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Revision of the Shield-bug Genera *Holcostethus* Fieber and *Peribalus* Mulsant et Rey (Heteroptera, Pentatomidae) of the Palaearctic Region

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Abstract—A complex of the heteropteran genera centering around *Peribalus* Mulsant et Rey and *Holcostethus* Fieber is considered. The genus *Dryadocoris* Kirkaldy reveals no relationship with the above genera and is believed to represent a separate clade of the family Pentatomidae. The genera *Peribalus* and *Holcostethus* are revised. The former includes three subgenera: *Peribalus* s. str. with two species, *Asioperibalus* subgen. n. (type species *Cimex inclusus* Dohrn) with six species, and *Tianocoris* subgen. n. (type species *Holcostethus manifestus* Kiritshenko) with two species. *Holcostethus* embraces two subgenera: *Holcostethus* s. str. and the monotypic *Enigmocoris* subgen. n. (type species *H. fissiceps* Horváth). Two new species are described: *Peribalus tianshanicus* sp. n. from the Tien Shan Mts. and *P. przewalskii* sp. n. from the northern part of China (Huan He River). *P. capitatus* Jakovlev and *P. vernalis* (Wolff) are downgraded to subspecies of *P. strictus* (F.). *P. ovatus* Jakovlev is synonymized with *P. inclusus* (Dohrn). Two new monotypic genera related to the revised complex of genera are established, *Paraholcostethus* gen. n. (type species *Peribalus breviceps* Horváth) and *Himalayastethus* gen. n. (type species *H. pilosus* sp. n. from Kashmir). A key to, and morphometric characters for all the taxa considered are provided. The key characters, including both male and female genitalia, are illustrated, and distributional maps are given.

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Species of the genera *Holcostethus* and *Peribalus* were repeatedly transferred from one to the other genus. Fieber (1861) described the genus *Holcostethus* for species with the open clypeus, and placed there *Cimex sphacelatus* Fabricius (type species by subsequent designation), *H. congener* Fieber (= *Cimex albipes* F.), and *H. jani* Fieber (= *Cimex apicalis* Herrich-Schaeffer). Mulsant and Rey (1866) included species with closed clypeus in the genus *Peribalus*, and proposed an unnecessary new name *Dryocoris*, instead of *Holcostethus*, for species with the open clypeus. Later, Stål (1872) and some subsequent authors left in the genus *Holcostethus* only *Pentatoma analis* Costa (a junior synonym of *Dryadocoris apicalis*), all the other species were transferred to the genus *Peribalus*. However, Kirkaldy (1909) designated *Cimex sphacelatus* as the type species of *Holcostethus*, in which he included most species of the group discussed. For *Pentatoma analis* and closely related African species he erected the genus *Dryadocoris*. Ribes and Schmitz (1992) divided *Holcostethus* into the two genera: *Peribalus* (erroneously referred to as *Dryocoris*) with closed clypeus and *Holcostethus* with open clypeus. The author of the present study agrees to this division and reconsiders the species composition of these genera in the Palaearctic fauna. In the present study, two new subgenera are described in the genus *Peribalus*, *Asioperibalus* subgen. n. with the new species *P.* (*A.*) *przewalskii* sp. n., and *Tianocoris* subgen. n. with the new species *P.* (*T.*) *tianshanicus* sp. n. In the genus *Holcostethus*, the subgenus *Enigmocoris* subgen. n. is described. *Peribalus vernalis* and *P. capitatus* are downgraded to subspecies of *P. strictus*, *P. ovatus* is synonymized with *P.* (*A.*) *inclusus*. *Peribalus breviceps*, exhibiting a set of unique characters, is separated in a genus of its own, *Paraholcostethus* gen. n. The new genus *Himalayacoris* gen. n. is described from the southern spurs of the Himalayas. Examination of representatives of the genus *Dryadocoris* has revealed no relationship to the genera considered. The members of this generic complex, with rare exceptions, are very similar in external characters. Therefore, features of the genital structure, differing between the genera and subgenera, gane in importance. In addition, the number, shape, and degree of sclerotization of conjunctive processes of the

aedeagus and also the type of sclerotized median plates and parameres of males correlate with characters of the female genitalia: the size and shape of the bulb and its processes, the dilation at the base of the sclerotized duct of the spermatheca, and the shape of the genital plates. Diversity of shapes and sizes of the conjunctive processes is illustrated by the example of the structure of the aedeagus of *Holcostethus abbreviatus* Uhler, a representative of the New World fauna (Figs. 47–49).

The study is based on examination of the collection of the Zoological Institute, Russian Academy of Science (St. Petersburg) [ZIN] and also the collections of Institute of Zoology, National Academy of Sciences of the Ukraine (Kiev) [IZASU] and National Museum in Prague. The type material is deposited in ZIN. For more common species, only a part of the material from ZIN collections is listed.

METHODS

The methods of measurements and genital preparation technics were described earlier (Belousova, 1996). About 600 specimens were examined, over 300 preparations of genitalia were made, and 14 parameters were measured in 230 specimens. Morphometric data were processed statistically. The following abbreviations are used in the paper: b. lw, body length to width ratio; h. wl, head width to length ratio; l. bh, body to head length ratio; ds, diatone to synthlipsis ratio (i.e., ratio of the width of the head, including the eyes, to the distance between the inner margins of the eyes; the greater this value, the greater the relative size of the eye); l. ba, body to antenna length ratio; p. wl, pronotum width to length ratio; s. lw, scutellum length to width ratio; l. bb, ratio of the length of the body to the circumference of spermathecal bulb.

