

**RESULTS OF THE CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL  
EXPEDITIONS TO IRAN 1970, 1973 AND 1977****Coleoptera, Cleridae**

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Praha

This is the first treatise dealing with material of the coleopterous family Cleridae accumulated during three Czechoslovak-Iranian Entomological Expeditions of the Department of Entomology of the National Museum (Nat. Hist.) in Prague to Iran, undertaken in the years 1970, 1973, and 1977. Also a few data from the Expedition in Turkey, and those based upon collecting activity of the German coleopterist Mr J. Klapperich are included. The results are given in the following text.

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**Material and methods**

The material was identified by one or the other joint author, and each specimen was labelled with his identification label. [Abbreviations given in the following text in brackets: [1, OB], [1, JRW] — the numeral means the number of specimens identified; the initials OB = O. Brodský det., JRW = J. R. Winkler det.]. Type specimens bear the corporate type labels with names of both joint authors.

Type specimens of *Trichodes jelineki* sp. n. were dissected, or the abdomen only separated 'in toto'. Terminalia used for pictures were boiled in KOH, passed through acetic acid, examined microscopically in glycerin, rinsed in water and alcohol, and mounted in Caedax or gelatine balsam (for details see below).

The photographs of the holotype and allotype of the new species, washed in an ultrasonic cleaner, were taken by one of the joint authors, J. R. Winkler, by means of moderately lengthened 50 millimeter extension

tube (the effective length 78 mm) and electronic flash. Guide number of flash 20 in 1 meter, distance from object  $\pm 150$  mm; screen aperture 16; film 21 DIN (=100 ASA).

## TILLINAE

**Tillodenops plagiatus** Fairmaire, 1892

Env. Sarbaz, valley of river Sarbaz, SE Iran, 1.—2. 1973 (Loc. No. 145). [2, OB]; Bahu-Kalat, 68 km. of Rask, 3.—4. 4. 1973, Baluchistan, S. E. Iran (Loc. No. 147). [1, JRW].

## Remarks

The species *Tillodenops plagiatus* is a typical desert element with an extremely wide distribution reaching from Western (former Spanish) Sahara and Senegal through the entire zone of Sahara (according to Mateu, 1972, chiefly on its southern margin) and Tchad to Somaliland, Saudi Arabia and Iran.

First faunal record from the latter country (Loc. No. 147) was given by Winkler, 1981.

**Tilloidea pubescens** Castelnau, 1836

Derpehan, 12 km. E Senderek, S Iran, 11.—12. 5. 77 (Loc. No. 326). [1, OB]; Senderek, 220 km, S Iran, 12.—13. 5. 77 (Loc. No. 327). [1, OB]; Kuh-e Geno Mts., 600—1000 m., S Iran, 27.—28. 4. 77 [1, OB]; 6 km. W Geno, 400 m., S Iran, 7.—9. 5. 77 (Loc. No. 323). [2, OB]; Bahu-Kalat, 68 km. S. of Rask, 3.—4. 5. 1973, Baluchistan, S. E. Iran (Loc. No. 147). [4, JRW].

## Remarks

The species is in need of a thorough revision first as regards its actual generic position. Castelnau, 1836, described it as a representative of the genus *Tilloidea* Castelnau, 1832. The species, however, may be, does not correspond with this genus, and the congruence with the genus *Tillus* A. G. Olivier, 1799, in spite of certain resemblance, is also doubtful if we consider the characters of the type-species of both genera (Winkler, 1962). Secondly, also the validity of the species and availability of its specific name may be questionable. Mateu, 1972, holds the species *Tilloidea pubescens* Castelnau, 1836, to be identical with *Tilloidea senegalensis* Castelnau, 1832, and in his conception the chromatic differences only are acknowledged.

The species *T. pubescens* (or *T. senegalensis*, if we anticipate the opinion of Mateu, 1972) is new to the fauna of Iran.

Hitherto known distribution given by Corporaal, 1950, runs as follows: (for *T. pubescens*:) Senegal, Prince Isl., Egypt, Sennar, Obock, Arabia, South Africa; (for *T. senegalensis*:) Senegal, Mauretania, Spanish Sahara, Eritrea, Somali.

This species is also a typical desert element, with some ecological and distributional properties (e.g. the huge geographical range) similar to the preceding species *Tillodenops plagiatus* (Fairm. 1892).

