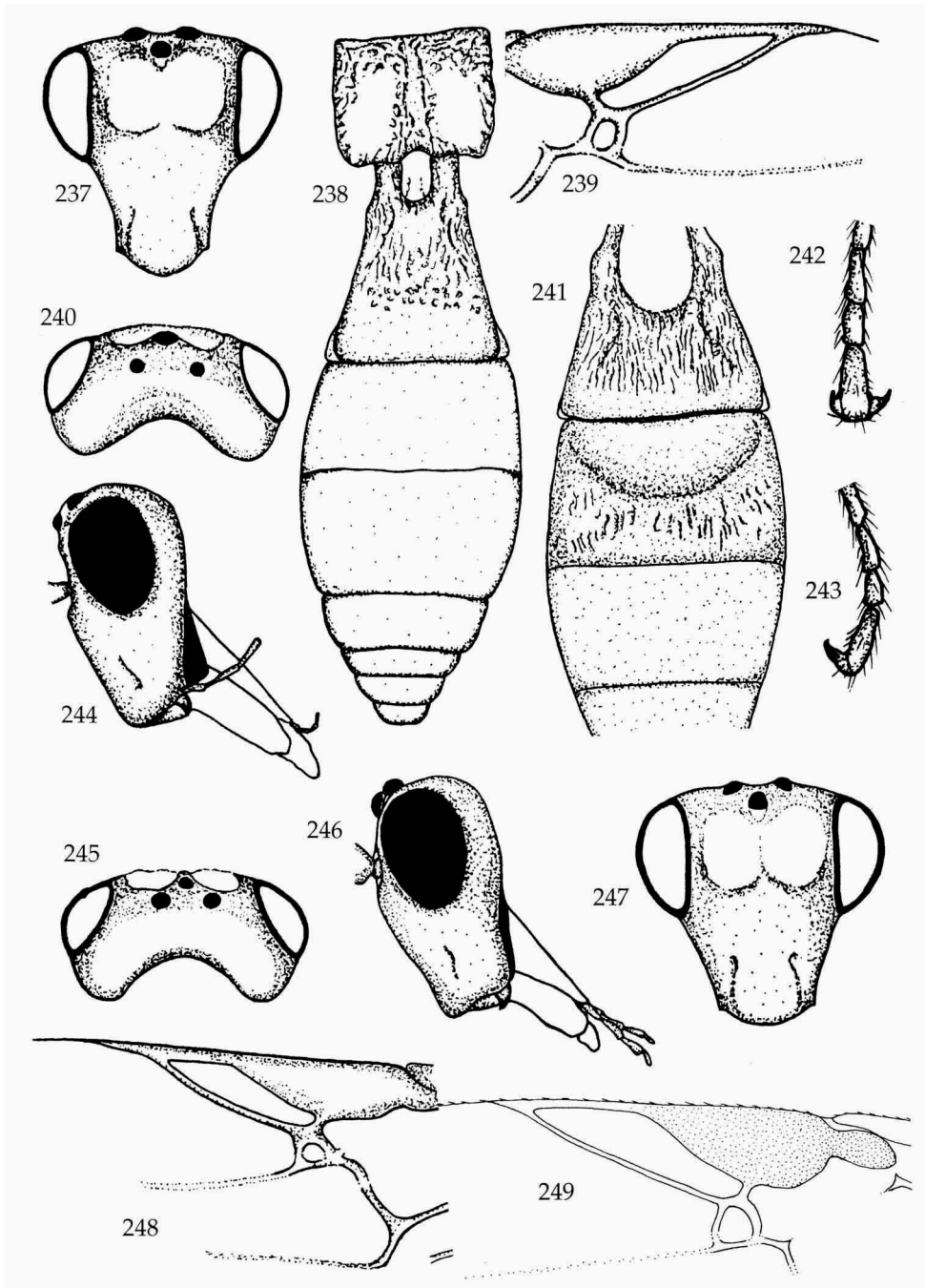
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