A KEY TO THE GENERA OF THE *HOLCOSTETHUS* GROUP

1(2). Head rather wide, with distinct emargination before eyes (Fig. 109). Pronotum without costa or carina along margin. Scutellum with pits in inner corners (Fig. 108). Aedeagus with 3 membranous conjunctive processes; sclerotized median plates clavate (Figs. 113–117). Parameres large, flattened; hypophysis wide, with large wrinkled area; sensory lobe well developed (Figs. 110–112) .... *Dryadocoris* Kirkaldy, 1909.

2(1). Head moderately wide, gradually narrowed anteriorly, weakly, if at all, emarginate before eyes (Figs. 95, 99). Pronotum with costa or carina along margin (e.g., Figs. 84–89). Scutellum without pits in inner corners. Aedeagus with 1–3 pairs of membranous conjunctive processes; sclerotized median plates not clavate, frequently absent (*Paraholcostethus breviceps*). Parameres much more slender; hypophysis narrower, with smaller wrinkled area; sensory lobe poorly developed (Figs. 61–62) or absent (Figs. 50–52).

3(8). Clypeus open.

4(5). Aedeagus without sclerotized median plates; apices of conjunctive processes bifurcate and sclerotized (Fig. 38). Paramere (Fig. 68) with rounded lobe at base of hypophysis. Anterior angle of bucculae rounded .... *Paraholcostethus* gen. n.

5(4). Aedeagus with sclerotized median plates (e.g., Figs. 29–34); when apices of conjunctive processes sclerotized, they do not bifurcate. Paramere without lobe at base of hypophysis. Anterior angle of bucculae pointed.

6(7). Head and pronotum distinctly pubescent dorsally. Paramere pointed apically in lateral view (Fig. 69). Sclerotized median plates of aedeagus wide, connected at base (Figs. 35, 36) .... *Himalayacoris* gen. n.

7(6). Body without distinct pubescence. Paramere rounded apically in lateral view. Sclerotized median plates of aedeagus narrow, separate (Figs. 39, 40) ..... *Holcostethus* Fieber, 1861.

8(3). Clypeus covered by jugae in front view (Figs. 84–93). Aedeagus with 1–3 pairs of conjunctive processes; sclerotized median plates wide, connected at base (Figs. 18–34) .... *Peribalus* Mulsant et Rey, 1866.

Genus ***PERIBALUS*** Mulsant et Rey, 1866

Peribalus Mulsant et Rey, 1866 : 262. Type species *Cimex vernalis* Wolff, 1804 (Kirkaldy, 1909: XXIX).

Diagnosis. The genus is most closely related to *Holcostethus* but differs in the following characters: clypeus closed; sclerotized median plates of aedeagus wide, connected at base; outgrowths of spermathecal bulb short, forming no process.

Composition. The species of the genus are classified into three subgenera, two of which are described

as new based on the number of conjunctive processes of the aedeagus, shape of the inner surface of the paramere, and structure of the spermatheca.

The range of the genus covers nearly entire Palaearctic Region from Mediterranean to the coast of the Pacific Ocean. The ten species occur in the plains and high mountains, reaching a height of 3600 m.

A KEY TO SPECIES OF THE GENUS *PERIBALUS* MULSANT ET REY, 1866

1(4). Aedeagus with one pair of curved conjunctive processes with sclerotized apices (Figs. 18–20). Theca without lateral processes. Parameres with smoothened sensory lobe and with wrinkled area rounded at base (Figs. 54–56). Spermatheca with elongate (occasionally strongly elongate) bulb and with sclerotized duct spherically widened at base (Figs. 1–3) ..... *Peribalus* s. str.

2(3). Sides of pronotum distinctly emarginate; lateral angle narrowly rounded, length of its part projecting beyond elytral base subequal to width of eye (Fig. 93). Apex of scutellum without pale spot. Mediterranean subspecies .... *P.* (*P.*) *strictus strictus* (Fabricius, 1803).

3(2). Sides of pronotum straight or weakly emarginate; lateral angle rounded, length of its part projecting beyond elytral base less than half width of eye (Fig. 91). Apex of scutellum pale.

a(b). Body larger, 8.7–10.5 (9.61) mm long, dark brownish, with black coarse punctation; distance between punctures subequal to puncture diameter; surface smooth. Euro-Siberian subspecies .... *P.* (*P.*) *strictus vernalis* (Wolff, 1804), stat. n.

b(a). Body smaller, 7.8–10.8 (9.06) mm long, sandy-red, with very dense, fine, usually concolorous, occasionally brown punctation; distance between punctures less than their diameter; surface not smooth. Typical of Fore and Central Asia ..... *P.* (*P.*) *strictus capitatus* Jakovlev, 1889, stat. n.

4(1). Aedeagus forming more than 1 pair of conjunctive processes with unsclerotized apices (Figs. 23–34). Theca with small lateral processes. Paramere usually (except for that of *P. hoberlandti*) with noticeable sensory lobe; uneven area of inner surface of paramere pointed at base (Figs. 57, 59–62). Spermathecal bulb rather weakly, if at all, elongate; sclerotized duct not widened at base (Figs. 6–9); occasionally with bulb spherical and sclerotized duct widened at base to varying extent (Figs. 10, 11, 15, 17).

5(16). Aedeagus with 2 pairs of conjunctive processes; vesica strongly curved at apex (Figs. 29, 31, 32), except for that weakly curved in *P. congenitus* (Fig. 30). Inner surface of paramere subparallel-sided (Figs. 57–60). Ventral surface of pygofer with medially interrupted carina along apical margin; apices rounded or slightly pointed (Figs. 77–80). Spermatheca with weakly elongate bulb and sclerotized duct narrowed at base (Figs. 6–9), or bulb spherical and sclerotized duct narrowed (as that of *P. przewalskii* sp. n., Fig. 10, and *P. classeyi*, Fig. 11) or slightly widened (as that of *P. hoberlandti*, Fig. 17) at base .. .. *Asioperibalus* subgen. n.