See also the last statements given by Menier, 1986. The conservative classification is kept here for the present although it is supposed the Menier's idea is quite right.

## CLEROPIESTINAE

***Winklerius grandis*** (Stierl., 1868)

7 km. W of Kahkom, 20 km. S. W. of Hajiabad, 28. 5. 1973, Kerman (province), S. Iran (Loc. No. 215). [7, JRW].

The collected specimens were in 1984 identified as *Opilo grandis* (Stierl.). Menier, 1986, however, revised thoroughly this species, ascertained its virtual appurtenance to the subfamily Cleropiestinae, analysed its close relationship with the genus *Sedlacekius* Winkler, 1972, and consequently with that erected for the species a separate new genus *Winklerius* Menier, 1986. (Type-species *Opilus grandis* Stierlin.). For his excellent type redescription and valuable additional information see his paper (Menier, 1986).

## Remarks

Body length in collected specimens: 8.00—14.2 mm.

The rather extensive variability of the colour pattern of elytra was ascertained: An indistinct, obsolete, dirty-rusty lighter macule in half the length of elytra is somewhat cruciform, if developed typically; then it is lighter than the front-, and hind surroundings of elytra. In some cases, however, it may be confluent with the colouring of the anterior half of elytra, so that only the posterior half of elytra is distinctly darker, or confluent with its surroundings at all, thus it is always observable, but very indistinct, and neither too different from the anterior — nor from the posterior halves of elytra displaying the same colouring.

New to the fauna of Iran.

Distribution: Hitherto the two records: Mesopotamia (Corporaal, 1950), Saudi Arabia (Menier, 1986).

## CLERINAE

***Trichodes olivieri*** Chevrolat, 1843

Chashmeh-ye Sargaz, 1650 m., 20.—21. 5. 77, C Iran (Loc. No. 339). [1, OB]; Golshan env., 24. 4. 77, S Iran (Loc. No. 310). [6, OB]; Ferdows-e Esfandagheh, 21. 5. 77, C Iran (Loc. No. 340). [7, OB]; 6 km. W Geno, 400 m., 7.—9. 5. 77, S Iran (Loc. No. 323). [1, OB]; Sarbaz river valley (Rudkhanehye Sarbaz), 11 km. N. up to and 30 km, S. of Sarbaz, 1.—2. 4. 1973, Baluchistan, S. E. Iran (Loc. No. 145). [1, JRW]; Valley of the river Pish mant Kowr near the village Pish mant-e Kahur, 55—78 km. N. N. W. of Tis on the road Tis-Nikshahr, 5. 4. 1973, Baluchistan, S. E. Iran (Loc. No. 151). [8, JRW]; Gav Koshi near Esfandagheh, 60 km. W. of Sabzevaran, 1650 m., 7.—8. 5. 1973, Kerman (province), E. Iran (Loc. No. 190). [2, JRW]; 30 km. E. of Kazerun, 1300 m. 8.—10. 6. 1973, Fars, S. Iran (Loc. No. 229). [1, JRW].

Additional material: This species was collected also by J. Klapperich. Locality data: Iran, Karadj, 1200 m, b. Teheran, 23. VI. 1960, leg. J. Klapperich. [1, JRW]; Iran, Golhak, 1400 m. bei Teheran, VI.—VII. 1961, leg. J. Klapperich. [2, JRW]; the same locality, 1700 m., 9.—23. VI. 1961. [7, JRW].

**Trichodes sipylus** (L., 1758)

15 km. SW Chalus, 490 m., 4. 7. 77, N Iran (Loc. No. 394). [1, OB]; Kandavan pass, 2700—2900 m., S-slope, 4.—9. 7. 77, N. Iran (Loc. No. 395). [1, OB]; 8 km. W Gachsar, 6.—8. 7. 77, N Iran (Loc. No. 396). [58, OB]; NW Iran, Marand, 20. 6. 70 (Loc. No. 26). [2, JRW]; I N Iran, C Elburz, Damavand, Lajran, 2400 m., 23. 7. 70 (Loc. No. 68). [2, JRW]; Kuhhaye Tochal, 2000—3500 m., Reshtehve Kuhhaye Alborz (Elburz Mountains Central), 29.—30. 6. 1973, Teheran (province), N. Iran (Loc. No. 261). [5, JRW]; 20 km. S. E. of Marand, 5.—6. 7. 1973, Azarbaidjan, N. W. Iran (Loc. No. 266). [3, JRW]; 26 km. S. S. E. of Khoy on the road Khoy-Rezaiyeh, 6. 7. 1973, Azarbaidjan, N. W. Iran (Loc. No. 267). [1, JRW].

