

TWO NEW SPECIES OF *PROSODES* ESCHSCHOLTZ, 1829
(COLEOPTERA, TENEBRIONIDAE: BLAPTINI) FROM IRAN

MEDVEDEV, G. S.¹ and MERKL, O.²

¹*Zoological Institute, Russian Academy of Sciences
Universitetskaya nab. 1, St. Petersburg 199034, Russia. E-mail:blaps@zin.ru*

²*Department of Zoology, Hungarian Natural History Museum
Baross u. 13, H-1088 Budapest, Hungary. E-mail:merkl@zoo.zoo.nhmus.hu*

Two new species of the tenebrionid genus *Prosodes* ESCHSCHOLTZ, 1829 are described from Iran: *P. fabiani* sp. n. (Prov. Kordestan) and *P. vigi* sp. n. (Prov. Fars); they belong to the subgenus *Meropersina* REITTER, 1909.

Key words: Tenebrionidae, Blaptini, *Prosodes*, new species, Iran

INTRODUCTION

Most of the species of *Prosodes* ESCHSCHOLTZ, 1829 from Iran are known to occur in the Turkmeno-Khorassan Mountains. These are the following:

- P. (Dilopersina) chorassanica* G. MEDVEDEV, 1996,
- P. (Dilopersina) cribrella cribrella* (BAUDI DI SELVE, 1874),
- P. (Dilopersina) exilis* G. MEDVEDEV, 1996,
- P. (Dilopersina) jakowlewi* SEMENOV, 1894,
- P. (Dilopersina) mithras* REITTER, 1904,
- P. (Dilopersina) parthenica* G. MEDVEDEV, 1996,
- P. (Meropersina) vermiculosa* REITTER, 1909 (probably),
- P. (Prosodoscelis) solskyi* FAUST, 1875.

Data on the distribution of species of *Prosodes* outside the above mentioned mountain system are very poor. In the eastern part of Elburz, the following species are known; the occurrence of *P. (Diprosodes) elateroides* SEMENOV, 1894 in this area (KÜHNELT 1957) is highly unlikely:

- P. (Dilopersina) cribrella vestita* ALLARD, 1880,
- P. (Meropersina) laevigata* (BAUDI DI SELVE, 1874).

From the central part of Zagros (Luristan), *P. (Meropersina) cordicollis* ALLARD, 1883 was described.

The findings of the new species of *Prosodes* (*Meropersina*) in the northern (*P. fabiani* sp. n.) and southern (*P. vigi* sp. n.) parts of Zagros manifest the wide distribution of *Prosodes* in southwestern Iran.

Prosodes (Meropersina) fabiani sp. n.
(Figs 1–18, 26–27)

Description – Body black, weakly lustrous; legs and antennae black. Body length of male 26, width 9 mm; those of female 25 and 10 mm, respectively.

Male (Fig. 26). Outer margins of temples converging to neck constriction in straight line. Outer margins of eyes and genae forming sharp obtuse angle in dorsal view. Outer margin of genae (Fig. 1) separated from anterior margin of eye by narrow excision with arcuate prominence before it, so that outer margin of head arcuately emarginate above antennal insertion. Anterior margin of clypeus arcuately concave. Head surface noticeably flattened in anterior part and densely, very finely punctate. Antennae (Fig. 2) relatively short, their apices reaching posterior quarter of pronotum when extended posteriorly. Length (width) ratio of 2nd to 11th antennomeres 22(17) : 50(19) : 22(19) : 21(20) : 21(20) : 21(23) : 15(22) : 15(21) : 17(21) : 28(18). Antennomeres covered with short light setae.