6(15). Lateral margin of pronotum straight, slightly concave, rarely slightly convex (Figs. 86–89).

7(14). Parandria situated below horizontal level of lateral angles of pygofer (Figs. 77–80). Laterotergite IX small, not widened toward base (Fig. 103).

8(13). Head medium-sized, trapeziform (Fig. 98); 3rd antennal segment distinctly shorter than 2nd (index 0.88–0.96). Spermathecal bulb weakly elongate (Figs. 6–9).

9(12). Pygofer wide, with attenuate apical angles and narrowly rounded median emargination (Figs. 77, 78). Sclerotized median plates slightly widened, vesica sharply curved.

10(11). Pronotum with indistinct pale edging, sparsely, rather coarsely punctate; distance between punctures several times exceeding their diameter. Jugae swollen. Asian species .... *P.* (*A.*) *nitidus* Kiritshenko, 1914.

11(10). Pronotum with pale distinct marginal costa, rather densely punctate. Jugae flat. Euro-Siberian species .... *P.* (*A.*) *inclusus* (Dohrn, 1860).

12(9). Pygofer narrow, with weakly attenuate apical angles and widely rounded median emargination (Fig. 79). Sclerotized median plates strongly widened, vesica smoothly curved (Figs. 24, 30). Transcaucasia, Iran .... *P.* (*A.*) *congenitus* (Putshkov, 1965).

13(8). Head large, subrectangular (Fig. 99); 3rd antennal segment always longer than 2nd (1.2 times as long, on average). Spermatheca with spherical bulb (Fig. 10). Closely related to *P. inclusus*. Northern China, Mongolia .... *P.* (*A.*) *przewalskii* sp. n.

14(7). Parandria situated clearly above horizontal level of lateral angles of pygofer (Fig. 66). Laterotergite IX very large, strongly widened toward base (Figs. 106). Eastern Afghanistan .... *P.* (*A.*) *classeyi* (Hoberlandt, 1984).

15(6). Pronotum with distinctly convex lateral margins (Fig. 90). Turkey .... *P.* (*A.*) *hoberlandti* (Lodos et Önder, 1980).

16(5). Aedeagus at least with rudiment of 3rd pair of conjunctive processes (Figs. 33, 34). Ventral surface of pygofer with entire carina repeating sinuate bend of its apical margin; apices pointed and distinctly bent inwards (Fig. 82). Paramere with arcuately curved inner surface (Figs. 61, 62). Spermathecal bulb spherical, sclerotized duct clearly widened at base (Fig. 15). Vesica weakly curved ..... *Tianocoris* subgen. n.

17(18). Aedeagus with 2 pairs of conjunctive processes and with rudiment of 3rd pair (Figs. 27, 33). Sclerotized median plates strongly widened. Pamiro-Alai .... *P.* (*T.*) *manifestus* (Kiritshenko, 1952).

18(17). Aedeagus with 3 pairs of conjunctive processes (Figs. 28, 34). Sclerotized median plates weakly widened. Tien Shan .... *P.* (*T.*) *tianshanicus* sp. n.

Subgenus ***Peribalus*** s. str.

Diagnosis. Aedeagus with 1 pair of conjunctive processes sclerotized at apices. Theca without lateral processes. Paramere with smoothened sensory lobe. Uneven area of inner surface of paramere rounded at base. Pygofer with attenuate pointed apices and narrowly rounded median emargination. Spermathecal bulb elongate, with processes; sclerotized duct spherically widened at base. Laterotergite IX slightly widened at apex; sternite IX short and wide, with even lower margin and pointed apices.

Variation. Coloration and punctation of the body exhibit geographical variability. For example, coloration of *P. strictus* varies between mainly brownish in the individuals from the European part of the range (*P. vernalis*) and bright ochraceous in those from the Asian part (*P. capitatus*). In parallel, punctation varies from rarefied, rather coarse, and black to denser, fine, usually concolorous.

Composition. The subgenus includes *P. strictus* (Fabricius, 1803) with three subspecies, *P. strictus strictus*, *P. strictus vernalis* (Wolff, 1804), and *P. strictus capitatus* Jakovlev, 1889.

The subgenus also includes *P. lodosi* described from the northern areas of Iraq (Figs. 4, 21, 72) and *P. pishinensis* from Pakistan (Fig. 5) (Ahmad et al., 1986), the structure of the genitalia in these species is typical of the subgenus. In the descriptions, these species were not compared with *P. strictus capitatus* widely distributed in Middle Asia and known from Iran and Afghanistan. The differences indicated for the species fall within the range of variability of *P. strictus capitatus*, which casts doubt on their specific rank.

Peribalus strictus strictus (Fabricius, 1803)

Cimex strictus Fabricius, 1803 : 179.

Cimex distinctus Fieber, 1861 : 339 (junior primary homonym of *Cimex distinctus* Gmelin, 1790; syn. Puton, 1881 : 57).

Peribalus distinctus var. *immaculicornis* Rey, 1887 : 2.

Peribalus dispar Halászfy, 1961 : 497 (syn. Josifov, 1986 : 90).