All these specimens being relatively only little variable in size and colour pattern correspond as regards their plastic characters unequivocally to the typical form. In addition, however, the material of the individuals fully corresponding to the specimens called by Zimmermann, 1973, *Trichodes sipylus praetentus* Zimmermann, 1973, was found on the following localities:

8 km. NE Ziaran, 2400 m, N Iran, 10.—16. 7. 77 (Loc. No. 400). [8, OB]; Mountain pass 27 km. E. of Yassuj and 10 km. N. W. Karun, 2650 m., 16. 6. 1973, E. Zagros, Fars, S. Iran (Loc. No. 244). [3, JRW]; 29 km. E. of Yassuj and 10 km. N. W. of Karun, 2300 m., 16.—17. 6. 1973, E. Zagros, Fars, S. Iran (Loc. No. 245). [9, JRW].

**Trichodes nobilis** Klug, 1842

Kandavan-pass, 4.—9. 7. 77, 2700—2900 m, S-slope (Loc. No. 395). [4, OB].

**Trichodes laminatus** Chevrolat, 1843

Turkey, S Anat., Toprakkale, 10.—11. 7. 73 [1, OB].

**Trichodes heydeni** Escherich, 1892

20 km. N Shahpur, 27. 7. 77, NW Iran (Loc. No. 405). [2, OB]; 25 km. SE Shahpur, 27.—28. 7. 77, NW Iran (Loc. No. 406). [4, OB]; Turkey, E Anatolia, Gevas Lake Van, 1720 m. [10, OB]; Turkey, C Anatolia, 16. 6. 70 (Loc. No. 10). [1, OB]; NW Iran, Sufian, 30 km. W Tabriz, 20.—21. 6. 1970 (Loc. No. 27). [1, JRW]; 26 km. S. S. E. of Khoy on the road Khoy-Rezaiyeh, 6. 7. 1973, Azarbaidjan, N. W. Iran (Loc. No. 267). [186, JRW].

## Remarks

This species represents numerically the richest accumulation of one Clerid species taken in Iran by the Czechoslovak-Iranian Entomological Expeditions. The rich material gives a good illustration of limited variability of the species. Only common size variability and moderate variation in mutual proportion of pale and dark colouring of the elytra were observed.

**Trichodes jelineki** sp. n.

(Figs. 1—4)

[This species was, as a manuscript name, keyed, figured and discussed by Gerstmeier, 1985.]

Material and distribution\*): Holotype male, on paper card, with additional paper card bearing terminalia mounted in Caedax, here pictured (Fig. 1, 3 hl, 4), labelled as follows: SE Iran, 55—78 km / NNW Tis, Pish mant / kowr riv. 8. 4. 1973 [white, printed] // *Trichodes jelineki* sp. n. ♂ / Holotype / O. Brodský & J. R. Winkler det., 1984 [red, printed] // Allotype female, on paper card, with additional paper card with separated abdomen 'in toto', here pictured (Fig. 2), labelled as follows: S. Iran, 30 km / E Kazerun, 1300 m / 8.—10. 6. 1973 [white, printed] // Loc. no. 229 / Exp. Nat. Mus. / Praha [white, printed] // *Trichodes jelineki* sp. n. ♀ / Allotype / O. Brodský & J. R. Winkler det., 1984 [red, printed] // 2 paratypes females with the same locality data as in allotype (one of them with abdomen separated and mounted on additional paper card, one with female terminalia dissected and mounted on a bluish X-ray foil in gelatine balsam, with appropriate type labels as above, with mutation — the word paratype. 1 paratype male labelled: S. Iran, 400 m / W Genu, 7.—9. 5. 77 // Loc. No. 323 / Exp. Nat. Mus. / Praha // 1 paratype female labelled: S. Iran / Jashak 60 km / SE Khormuj // Loc. No. 304 / Exp. Nat. Mus. / Praha // [white, printed, appropriate red type labels as above].

