

Three new species of *Anogmus* from Central Asia (Hymenoptera, Chalcidoidea: Pteromalidae)

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Anogmus bouceki sp. n., *A. noyesi* sp. n. (both from Uzbekistan) and *A. trjapitzini* sp. n. (Kazakhstan) parasitizing buprestid beetles are described.

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The genus *Anogmus* Förster is known from Europe (Bouček, 1966, 1971, 1977; Bouček & Rasplus, 1991; Dzhanokmen, 1978; Graham, 1969; Jakaitis et al., 1980; Stadnitskij, 1969), Kazakhstan (unpublished data) and Canada (Bouček, 1993). *Anogmus strobilorum* (Thomson), *A. vala* (Walker), *A. picea* (Ruschka), *A. hohenheimensis* (Ratzeburg), *A. laricis* Bouček, *A. bulgaricus* Bouček and *A. hungaricus* (Erdős) are represented in Europe. Hitherto only *A. strobilorum* has been found in Kazakhstan (Semipalatinsk Prov., 210 km SW of Semipalatinsk). Only one species of this genus (*A. planus* Bouček) has been recorded from Canada. These species are well known as parasites of cecidomyiids in cones of conifers, in particular of *Picea* and *Abies*. In the present paper, three new species associated with larvae of Buprestidae beetles are described. All of them occur within the arid zone of the Palearctic Region.

The holotypes of new species are kept in the collection of the Zoological Institute, Russian Academy of Sciences, St.Petersburg.

Anogmus bouceki sp. n.

(Figs 1-4)

Holotype. ♀, Uzbekistan, Ustyurt Plateau, 50 km NW of Deu-Kesken, ex *Chrysobothris (Abothris) nana* Fairm. (Buprestidae), 16.V.1989 (I.E. Zykov).

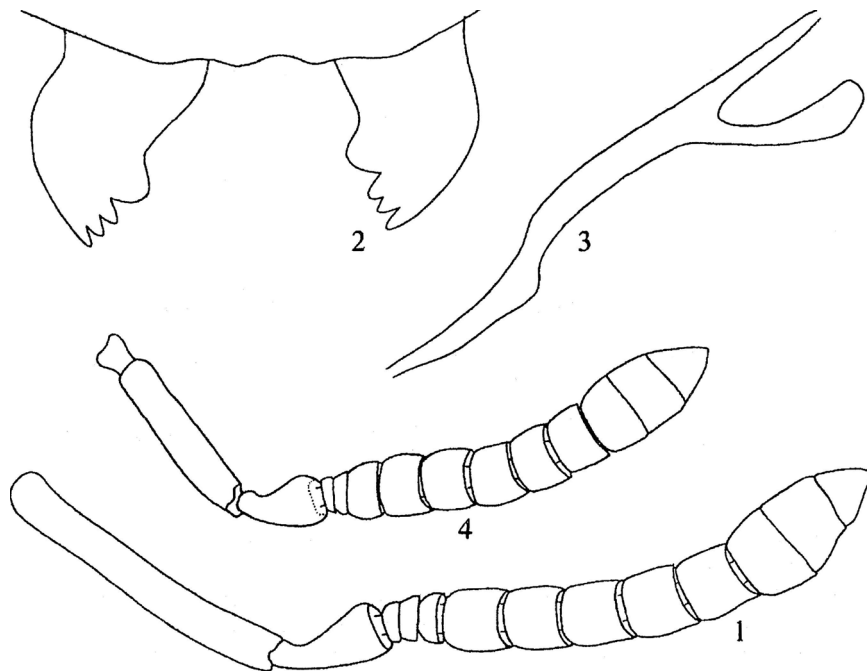
Paratypes. 16 ♀, 1 ♂, same data as holotype.

Description. Female. Length 3 mm. Head and thorax black. Gaster black with faint bronze tinge. Antennae testaceous. Coxae concolorous with thorax; trochanters and femora dark brown; tibiae brownish; tarsi brownish testaceous. Tegulae brown; fore wings faintly

brownish mainly below the parastigma, marginal and stigmal veins.

Head about 2.5 times as broad as long; temples curved and rather strongly convergent; POL about 1.6 times OOL. Eyes small. Major diameter of the eye 1.7 times the height of the gena. Anterior margin of clypeus distinctly emarginate medially. Antennae inserted very low, their toruli distinctly below the level of ventral edge of eyes. Antennal formula 11353 (antennae with three anelli and five funicular segments) (Fig. 1). All funicular segments subquadrate. Both mandibles with four teeth (Fig. 2). Head with fine and very delicate sculpture. Frons with some not very distinct piliferous punctures amongst the reticulation.