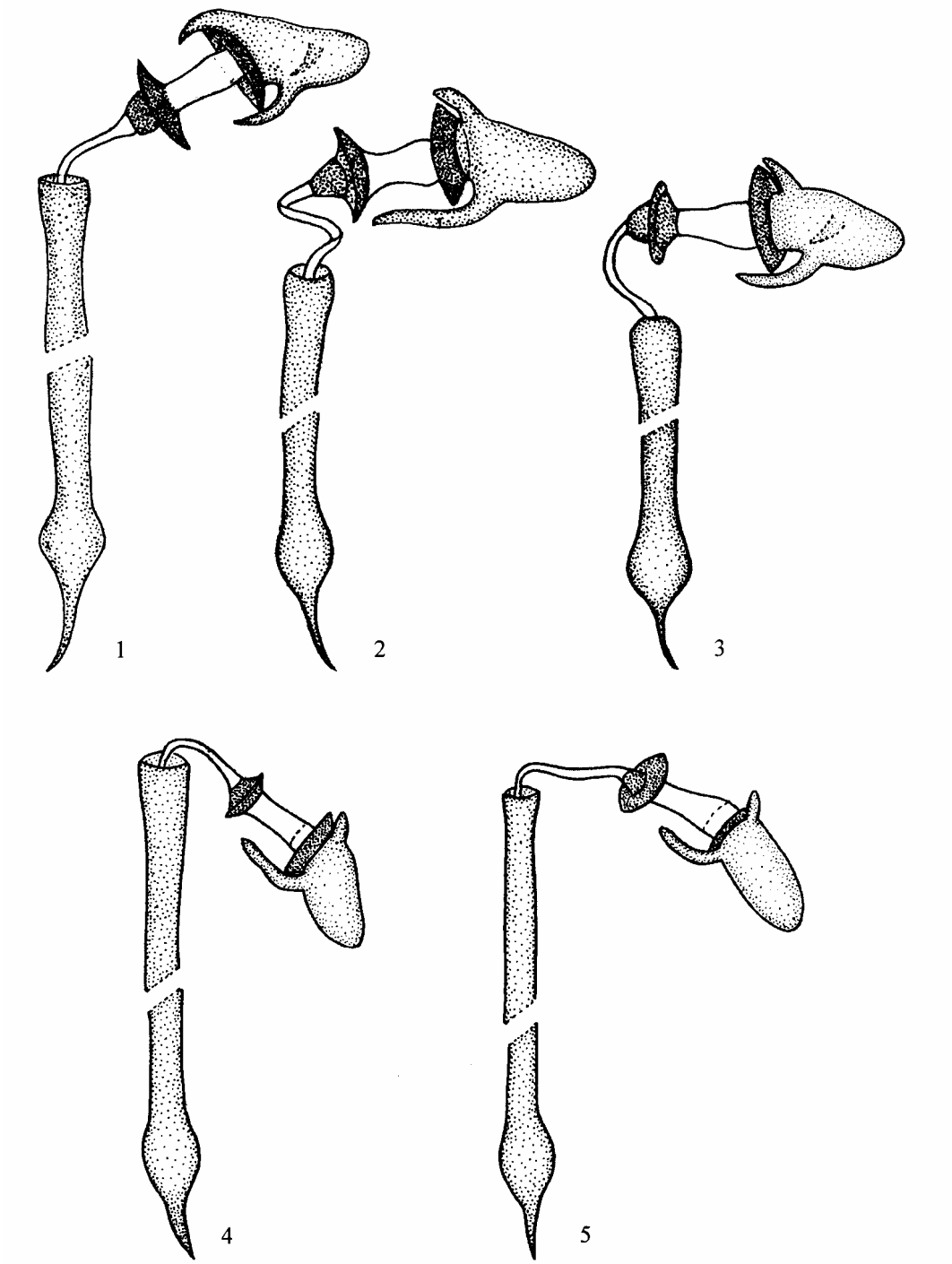
Peribalus strictus: Stål, 1868 : 28; Jakovlev, 1902 : 158; Ribes, 1992 : 109.

Holcostethus strictus: Tamanini, 1981 : 131.

Holcostethus strictus strictus: Josifov, 1986 : 90.

Diagnosis. Typical individuals of the nominotypical subspecies are similar to *P. s. vernalis* in the appearance and in the structure of the genitalia, but differ from it in the following characters: sides of pronotum concave; angles of pronotum attenuate, narrowly rounded, length of their part projecting beyond elytral base subequal to width of eye; pale spot at apex of scutellum absent or obsolete.

Description. Body sandy-brownish, with rather dense, fine, black punctation (distance between punctures exceeding puncture diameter); apex of scutellum without pale spot, or with narrow obsolete spot covered with black punctures; ventral side of body yellow,