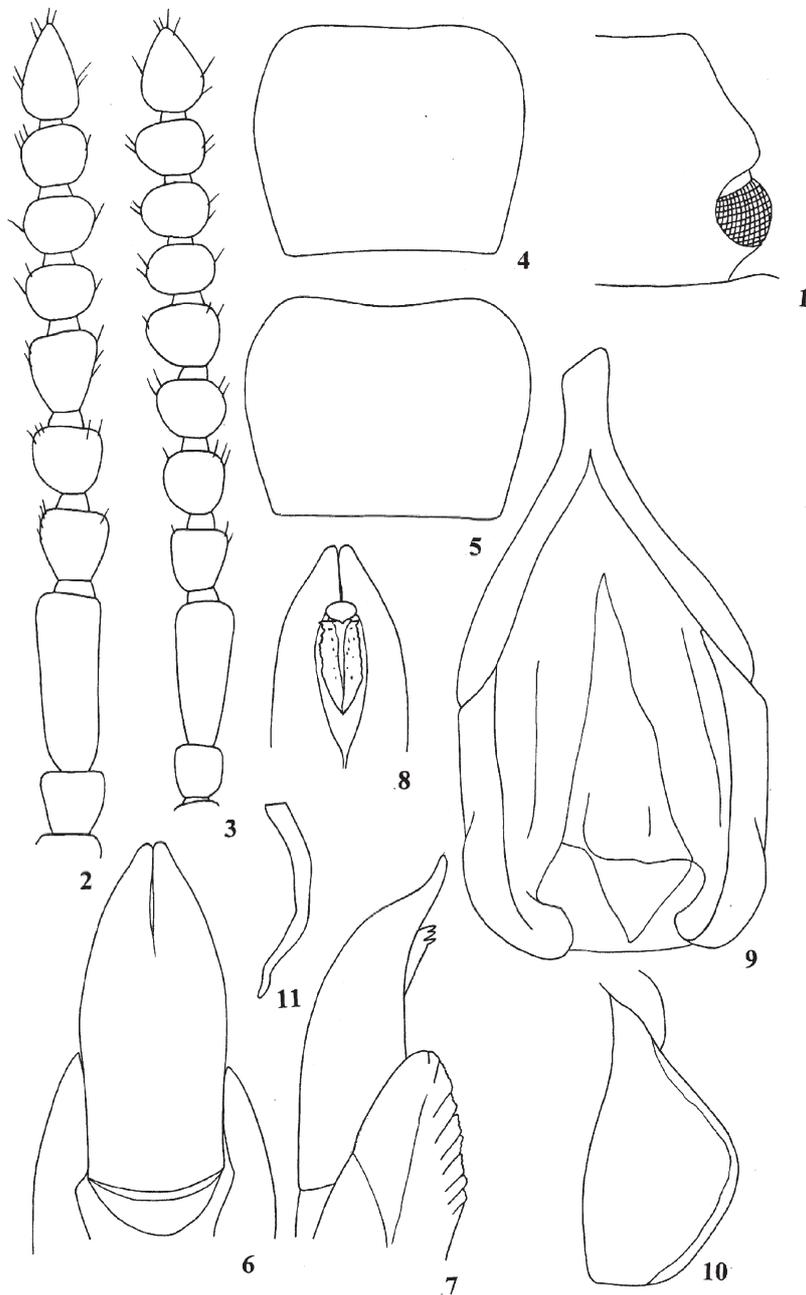
Pronotum (Fig. 4) transverse (1.26 times as wide as long), 1.56 times as wide as head. Sides of pronotum in anterior 2/3 arcuately convex, in posterior 1/3 converging to base in straight line, bordered along their entire length; bordering in anterior half very fine, in posterior half somewhat thickened. Anterior margin slightly arcuately emarginate; base nearly straight; posterior angles subrectangular, narrowly rounded; anterior angles weakly obtuse-angled, more widely rounded than posterior angles, with finely bordered anterior margin. Pronotal surface not flattened along sides, weakly and evenly convex in cross-section, with obsolete basal depressions in posterior angles. Punctuation on pronotum very dense and fine. Propleura not flattened along outer margin, with sparse granulate punctures in outer part, and longitudinal wrinkles in inner part. Prosternum with sharp transverse depression at anterior margin, prosternal process longitudinally depressed, gently sloping behind fore coxae.

Elytra elongate (2.11 times as long as wide), 1.15 times as wide as pronotum. Dorsal surface gradually passing to lateral (deflexed) surface, forming no humeral carina. Entire surface of elytra covered with vermiculose wrinkles (Fig. 12) less pronounced at elytral apices only, and inconspicuous, very fine punctures. Elytral apices not attenuate. Outer margin of epipleura visible dorsally in anterior 1/3. Epipleura in anterior 2/3 evenly narrowing posteriorly. Underside without setose vestiture. Mesepisternum and mesepimeron, and also metepisternum sparsely covered with well-defined punctures. First visible ventrite of abdomen finely, other ventrites more coarsely punctate; punctuation of last visible ventrite dense, moderately coarse, apical margin finely bordered.