Thorax about 1.5 times as long as broad, strongly flattened dorsally. The surfaces of the mesoscutum, scutellum and propodeum all lying in almost the same plane. Pronotum, in front of the collar, not descending vertically relative to the plane of the mesoscutum. Pronotal collar not margined. Scutellum 1.5 times as broad as long, 1.6 times as long as propodeum, without a frenal groove. Its surface nearly flat, smooth, with extremely fine alutaceous sculpture, rather shiny. Propodeum more than half as long as scutellum, without a median carina and plicae; its reticulation rather fine. Spiracles long-oval, separated by about 1.6 times their own major diameter from metanotum. Nucha small. Mesepimeron with a large, subtriangular, almost smooth area below the base of hind wing. Fore wing relatively short, not reaching the tip of gaster. Marginal vein 1.5 times as long as the stigmal; postmarginal vein slightly shorter than stigmal vein (Fig. 3). Costal cell,



Figs 1-4. *Anogmus bouceki* sp. n. (1-3, female; 4, male). 1, 4, antenna; 2, anterior margin of clypeus and mandibles; 3, fore wing venation.

basal cell and basal vein bare on upper surface of the fore wing. Disc of wing with a hardly visible pilosity beyond the speculum. Fore wing without cilia.

Gaster sublanceolate, acute, 1.6 times as long as head plus thorax (including the ovipositor sheaths), 3 times as long as broad. Ovipositor sheaths slightly projecting beyond the tip of the last tergite. Tip of hypopygium situated at about one third the length of gaster or somewhat before the middle.

Male. Differs from the female only in the antennae and gaster. Antenna with three anelli and five funicular segments; its third anellus looks like funicular segment but without sensilla. Funicle stouter, with all segments transverse (Fig. 4). Gaster without pale spot.

Diagnosis. This is a very distinct species. It differs from all other species of this genus in the strongly shortened postmarginal vein in relation to the stigmal one and more delicate sculpture of the body.

***Anogmus noyesi* sp. n.**

(Figs 5, 6)

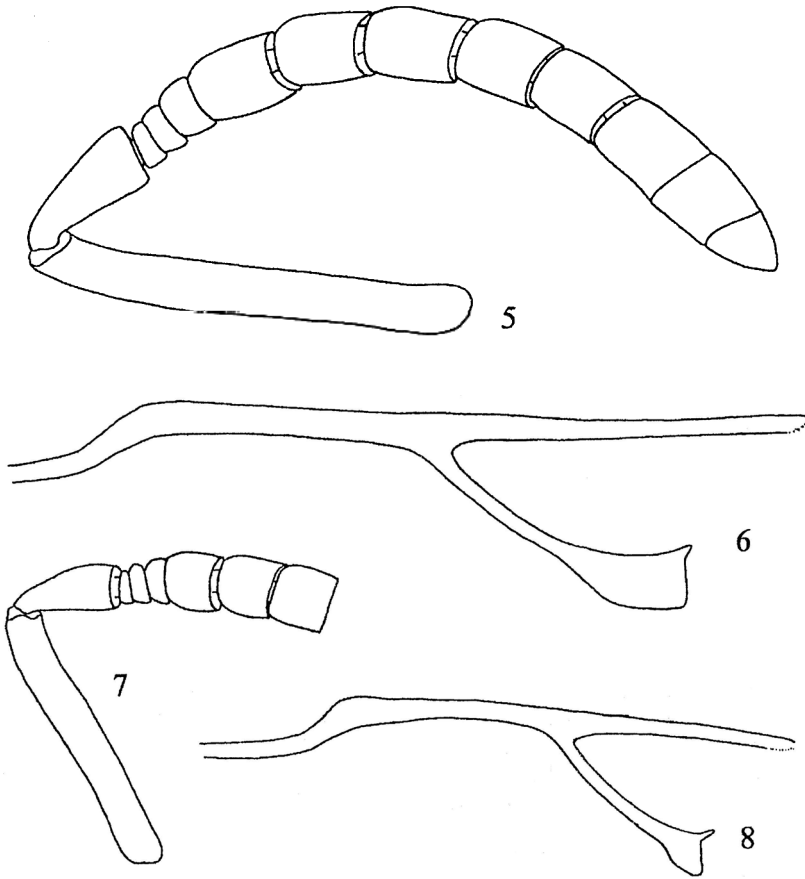
Holotype. ♀, Uzbekistan, Ustyurt Plateau, 50 km NW of Deu-Kesken, *Salsola* sp., ex larva of *Sphenop-*

tera orichalcea Pall. (Buprestidae), 17.V.1989 (I.E. Zykov).