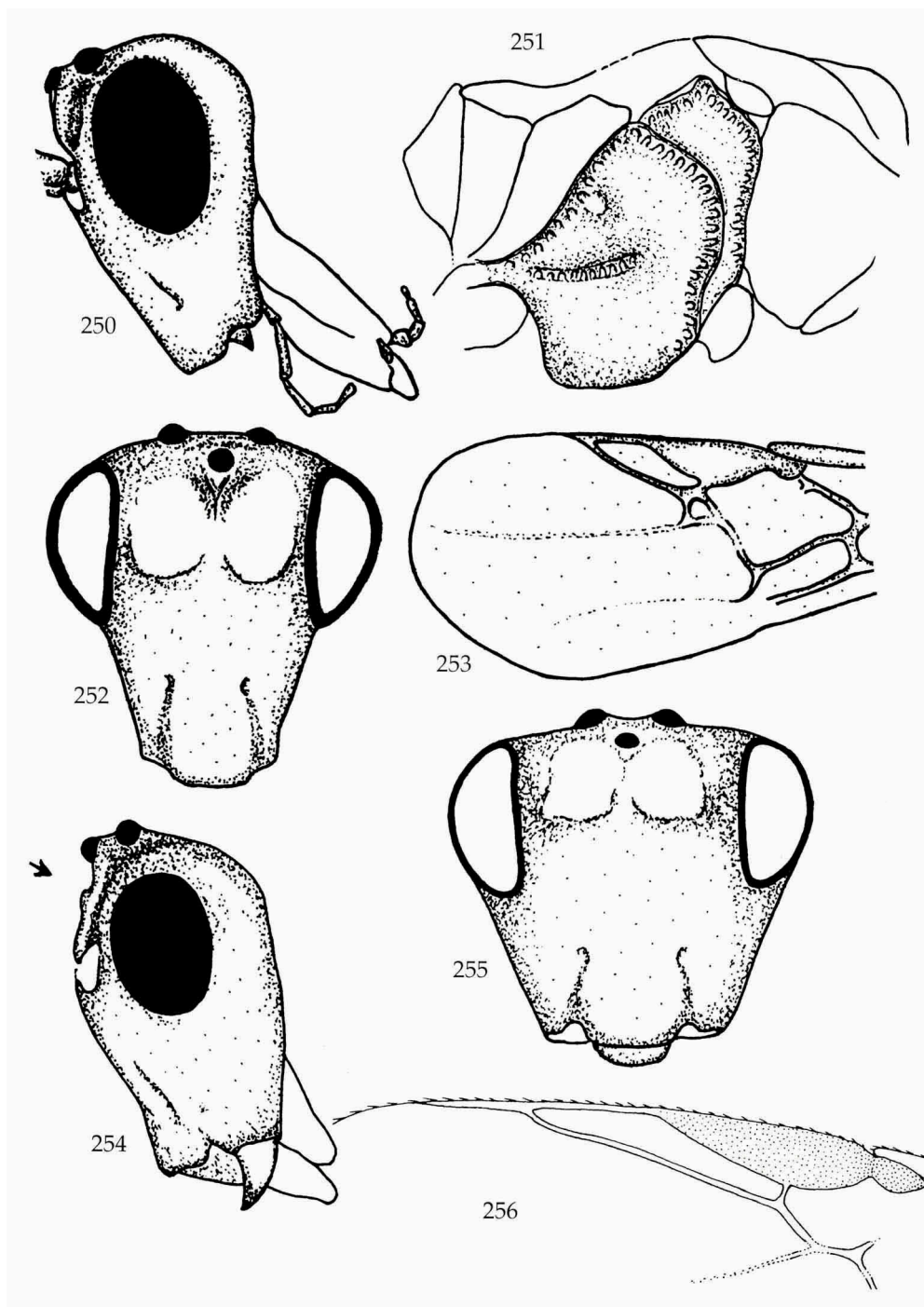
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