Legs strong. Length (width) ratio of fore, middle and hind femora 128(40) : 156(37) : 196 : (42), that of corresponding tibiae 115(19) : 127(26) : 189(30). Inner margin of fore tibia (Fig. 13) with arcuate prominence before middle, outer margin with arcuate emargination near apex. Dorsal surface of fore tibia evenly convex, without longitudinal depression. Posterior surface of middle and hind tibiae not flattened. Inner apical angle of fore and middle tibiae with small area densely covered with short light hairs. Apical margin of plantar surface of 1st and 2nd segments of fore tarsus with flat hair brush.

Aedeagus (Fig. 15) short, sharply bent at base, considerably wider than parameres (1.7 times as wide as these). Apical lobes of phallobase large. Length of aedeagus 5.8, width 1.8 mm (body length 26 mm). Parameres (Figs 6–8) moderately elongate (length 2.4, width 1.05 mm); in lateral view, wide, but sharply narrowing at apex. Spiculum gastrale as in Figs 9, 10. Apical margin of epiproct (Fig. 16) slightly arcuately protruding. Gland of 8th abdominal ventrite narrow (Fig. 11).

Female (Fig. 27). Body somewhat wider than that of male. Pronotum (Fig. 4) 1.32 times as wide as long. Posterior angles of pronotum more distinctly obtuse-angular than in male. Elytra 1.82



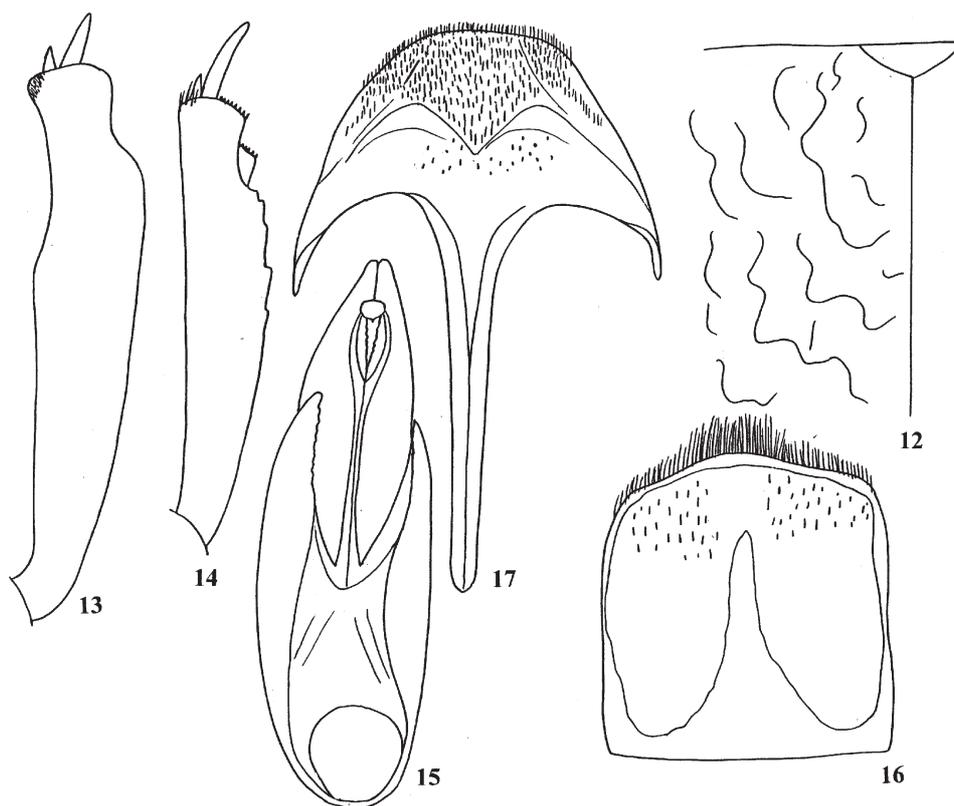
Figs 1–11. *Prosodes fabiani* sp. n., 1 = outer margin of male head, 2 = male antenna, 3 = female antenna, 4 = male pronotum, 5 = female pronotum, 6–8 = parameres, dorsal, lateral, and ventral views, 9 = spiculum gastrale, 10 = apical lobe of spiculum gastrale, 11 = gland of 8th abdominal ventrite

times as long as wide, 1.28 times as wide as pronotum. Outer margin of epipleura visible dorsally in anterior 1/4. Antennae (Fig. 3) shorter than in male. Inner margin of fore tibia (Fig. 13) straight. Median shaft of spiculum ventrale as in Fig. 17.