Paratypes. 2 ♀, same data as holotype.

Description. Female. Length 4 mm. Head and thorax black. Gaster brownish black with some delicate greenish reflections. Antennae except pedicellus and clava testaceous; base of pedicellus brownish; clava hardly darkened. Coxae concolorous with thorax; trochanters brown; femora mainly brown; their tips testaceous; tibiae brownish testaceous; tarsi testaceous. Tegulae brownish. Fore wing with a hardly visible yellowish discal cloud slightly below the parastigma, marginal and stigmal veins.

Head about 2.3 times as broad as long. Temples curved and rather strongly convergent. POL about 1.4 times OOL. Eyes rather small, their major diameter 1.4 times the height of the gena. Anterior margin of clypeus emarginate. Antennae inserted distinctly below the level of ventral edge of eyes. Antennal formula 11353 (Fig. 5), flagellum nearly filiform, slightly stouter than pedicellus. All anelli transverse. First to third funicular segments up to 1.3 times as long as broad, fourth and fifth ones subquadrate. Frons and face with numerous shallow and small punctures amongst the reticulation of the surface.



Figs 5-8. 5, 6, *Anogmus noyesi* sp. n., female: 5, antenna; 6, fore wing venation. 7, 8, *A. trjapitzini* sp. n., female: 7, proximal part of antenna; 8, fore wing venation.

Thorax about 1.4 times as long as broad, almost flat dorsally. Pronotum as wide as mesoscutum, descending vertically in front of the collar: relative to the plane of the mesonotum and scutellum, the pronotal neck therefore not visible in dorsal view. Pronotal collar with a rather sharply subangular edge anteriorly but not margined. Mesoscutum finely reticulate at sides, more coarsely so discally. Scutellum 1.4 times as broad as long, 1.5 times as long as propodeum, without a frenal groove, with delicate, for the most part engraved reticulation, rather shiny. Propodeum medially two thirds the length of scutellum, without a median carina and plicae, with a large fovea at the base of sclerite, distinctly and uniformly reticulate. Nuchal area conspicuously convex but not isolated. Spiracles long-oval. Mesepimeron with a large, subtriangular, almost smooth area below the base of hind wing. Fore wing relatively short, not reaching the tip of gaster. Marginal

vein nearly as long as or often slightly shorter than the postmarginal vein, the latter 1.2 times as long as stigmal vein (Fig. 6). Basal cell and basal vein bare on upper surface of fore wing. Lower surface of costal cell with a single complete row of hairs plus some scattered hairs in distal third. Surface beyond the speculum with a hardly visible pilosity. Fore wing without cilia.

Gaster sublanceolate, acute, 1.7 times as long as head plus thorax (including the ovipositor sheaths), 3 times as long as broad. Ovipositor sheaths slightly projecting beyond the tip of the last tergite. Hypopygium extending nearly half the distance from base of gaster to tips of ovipositor sheaths.

Male unknown.

Diagnosis. This species is close to *A. bouceki* sp. n. in the hardly visible fore wing pilosity and absence of fore wing cilia but may be distinguished from it by the larger size, and

especially by the shape of the stigma and different venation of the fore wing (postmarginal and stigmal veins relatively longer and angle between them greater), by the longer funicular segments of the female and by the less delicately sculptured mesoscutellum.

Anogmus trjapitzini sp. n.

(Figs 7, 8)

Holotype. ♀, **Kazakhstan, South-Kazakhstan Prov.**, Tyul'kubas Distr., ex eggs of *Sphenoptera montana* Jak. (Buprestidae), 8.VIII.1969 (S. Taibekov).

Description. Female. Length 2.5 mm. Head and thorax black. Gaster brown with faint metallic reflections. Antennae with the exception of pedicellus testaceous, the latter brown. Coxae concolorous with thorax; femora except their tips brown; tibiae brownish testaceous; tarsi testaceous. Wing hyaline.