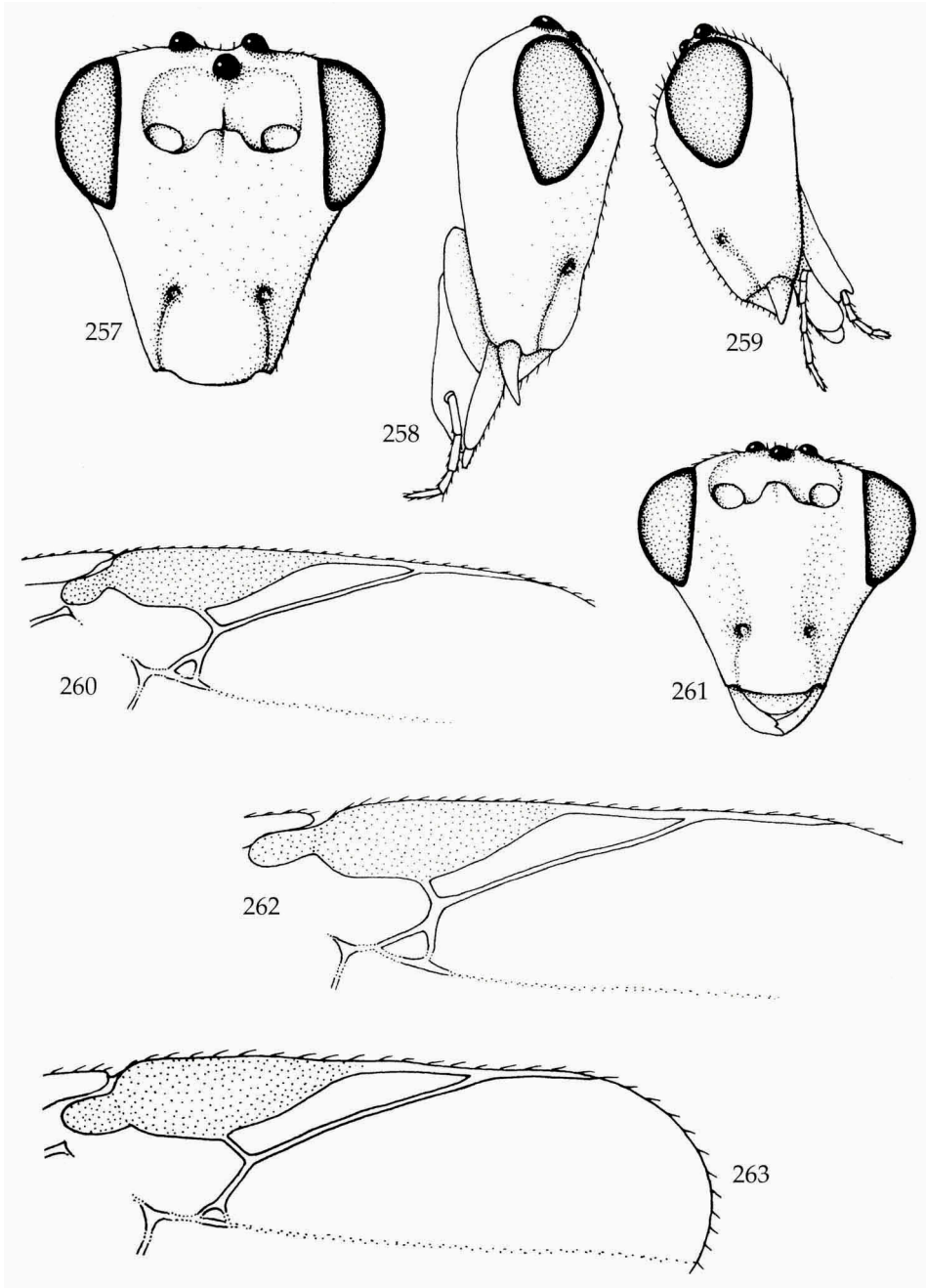
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