Spermatheca (Fig. 18) with long (20.5 mm) duct between vagina and base of 1st reservoir and with long (17 mm) gland. Reservoirs with heavily irregular winding, separated by rather long duct. First reservoir only slightly shorter than second one (6.2 and 6.7 mm, respectively). Base of spermathecal sphincter long and narrow. Characteristic features of the gland are the presence of long basal duct and strong apical dilation.

Type material – Holotype, male: “IRAN, Prov. Kordestan 3 km E of Marat-Abad 47°19'14'' E; 35°03'49'' N 2200 m, 28. IV. 2001. leg: Gy. Fábíán & K. Vig”. Paratype, female: labelled as holotype. Both type specimens are deposited in the Hungarian Natural history Museum, Budapest.

Etymology – This species is dedicated to Mr. GYÖRGY FÁBIÁN (Budapest), lepidopterist, one of the collectors of the type material. He is always a very kind companion of coleopterists in collecting trips and highly productive in collecting beetles as well.



Figs 12–17. *Prosodes fabiani* sp. n., 12 = anterior part of elytron (wrinkles), 13 = male fore tibia, 14 = female fore tibia, 15 = aedeagus, ventral view, 16 = epiproct, 17 = spiculum ventrale

Remarks – *Prosodes fabiani* sp. n. belongs to the subgenus *Meropersina* REITTER, 1909 characterised by the laterally granulate apex of penis (Fig. 10), with some granules strongly elongate, and by the presence of a rounded membranous swelling at the apex of penis. This structure of the penis clearly distinguishes species of *Meropersina* from those of the subgenus *Dilopersina* REITTER, 1909, which have (in lateral view) dentate margins of the lateral sclerotized parts at the apex of penis. The new species differs from other members of *Meropersina* in the structure of the male fore tibia with an obtusely arcuate prominence on the inner margin (sharp in *P. cordicollis* ALLARD, 1883 and *P. vermiculosa* REITTER, 1909) or in the rugulose elytra (males of *P. laevigata* (BAUDI DI SELVE, 1874) have nearly smooth and shiny elytra and a narrower body).