Head about 2.3 times as broad as long. Temples curved and rather strongly convergent. POL 1.5 times OOL. Eyes moderate, their major diameter 1.5 times the height of the gena. Anterior margin of clypeus hardly emarginate. Antennae inserted at or even slightly below the level of ventral edge of eyes. Antennal formula 11353. Flagellum slightly stouter than pedicellus. All anelli transverse (Fig. 7). Funicular segments subquadrate. Each mandible with four teeth. Head finely reticulate and densely covered with light hairs.

Thorax about 1.4 times as long as broad, almost flat dorsally. Pronotal collar abrupt in front, not margined. Mesoscutum reticulate, its surface dull. Scutellum slightly broader than long, 1.8 times as long as propodeum, without a frenal groove and with delicate but very distinct reticulation. Propodeum medially about half as long as scutellum, without a median carina and plicae, almost uniformly reticulate. Nucha small, rather smooth. Mesoscutum and scutellum densely covered with light hairs. Fore wing not reaching the tip of gaster. Marginal vein nearly as long as the postmarginal, the latter slightly shorter than stigmal vein (Fig. 8). Basal vein and basal cell pilose but not very densely. Lower surface of costal cell with a complete row of hairs and additional ones scattered over the distal half. Speculum open below. Wing beyond the speculum moderately thickly pilose; its pilosity clearly visible. Apical margin of fore wing ciliate throughout.

Gaster sublanceolate, acute, 1.2 times as long as head plus thorax (including the ovipositor sheaths), 2.7 times as long as broad. Ovipositor sheaths hardly projecting beyond

the tip of the last tergite. Hypopygium extending nearly half the distance from base of gaster to tips of ovipositor sheaths.

Male unknown.

Diagnosis. The female of the new species closely resembles the female of *A. bulgaricus* Bouček from which it differs mainly in the numerous conspicuous whitish hairs covering the head and mesoscutum, relatively shorter postmarginal vein and narrower gaster.

Acknowledgements

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References

- Bouček, Z. 1966. Die europäischen Arten der Gattung *Anogmus* Först. (Hymenoptera: Pteromalidae), Parasiten von Insekten in Nadelholzzapfen. *Anz. Schädlingskde.*, **39**: 52-57.
- Bouček, Z. 1971. The description of one, and redescription of another, interesting species of European Pteromalidae (Hymenoptera) associated with conifers. *Pol. Pismo entomol.*, **41**: 305-311.
- Bouček, Z. 1977. A faunistic review of the Yugoslavian Chalcidoidea (Parasitic Hymenoptera). *Acta entomol. Jugoslav.*, **13**, Suppl.: 3-145.
- Bouček, Z. 1993. New taxa of North American Pteromalidae and Tetracampidae (Hymenoptera), with notes. *J. nat. Hist.*, **27**: 1239-1313.
- Bouček, Z. & Rasplus, J.-Y. 1991. *Illustrated key to West-Palaearctic Genera of Pteromalidae (Hymenoptera: Chalcidoidea)*. 140 p. Paris: INRA.
- Dzhanokmen, K.A. 1978. Fam. Pteromalidae – Pteromalids. In: Medvedev, G.S. (ed.). *Opredelitel' nasekomykh evropeyskoy chasti SSSR. Pereponchatokrylye* [Keys to the insects of the European part of the USSR. Hymenoptera]. **3**(2): 57-228. Leningrad. (In Russian).
- Graham, M.W.R.de V. 1969. The Pteromalidae of North-Western Europe (Hymenoptera: Chalcidoidea). *Bull. Br. Mus. nat. Hist. Entomol. Suppl.* **16**: 1-908.
- Jakaitis, B.J., Milishauskas, Z.I., Stanionyte, A.P. & Dzhanokmen, K.A. 1980. Chalcidoids found in forest biocenosis of the Lithuanian SSR in 1968-1977. *Trudy Akad. Nauk Litovskoy SSR, Ser. C*, **2**(90): 45-52. (In Russian).
- Stadnitskij, G.V. 1969. Parasitic chalcidoids and proctotrupoids (Hymenoptera, Chalcidoidea, Proctotrupoidea) in fir-cones. *Sbornik nauchno-issledovatel'skikh rabot po lesnomu khozyaystvu*, **12**: 229-243. Leningrad. (In Russian).

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