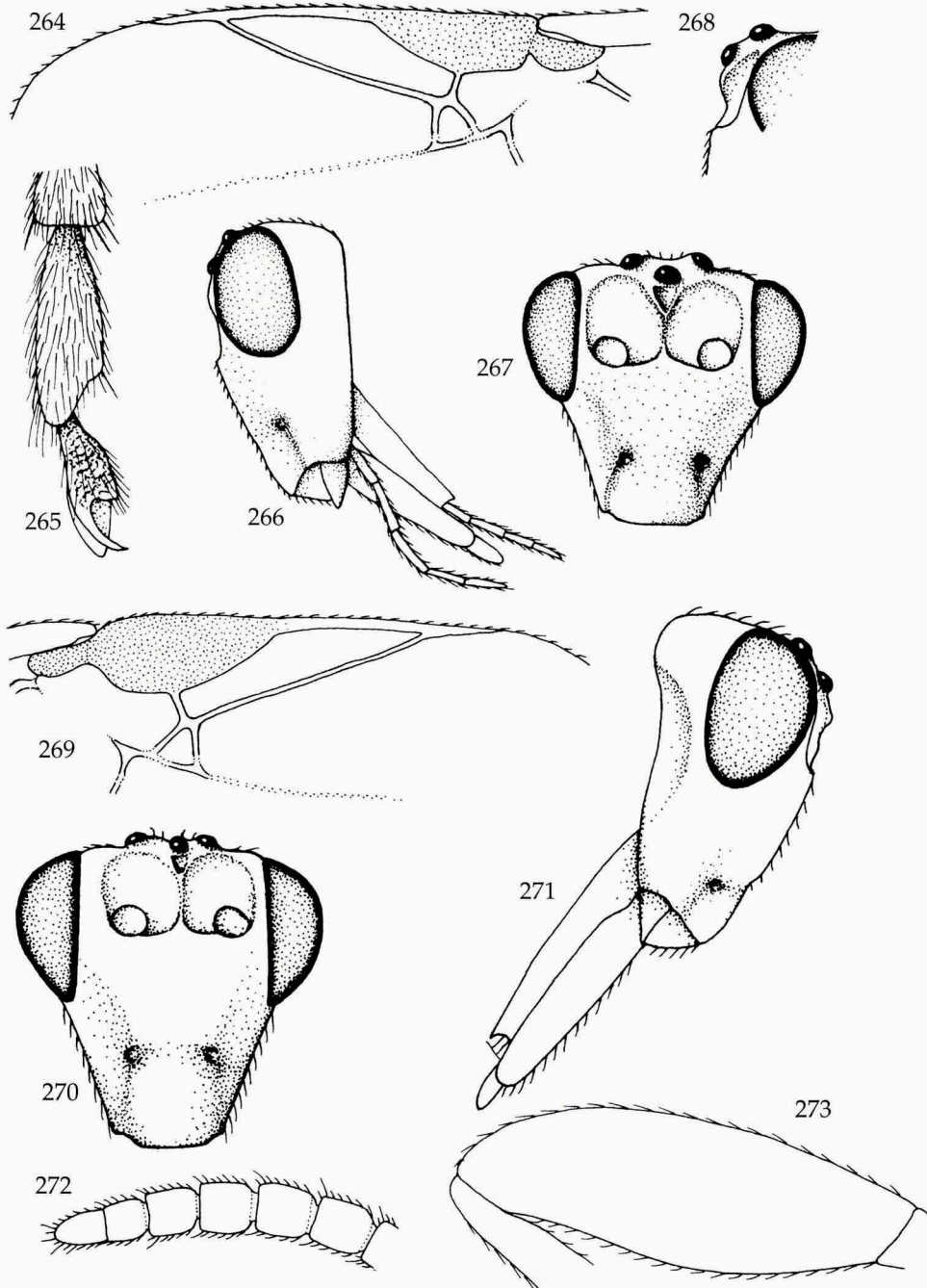
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