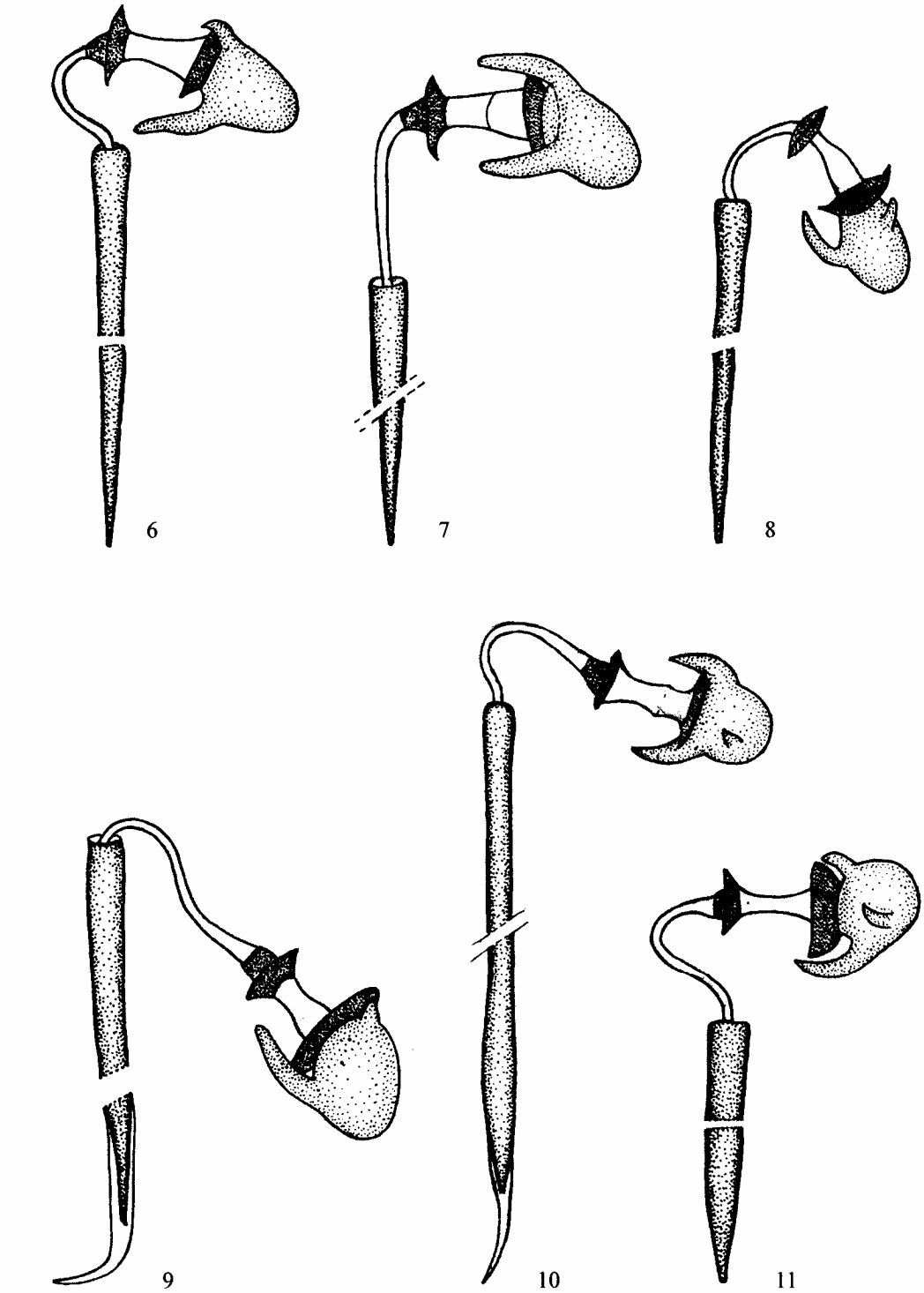


Figs. 1–5. *Peribalus* Mulsant et Rey, spermatheca: (1) *P. strictus capitatus* (Jak.), (2) *P. strictus strictus* (F.), (3) *P. strictus vernalis* (Wolff), (4) *P. lodosi* Ahmad et al., (5) *P. pishinensis* Ahmad.

rarely with dark punctation. Abdominal segments with black punctation in anterior and posterior corners of tergites. Antenna yellowish rufous, unicolor or with darkened apical segment. Length of body 8.3–9.3 (8.9) mm, b. lw 1.59–1.71 (1.66).

Head narrowed toward anterior margin [h. wl 1.08–1.17 (1.12)], l. bh 3.91–4.28 (4.08); jugae narrowly rounded, with straight or slightly emarginate sides, longer than clypeus, slightly converging apically, entirely covering apex of clypeus (Fig. 93). Eye medium-sized, ds 1.36–1.51 (1.43). l. ba 1.92–2.18 (2.06).

Pronotum wide [p. wl 2.32–2.62 (2.44)], with clearly emarginate lateral margin bordered with