Holotype and allotype deposited in the collections of Ent. Dept., Nat. Mus. (Nat. Hist.) Prague, Czechoslovakia, paratypes in collections of O. Brodský and J. R. Winkler.

Derivatio nominis: The new species is named in honour of our dear friend Dr. Josef Jelinek, CSc., Keeper of Coleoptera, Ent. Dept., National Museum (Nat. Hist.), Praha, Czechoslovakia, one of the participants of the Czechoslovak-Iranian entomological expeditions to Iran.

Differential diagnosis: Closely related to *T. heydeni* Escherich, 1892, nevertheless by its colour pattern resembling the taxonomically distant

\*] The wording of locality labels is repeated verbatim. The mark / means the ending of a line on the label, the mark // means ending of the whole label. The more complete description of the locality of the holotype is as follows: Locality No. 151: Valley of the river Pish mant Kowr near the village Pish mant-e Kahur, 55—78 km. N. N. W. of Tis on the road Tis-Nikshahr, 8. 4. 1973, Baluchistan, S. E. Iran.

species *T. olivieri* Chevrolat, 1843. The chief distinguishing characters are given in a tabellar form:

Character Species	<i>T. jelineki</i> sp. n.	<i>T. heydeni</i> (related)	<i>T. olivieri</i> (convergent)
Antennae	one-coloured, lightbrown	one-coloured, lightbrown	two-coloured, flagellum brown, club black with greyish micro- trichies
Predominant colouring of elytra	light	dark	light
Colour pattern of elytra	dark; 2 isolated rounded macules, 1 transverse vitta, apical macule	light; 6 trans- verse or oblique macules	dark; 2 isolated rounded macules, 1 transverse vitta, apical macule
General shape of elytra	relatively broad	relatively broad	narrow, cylindrical
Suture in apical third	dark	dark	pale
Apices of elytra	truncated, with sutural spine	truncated, with sutural spine	rounded, without sutural spine
Hind femora of male	slender	slender	inflated
Distal hook-like projection of male hind tibia	developed, with peculiar appendages (Fig. 3h1)	developed, simple	not developed

Body length: 6.75—13.1 mm (holotype 13.1, allotype 11.8).

Cranium bluish (holotype) or greenish (allotype) metallic lustrous, dully glossy, with large, coarse, irregular punctures, frons distinctly separated from epicranium, flattened and somewhat concave in the middle, with raised ledge-like lateral margin, and short unpunctuated tubercle-like carina at the base. Epistomal suture nearly quite straight, only very moderately convex in the middle. Labrum unicoloured, lightbrown, in the form of a low and broad trapezium, smooth, in front with ledge-like formation in the shape of a reverse letter U (holotype) or without it (allotype). Clypeus longer than labrum, bicoloured, very narrow lateral margins and wider anterior margin lightbrown, inner surface chestnut. Mandibles black, maxillary and labial palpi lightbrown.

Eyes much paler than cranium, lightbrown, with contrasting black ocular sutures, finely faceted, emarginate in front, ocular notch dark, rather short and broad, rounded.