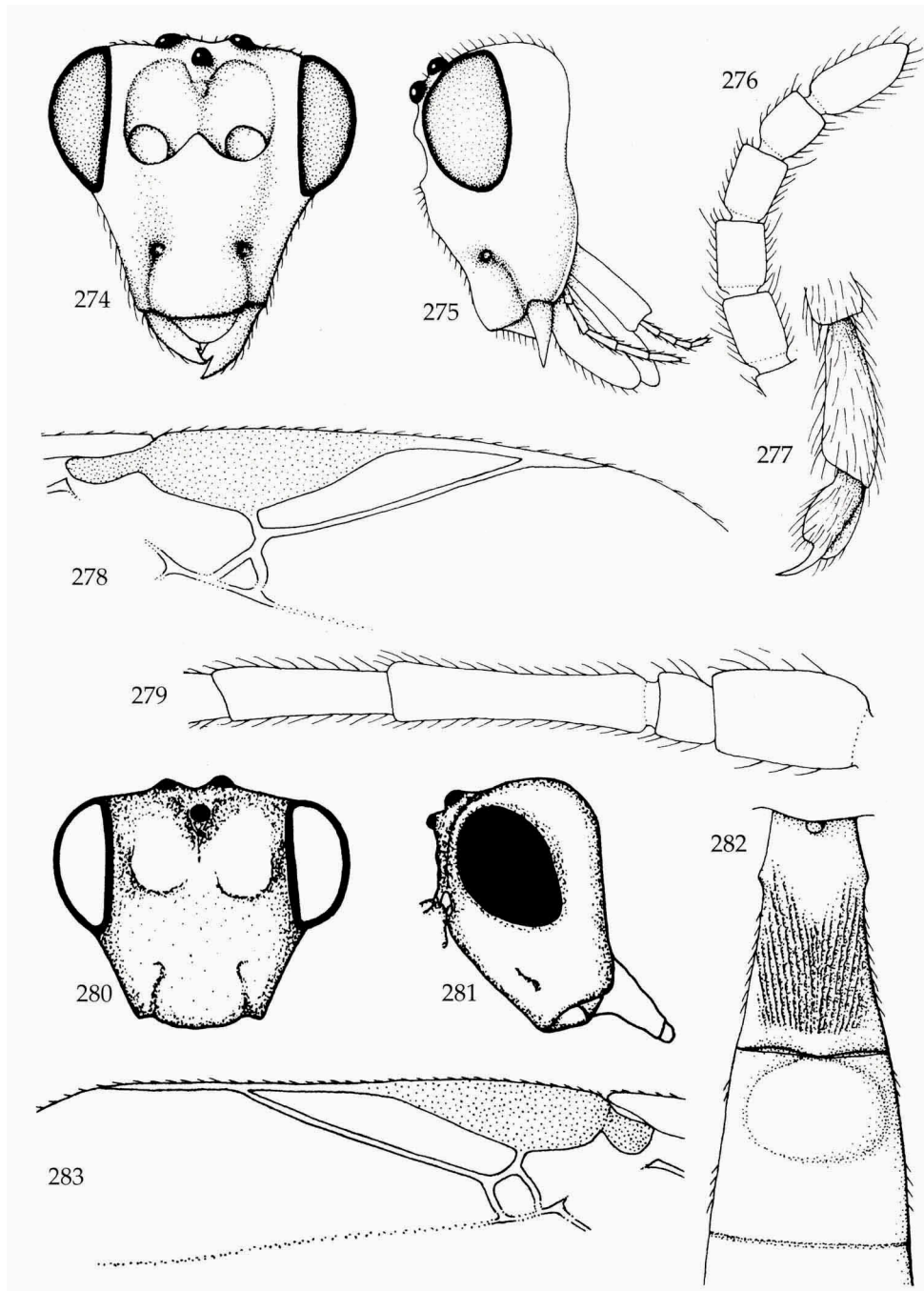
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