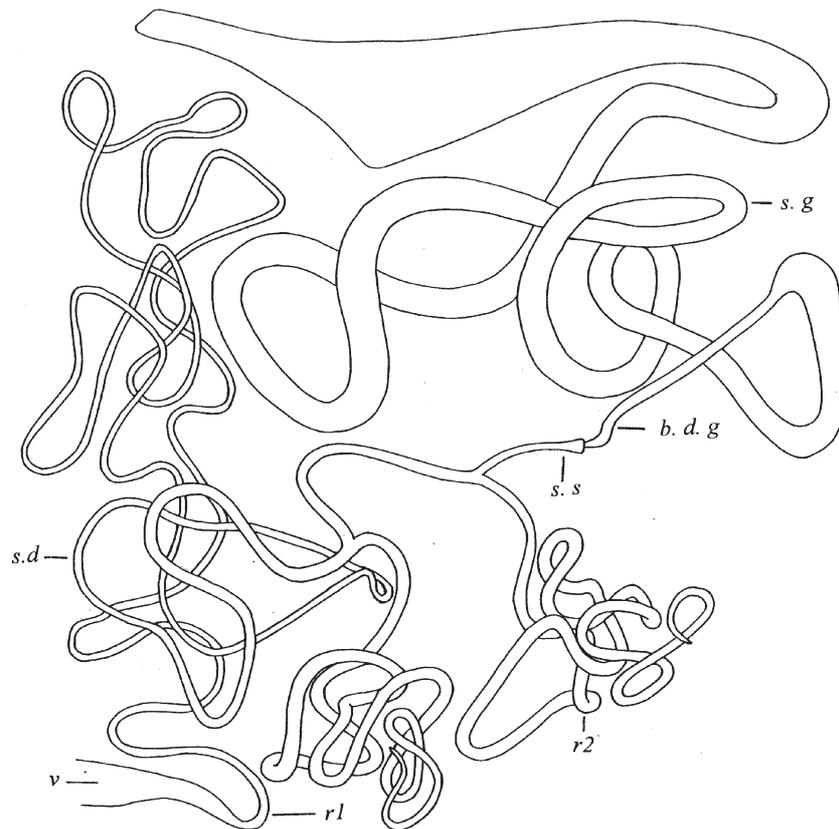
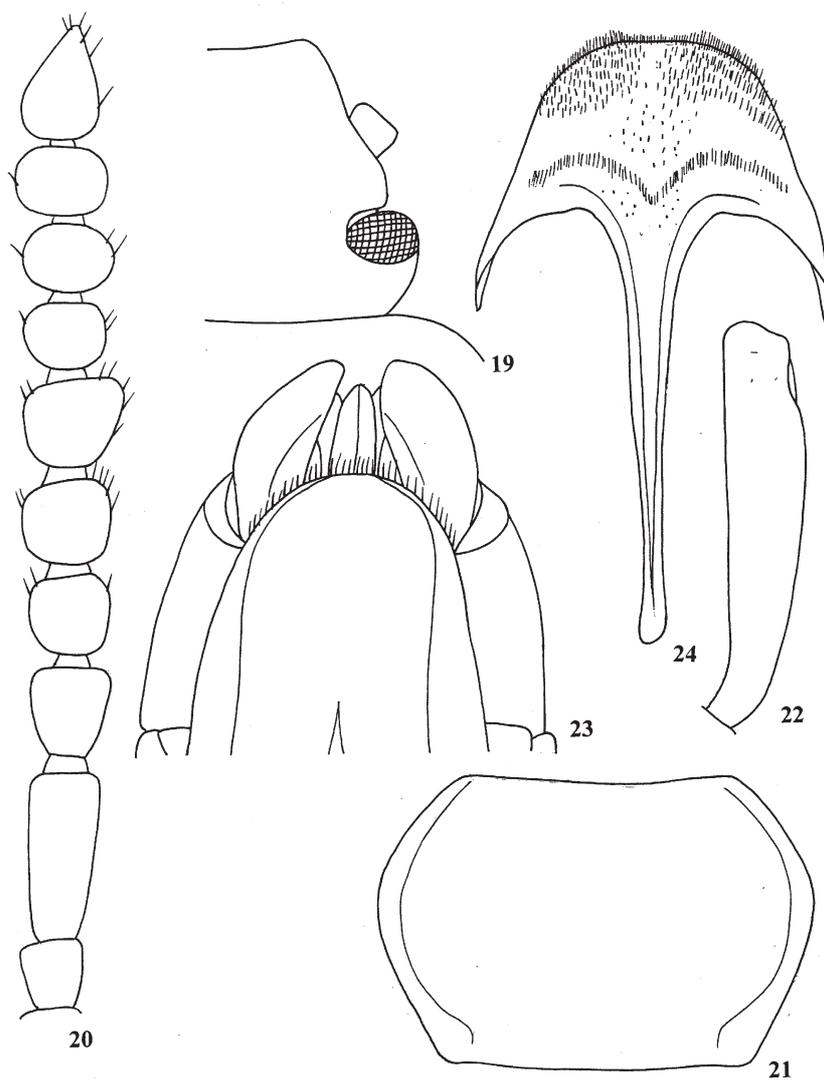


Fig. 18. *Prosodes fabiani* sp. n., spermatheca. Abbreviations: b. d. g = basal duct of gland, r1 = 1st reservoir, r2 = 2nd reservoir; s. d. = spermathecal duct, s. g. = spermathecal gland, s. s. = spermathecal sphincter; v = vagina

Prosodes (Meropersina) vigi sp. n.
(Figs 19–25, 28)

Description – Female (Fig. 28). Body, antennae and legs black, upper side of body weakly lustrous. Body length 23.5, width 10.5 mm.