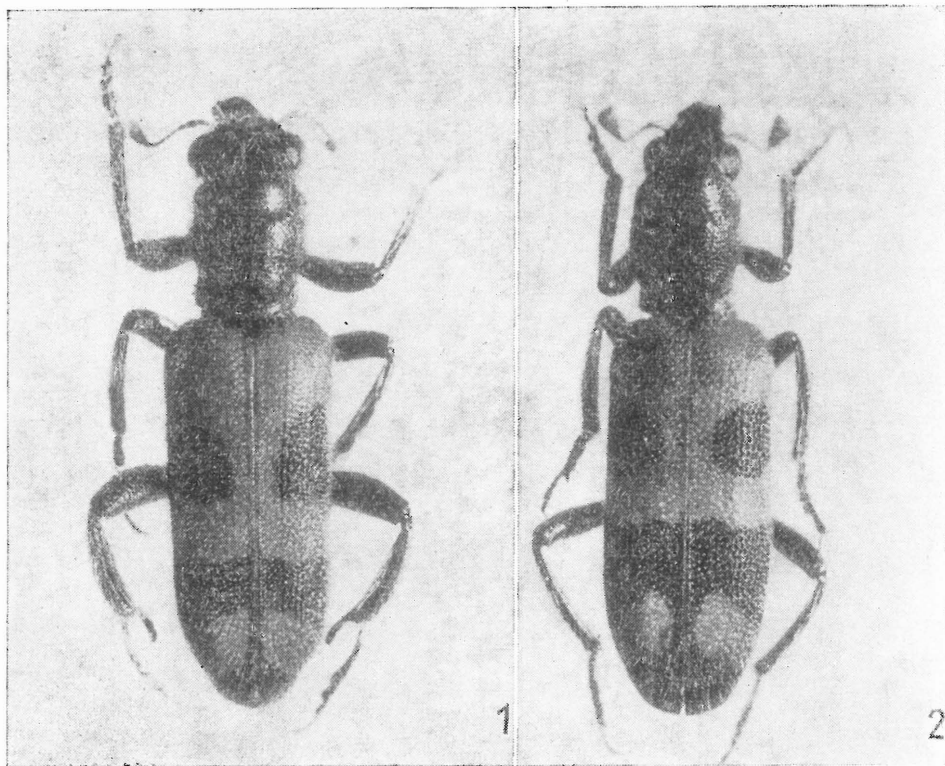


Fig. 1: *Trichodes jelineki* sp. n. Holotype male. Dorsal view. 2: *Trichodes jelineki* sp. n. Allotype female. Dorsal view. Photograph by J. R. Winkler.

Antennae unicoloured, lightbrown, with short, very compact, nearly triangular, large, flattened club. Scape large, thick, cudgel-shaped, bearing longer setae, pedicel short, stout and bare, similar to scape without any spur or darker markings. Segments 3.—5. longer than broad, the segments 7. and 8. broader than long. Club of the same colour as flagellum, but duller. Last segment protruding inwards into distinct projection.

Pronotum longer than broad (ratio of length to breadth: 1.3), lustrous, with strongly convexly vaulted anterior margin of the pronotal arch, proper pronotum dorsally sparsely punctuated with irregularly dispersed fine, deeply punctured, dots, laterally punctuated densely with coarse, irregular, here and there confluent, dots. Near the base in the middle with a not very apparent longitudinal furrow surrounded by a mirror-lossy unpunctuated area. — Colouring and vestiture of pronotum the same as in head, i. e. bluish or greenish metallic lustrous, setae