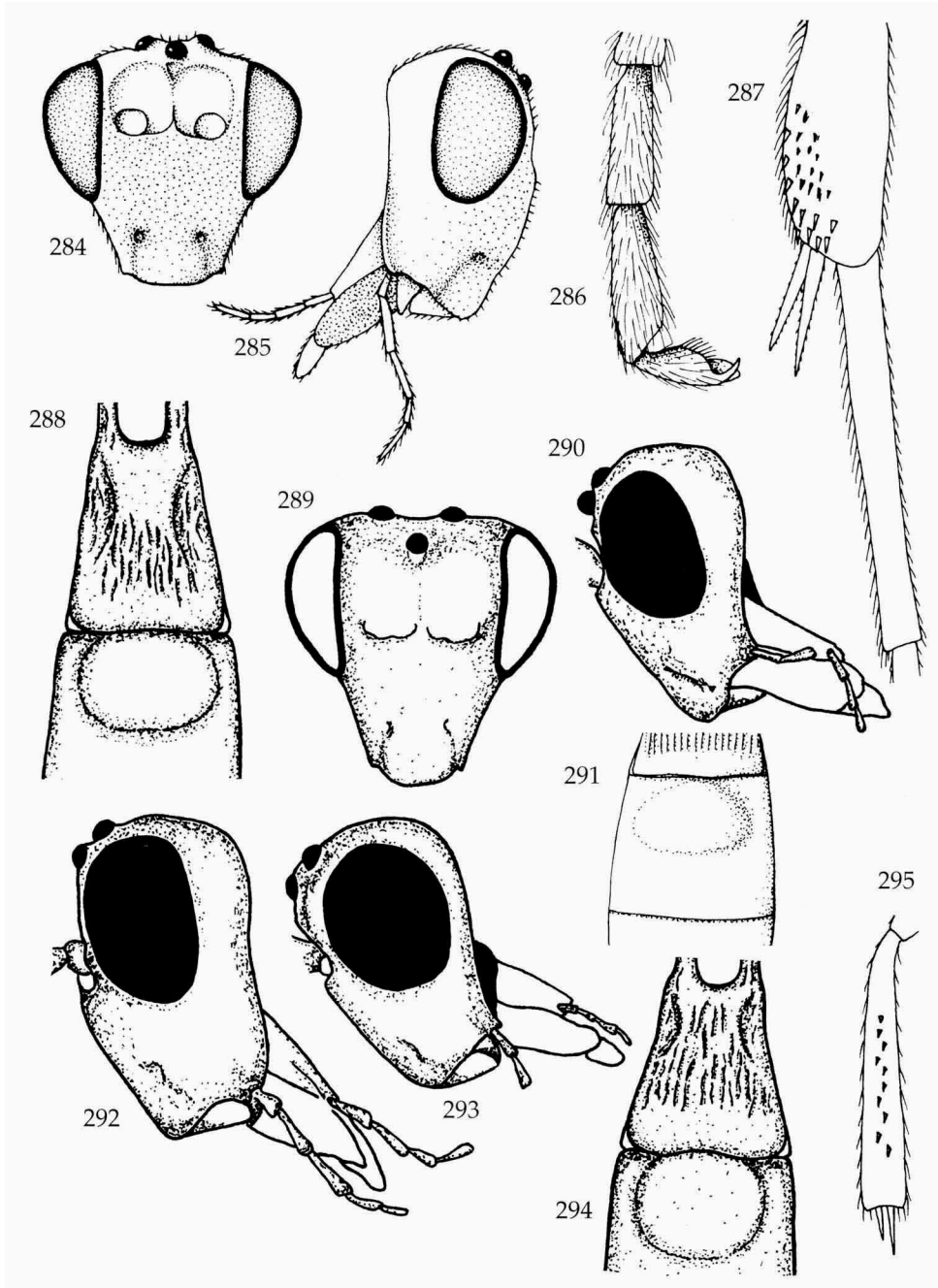
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