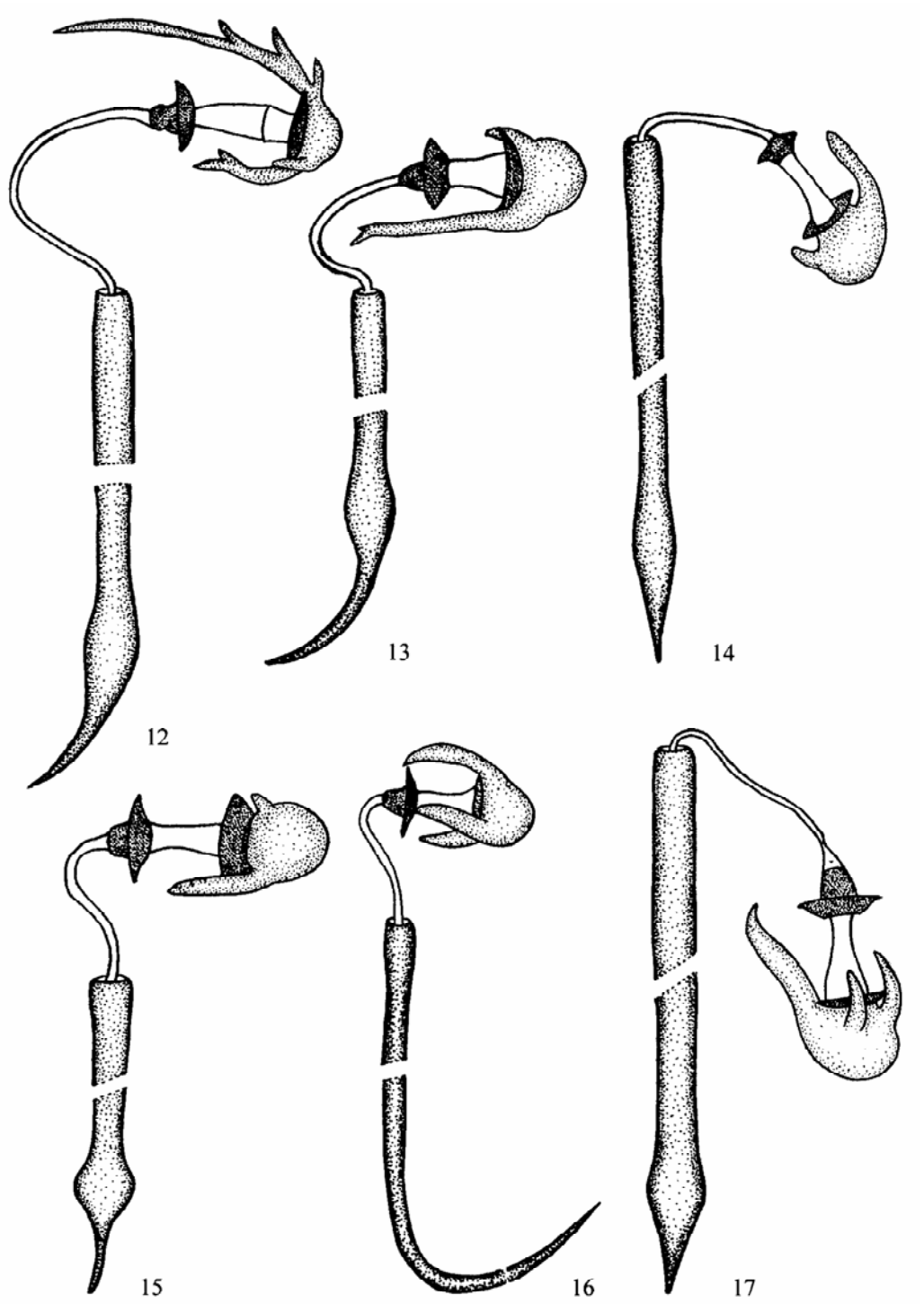


Figs. 6–11. *Peribalus* Mulsant et Rey, spermatheca: (6) *P. nitidus* (Kir.), (7) *P. inclusus* (Dohrn), (8) *P. congenitus* Putsh., (9) *P. ovatus* (Jak.) (= *inclusus*), (10) *P. przewalskii* sp. n., (11) *P. classeyi* Hob.

rounded pale costa curved upwards. Lateral angle attenuate and narrowly rounded, length of its part projecting beyond margins of elytra subequal to width of eye (Fig. 93). Scutellum about as long as wide, s. lw 0.94–1.05 (0.99).

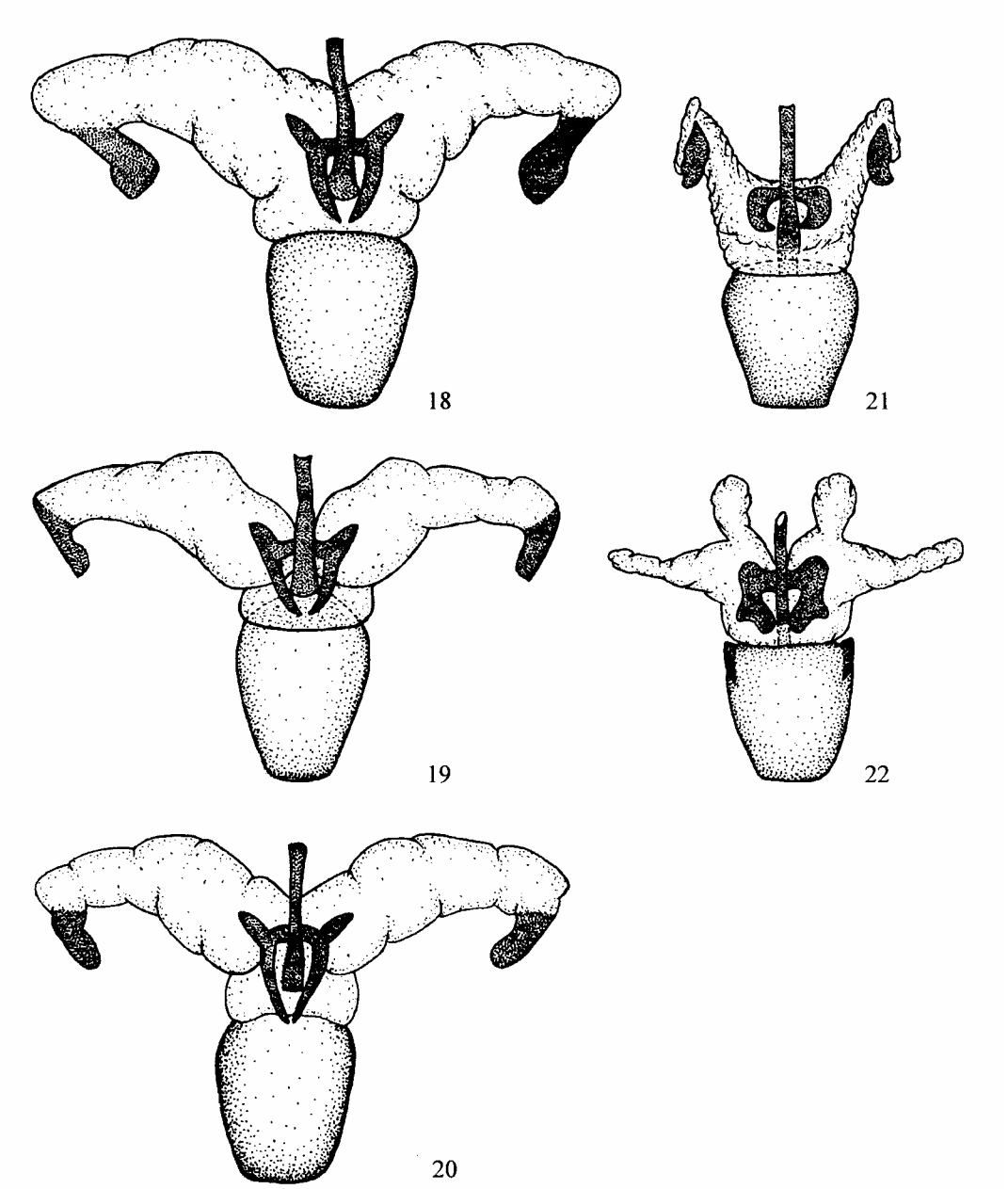
Structure of male and female genitalia as in Figs. 2, 18, 56, 75.