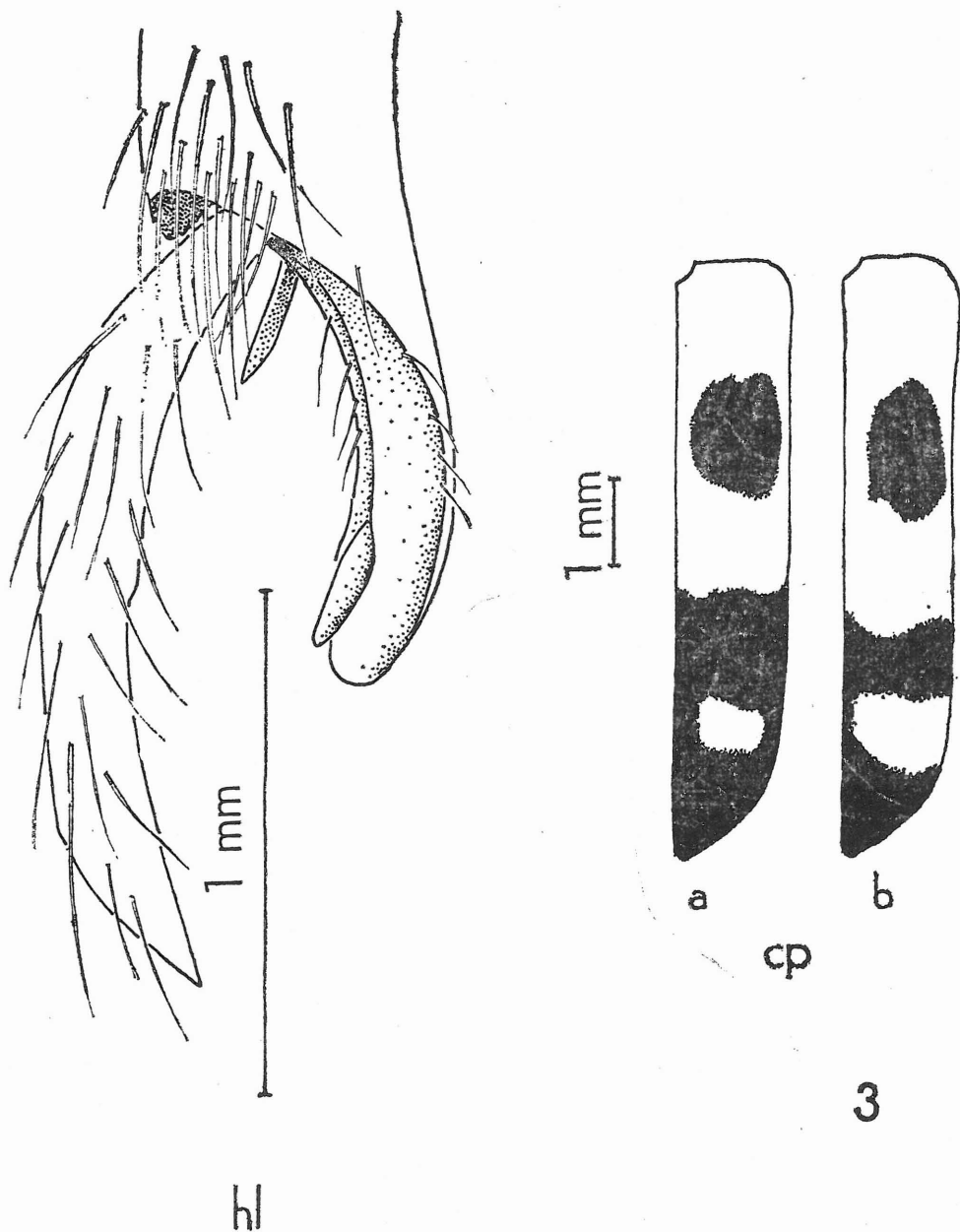


Fig. 3: *Trichodes jelineki* sp. n. hl-termination of tibia and basitarsus of hindleg in holotype male showing peculiar appendages of hook-shaped projection; cp-variability of colour pattern [contour of elytron stylized, in despite of virtual shape and proportions], a — extreme extension of dark colouring; b — typical form.



fine, whitish or ivory, directed obliquely forwards, with conspicuous differences as regards density in individual specimens.

Scutellum black, small, in dorsal view transversely elliptical, lustrous, smooth, bare.

Elytra of normal length, moderately and evenly vaulted, in male broadest in basal portion, then slightly, and in the last third of the length abruptly narrowing, and therefore somewhat wedge-shaped, in females subparallel, broadest in three-fourths of their length. Punctuation composed of large, quadrangular, pentagonal or irregular shallow dots, in male each elytron with two low, distinct, but longitudinal costae reaching to pre-apical portion of elytron; in female these costae indicated in basal part only. Unicoloured pale humeral bulges flat, indistinct, humeral macules not developed.

Colouring of elytra predominantly light (orange). Dark colour pattern (dull dark blue tint even in specimens with greenish colouring of head and pronotum) is composed of single more or less rounded isolated macule on each elytron reaching neither side margin of elytron nor suture, in anterior half of its length, transverse, slightly bent or straight vitta which is quite compact, i. e. tinting the side margin as well as suture, in two-thirds of the length of elytron, and relatively large macule at apex. Suture pale up to the transverse vitta, then dark, i. e. also in the light portion of elytra between transverse vitta and apical macule. Apices of elytra in both sexes truncated, with sutural spines. — Vestiture of elytra pale (yellowish or golden), also in dark colour pattern, rather dense, composed of extremely minute, reclinate setae.

Wings fully developed.

Lower bodyparts: Thoracic sternites dark, metallic lustrous, in holotype male very copiously pubescent with dense and long pale hairs, in female type specimens this vestiture sparse and little apparent. Abdominal sternites finely punctuated, dully metallic glossy with sparse long reclinate pale pubescence, propygidium chestnut, lustrous. Pygidium in holotype male tongue-shaped, nearly twice as long as broad, in female specimens short and transverse.

Legs of normal length, femora and tibiae unicoloured dark, dully metallic lustrous, tarsi chestnut, only near the basis dorsally here and there with spurs of metallic lustre, with pale vestiture. Femora of male slender, practically as in female, thickened only insignificantly.