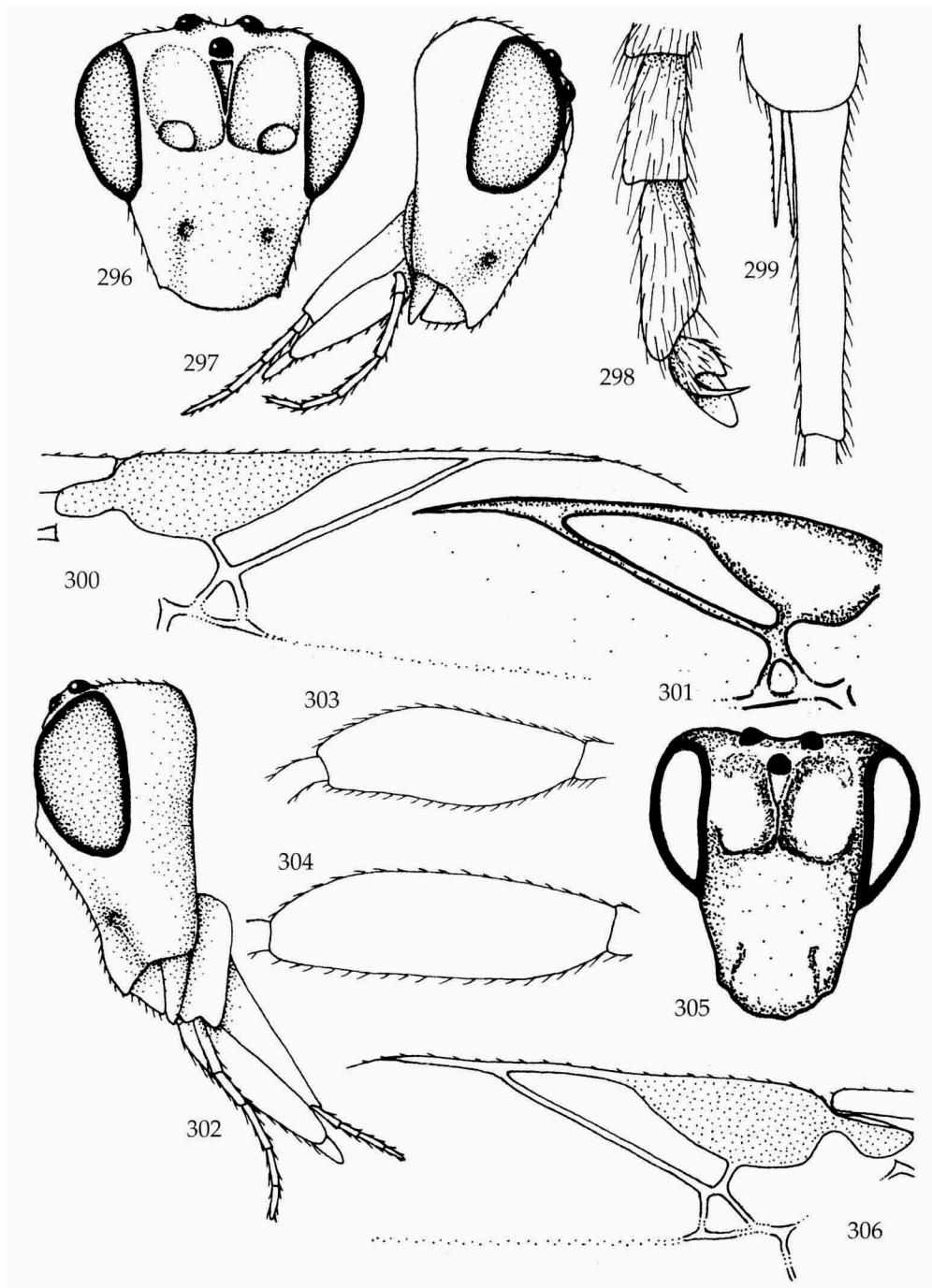
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