Distribution. The subspecies is recorded for the entire Mediterranean basin. However, most part of this



Figs. 12–17. Spermatheca: (12) *Holcostethus sphacelatus* (F.), (13) *Holcostethus albipes* (F.), (14) *Peribalus urakensis* Ahmad et al., (15) *Peribalus manifestus* Kir., (16) *Paraholcostethus breviceps* (Horv.), (17) *Peribalus hoberlandti* Lodos et Önder.

territory (Spain, Italy, countries of the Balkan Peninsula, Hungary, Romania) is inhabited by typical *P. s. strictus*, by representatives of *P. s. vernalis*, and also by individuals intermediate between the two forms. In the structure of the genitalia, *P. s. strictus* and *P. s. vernalis* do not differ from each other. Northward and eastward the individuals with characters of *P. s. strictus* occur less frequently, and then, rather large territory is inhabited only by typical representatives of *P. s. vernalis*. Therefore, the author retains the rank of subspecies for these two forms, although, as noted above, they are indistinguishable



Figs. 18–22. *Peribalus* Mulsant et Rey, aedeagus: (18) *P. strictus strictus* (F.), (19) *P. strictus vernalis* (Wolff), (20) *P. strictus capitatus* (Jak.), (21) *P. lodosi* Ahmad, (22) *P. sinuatus* Ahmad.

over rather large territory. In Fig. 121, collecting sites are shown only for the specimens examined by the author.

Material examined. 1 ♀, Montpellier; 1 ♀, Andalusia; 1 ♀, Asuni, Sardinia centr., 1910 (Krausse); 1 ♀, montes Gennargentu, Sardinia, Krausse; 2 ♂, Marocco, 1900 (Vaucher); 1 ♂, 1 ♀, Algerie, 60 (C. Morawitz).

Peribalus strictus vernalis (Wolff, 1804)

Cimex baccarum: Schrank, 1791 : 272.

Cimex vernalis Wolff, 1804 : 135.

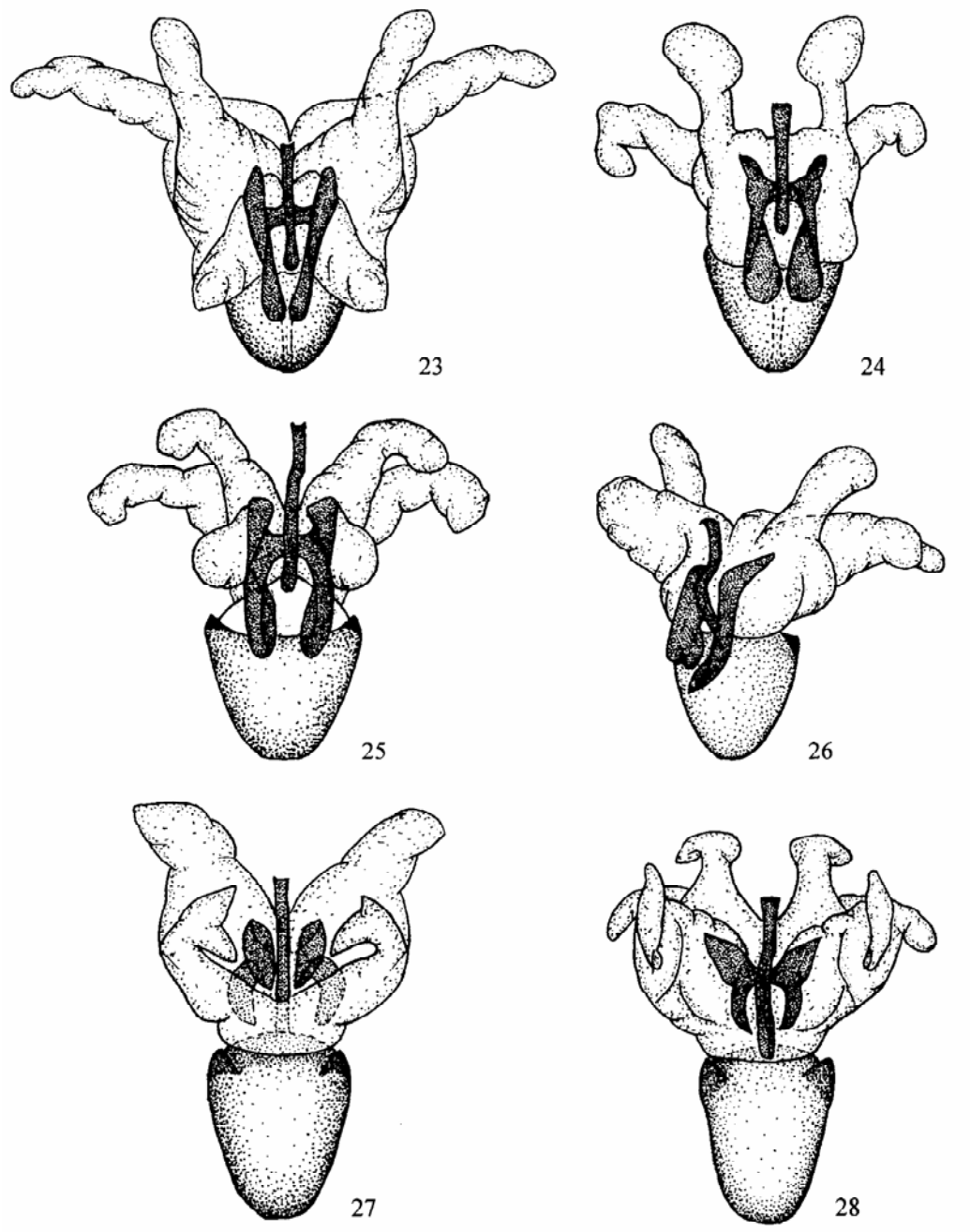
Pentatoma vernalis: Hahn, 1834 : 153; Puton, 1881 : 1; Saunders, 1892 : 7. Jakovlev, 1902 : 1.