Figs 19–24. *Prosodes vigi* sp. n., female, 19 = outer margin of female head, 20 = antenna, 21 = pronotum, 22 = fore tibia, 23 = ovipositor, 24 = spiculum ventrale

Outer margins of temples weakly arcuately converging to neck constriction, smoothly roundly continuing outer eye margin. Outer margins of genae parallel at base, separated from anterior margin of eye by narrow excision. Outer margin of head (Fig. 19) with wide obtuse-angled emargination above antennal base. Anterior margin of clypeus moderately deeply and arcuately concave. Head surface with depressions of irregular outline in anterior angles of clypeus and in occipital part, very finely punctate. Antennae as in Fig. 20. Length (width) ratio of 2nd to 11th antennomeres 12(8) : 41(15) : 20(16) : 15(16) : 16(15) : 18(21) : 14(18) : 14(18) : 14(18) : 23(16). Summarized length-to-width ratio of antennomeres 1.16.

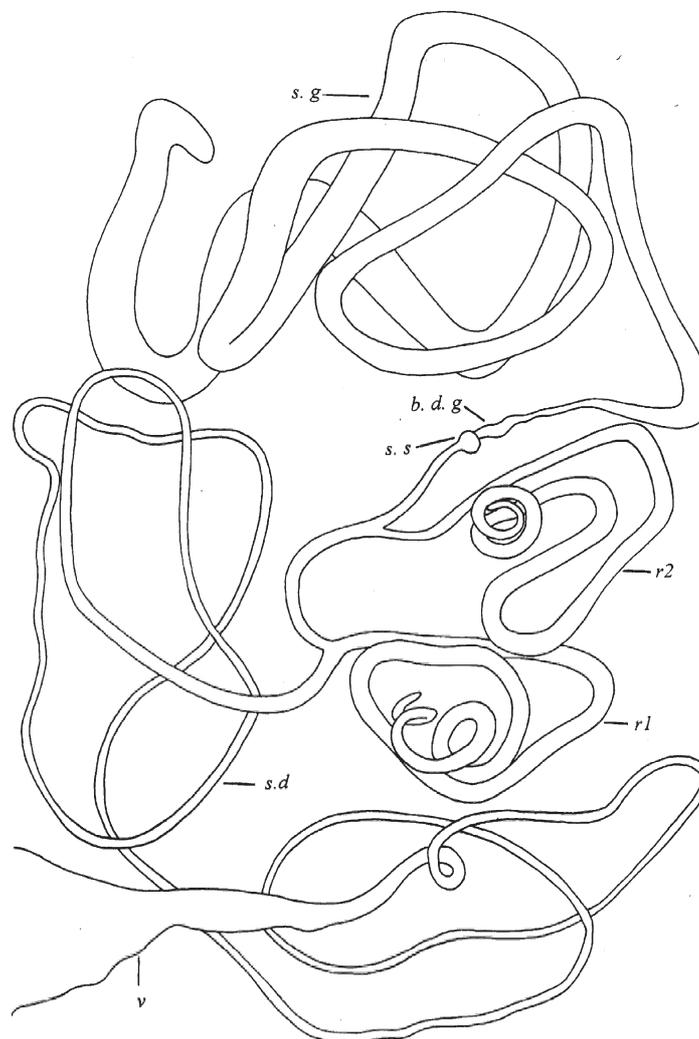
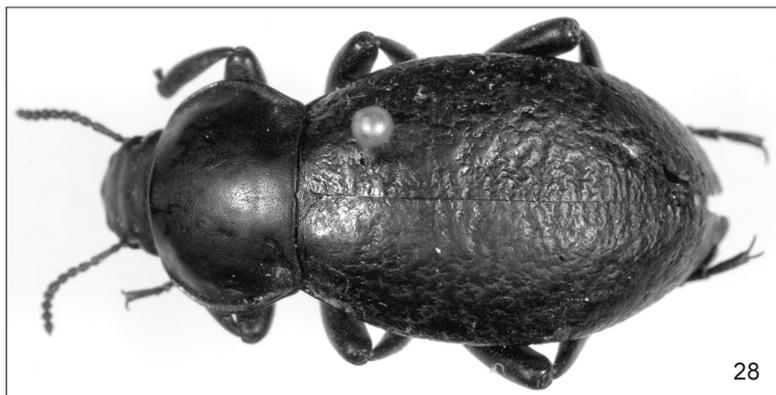


Fig. 25. *Prosodes vigi* sp. n., spermatheca. Abbreviations see Fig. 18.