Tibiae of the male bear a very remarkable bent, bifid hook-shaped projection at their distal terminations. The projection bears on its inner side a deep long furrow and two peculiar appendages, one narrow, blade-shaped near base of the hook, and one pouch-like, situated distally. (For their shape and location see Fig. 3 hl.) Tibiae of females simple.

Terminalia. Male (holotype): Phallus of characteristic shape, broadest at one-fifth of its length, with a peculiar shield-shaped formation at its tip, with phallic struts broadened at their endings (for additional details see Fig. 4 ph). Tegmen also of very characteristic shape, parameres pointed, convergent, phallobase narrowed at half its length

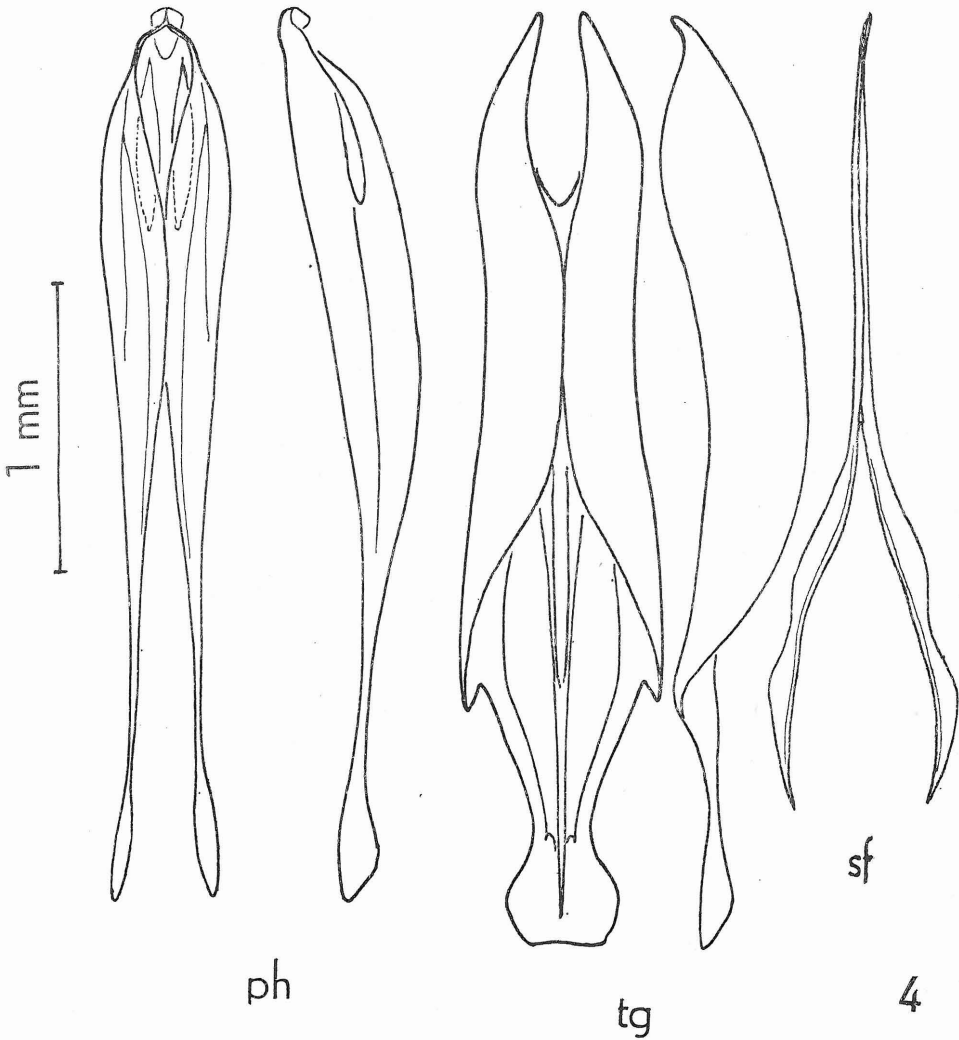


Fig. 4: *Trichodes jelineki* sp. n. Holotype male. ph-phallus dorsally and laterally; tg-tegmen dorsally and laterally; sf-spicular fork.

and then broadened again (cfr. also the lateral view, for comparison see Fig. 4 tg). Spicular fork without interspicular plate, spicules pointed at their base, spicular fork proper very slightly curved at its termination (Fig. 4 sf).