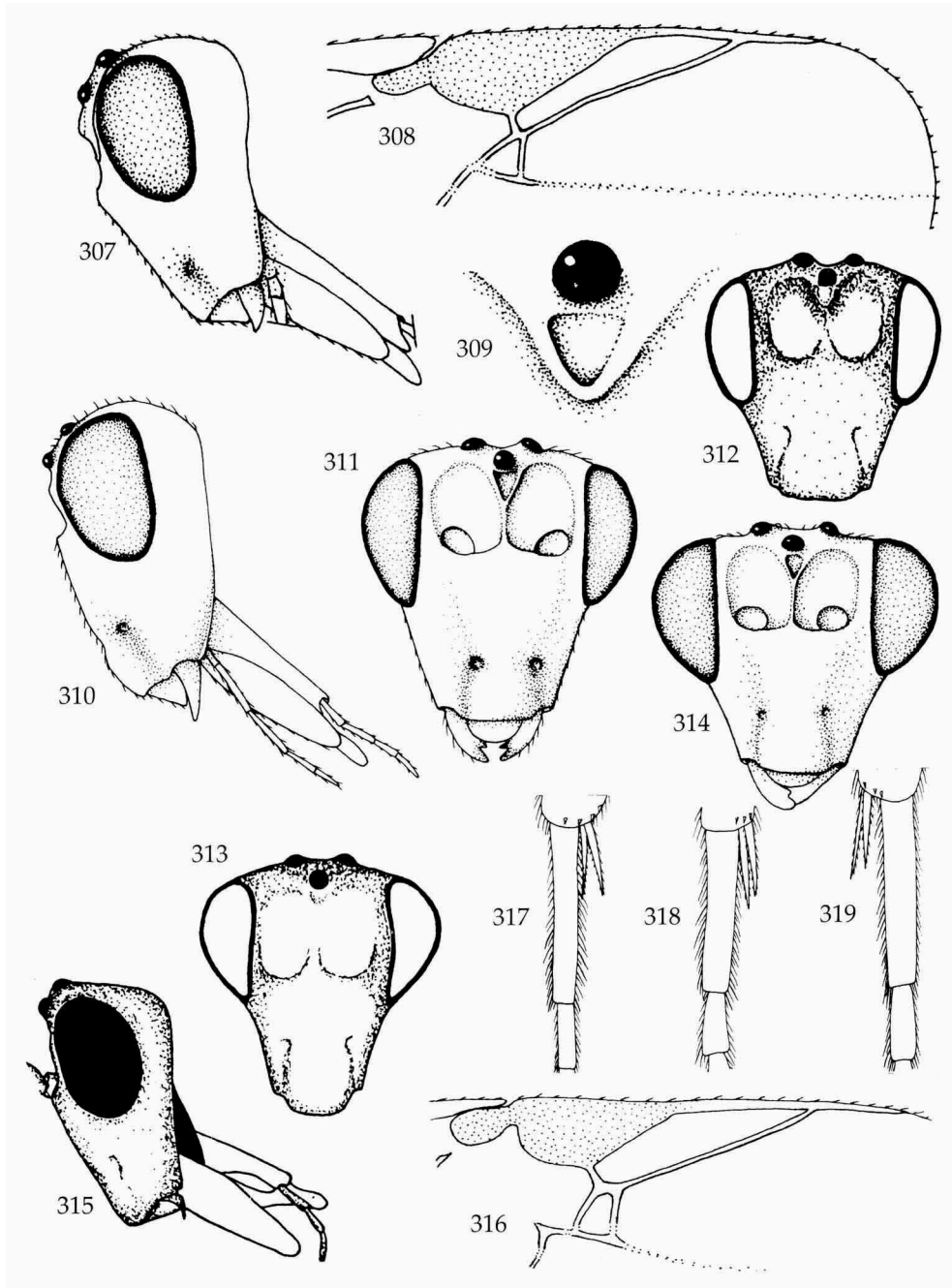
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