Figs 26–28. 26–27 = *Prosodes fabiani* sp. n.: 26 = male, 27 = female, 28 = *P. vigi* sp. n., female
(photos L. PERGOVITS)

Pronotum (Fig. 21) strongly transverse (1.5 times as wide as long). 1.86 times as wide as head. Ratio of pronotal width at anterior margin to width in the middle and to that at base 0.56 : 1.00 : 0.71. Sides strongly rounded, bordered in anterior half and raised in posterior half; anterior and basal margin straight, not bordered laterally; anterior and posterior angles widely obtuse-angled, rather widely rounded at apices. Pronotal surface along sides depressed, almost gutter-like, and finely transversely wrinkled. Punctuation very fine, with punctures in posterior angles larger but superficial. Propleura narrowly but sharply flattened along outer margin, with short coarse wrinkles covering their inner part and longer longitudinal wrinkles along outer margins of coxae. Prosternum sharply transversely depressed before fore coxae, prosternal process with a fine median depression at base, gently sloping to posterior margin of prothorax behind coxae, without setose cover.

Elytra narrowly oval (1.68 times as long as wide), 1.19 times as wide as pronotum, noticeably arcuately convex at sides. Outer margin of epipleura visible dorsally only at base. Apex of elytra not attenuate in lateral view. Humeral carina formed by rather well-defined bend, smooth. Upper surface of elytra with somewhat obliterated vermiculose rugosity, more prominent on apical declivity, and with sparse punctures. Epipleura moderately wide. Mesepisternum and mesepimeron, and also metepisternum with well-developed punctuation. First to 3rd visible ventrites of abdomen finely striate and punctate, 5th visible ventrite densely, moderately coarsely punctate. Bordering of apical margin of 5th visible ventrite obliterated.

Legs strong. Length (width) ratio of fore, middle, and hind femora 108(31) : 135(31) : 179 : (31), that of corresponding tibiae 85(17) : 100(20) : 139(22). Posterior surface of middle and hind tibiae not flattened.

Lobes of ovipositor in the examined specimen (Fig. 23) strongly abraded so that it is not clear how long they are in this species. Apical margin of proctiger arcuate. Spiculum ventrale (Fig. 24) with long median shaft noticeably narrowed in apical part.

Spermatheca (Fig. 25) with long (20 mm) duct between vagina and base of 1st reservoir, long (16.5 mm) gland, sharply bent at base of basal duct of gland, narrow base of spermathecal sphincter suddenly dilated at apex. Reservoirs of spermatheca moderately elongate, subequal in length.

Type material – Holotype, female: “IRAN, Prov. Fars Saadat-Shah, 1900 m 53°12'38'' E; 30°05'21'' N, 02. V. 2001 leg: Gy. Fábrián & K. Vig”. It is deposited in the Hungarian Natural History Museum, Budapest.

Etymology – The species is dedicated to Dr. KÁROLY VIG (Savaria Museum, Szombathely, Hungary), one of the collectors of the holotype, an expert of Chrysomelidae and the history of Hungarian (especially Western Hungarian) zoology.

Remarks – Although the only available specimen of *Prosodes vigi* sp. n. is a female, it is assigned to the subgenus *Meropersina* based on the general facies of the body and the rugulose elytra. It sharply differs from the other representatives of the subgenus *Meropersina* REITTER, 1909, i.e. *P. laevigata* (BAUDI DI SELVE, 1874) from Iran and *P. amica* G. MEDVEDEV, 2001 described from the northernmost part of the area between the rivers Tigris and Euphrates in Turkey (MEDVEDEV 2001) by the wider body and strongly transverse pronotum. The closest relative of the new species is *P. vermiculosa* REITTER, 1909, which has a weakly cordate pronotum and a sharp angle between outer margins of eyes and temples, which does not hold true for *P. vigi* sp. n.

REFERENCES

- KÜHNELT, W. (1957) Ergebnisse der österreichischen Iran-Expedition 1949/50. Die Tenebrioniden Irans. *Sitzungsberichte der Österreichischen Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Klasse* **166**(2): 65–102.
- MEDVEDEV, G. S. (2001) Novye vidy zhukov-chernotelok rodov *Asidoblaps* Fairm. i *Prosodes* Eschs. (Coleoptera, Tenebrionidae) iz Kitaya i Mesopotamii. (New species of tenebrionid beetle of the genera *Asidoblaps* Fairm. and *Prosodes* Eschs. (Coleoptera, Tenebrionidae) from China and Mesopotamia.) *Entomologicheskoe Obozrenie* **53**(1): 81–89.

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