*Trichodes jelineki* sp. n. represents an unique case of convergence in such a degree unknown in the genus *Trichodes* Herbst, 1792, until

now. It resembles at first sight the species *T. olivieri* Chevrolat, 1843, displaying nearly identical colour pattern, and in some museum or private collections additional specimens marshalled under the latter species might possibly be found. Morphological properties document, however, its close kinship to the species *T. heydeni* Escherich, 1892, i.e. the appurtenance to the "green section" of the genus. Very remarkable is an absolute absence of humeral macule and any spur of dark ornament at elytral base in all specimens examined.

The variability of the new species is probably limited. The extremely small specimen (6.75 mm) is an exceptional case. The common length is between 10–12 mm (holotype is the largest specimen at all). The only more remarkable variability was ascertained only in the breadth of darkening along the suture in the area between transverse vitta and apical macule (Fig. 3 cp-a, b).

#### KORYNETINAE

##### *Necrobia rufipes* (De Geer, 1775)

Khormul, 20. 4. 77, S Iran (Loc. No. 302). [7, OB]; 25 km. NE Khamir, 26.–27. 4. 77, S Iran (Loc. No. 317). [2, OB]; Maloo, 14 km. W Bandar lengen, 25. 4. 77, S Iran (Loc. No. 312). [1, OB]; Ghan-e Barqeh, 35 km. S Kahnul, 15.–16. 5. 77, S Iran (Loc. No. 332). [1, OB]; Chan Bahar, 5.–6. 4. 73, SE Iran (Loc. No. 149). [1, OB]; Tis, 6.–7. 4. 1973, Baluchistan, SE Iran. Photos 17, 18 (Loc. No. 150). [1, JRW].

#### Remarks

Cosmopolitan, with tendency to occur, often in masses, in tropical and subtropical areas.

##### *Necrobia violacea* (L., 1758)

N. Iran, E. Elburz, Veresk, 800 m, 2. 8. 70 (Loc. No. 81). [3, JRW].

Cosmopolitan, with tendency to occur, often in masses, in moderate zones of the Earth (cfr. the given locality with localities of the preceding species).

#### Supplement

Eight specimens remained unidentified. They are as follows:

#### TILLINAE

*Tilloidea?* sp. n. (cfr. *Tillus notatus*) (Loc. No. 150). [1, JRW]. Either an extremely variable specimen of *Tillus notatus* or a new species closely related.

*Tilloidea?* sp. n. (cfr. *T. unifasciata*). (Loc. Nos. 151, 230). [2, JRW]. Either a very distinct new subspecies of *Tilloidea unifasciata* (very different from —, and in to case identical with *Tilloidea unifasciata elbursiaca* Winkler, 1982) or more probably a new species closely allied to *T. unifasciata*.

## PHYLLOBAENINAE

*Afghanobaenus* sp. (Loc. Nos. 59, 135, 152) [3, JRW]. At least 2 new species of the genus *Afghanobaenus* Winkler, 1974. First record of the genus beyond the borders of Afghanistan.

## CLERINAE

*Phloiocopus* sp. (Loc. Nos. 150, 218) [2, JRW]. Provisionally without prognosis.

The definitive evaluation of these specimens will be a subject of subsequent communication.

## Summary

The representatives of the family Cleridae collected by the expedition team of the Entomological Department of the National Museum (Nat. Hist.) Prague, Czechoslovakia, during three entomological expeditions to Iran (1970, 1973, 1977) were examined.

The collected material amounted to 361 specimens. Of these 353 individuals, i.e. 97.78 per cent of accumulated total were identified to the species. 11 species, 2 of them (*Tilloidea pubescens*, *Winklerius grandis*) new to the fauna of Iran, and one new to science were ascertained.

The new species, *Trichodes jelineki* sp. n. is described within this paper, the description of it is based upon surface characters as well as male terminalia, and is given jointly with photographs, detailed morphological pictures, differential diagnosis in a tabellar form and discussion.

Comments on some other species are given.

The remnant of the material (8 specimens, i.e. 2.22 per cent of the total of material) promises additional scientific novelties (see the section Supplement) and will be evaluated in a subsequent separate treatise.

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