Peribalus vernalis: Ribes et Schmitz, 1992 : 109.

Holcostethus strictus vernalis: Josifov, 1981 : 152; 1986 : 90.

Holcostethus vernalis: Tamanini, 1981 : 131.

Diagnosis. The subspecies differs from *P. s. strictus* in the structure of the pronotum with weakly emargi-

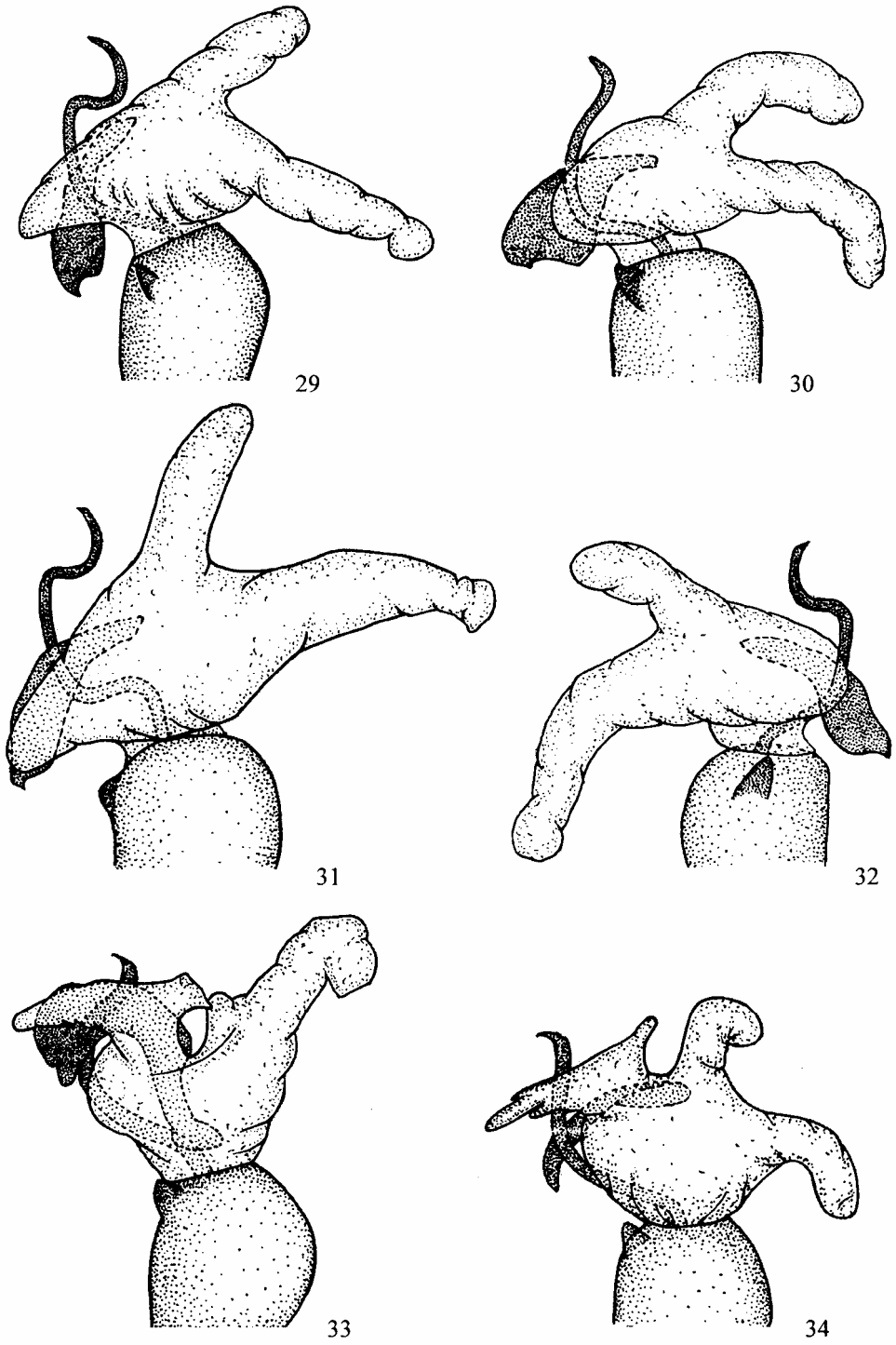


Figs. 23–28. *Peribalus* Mulsant et Rey, aedeagus, front view: (23) *P. inclusus* (Dohrn), (24) *P. congenitus* Putsh., (25) *P. ovatus* (Jak.) (= *inclusus*), (26) *P. nitidus* (Kir.), (27) *P. manifestus* Kir., (28) *P. tianshanicus* sp. n.

nate sides and rounded lateral angles slightly projecting beyond the elytral base, and in the pale apex of the scutellum. Therefore, the author suggests to consider *P. vernalis* a Euro-Siberian subspecies of *P. strictus*.

Description. Body dark brownish, with black punctures separated by intervals subequal to puncture diameter. Antenna rufescent, with darkened apical segment. Abdominal segments with black spots in corners of segments. Length of body 8.7–10.5 (9.61) mm, b. lw 1.56–1.78 (1.7).

Head gradually narrowed toward anterior margin, wide [h. wl 1.09–1.29 (1.18)], small, l. bh 3.95–5.02 (4.51); juga with straight lateral margins; clypeus covered by jugae in anterior part (Fig. 91). Eye medium-sized, ds 1.36–1.49 (1.43). Antenna short, l. ba 2.04–2.38 (2.18).



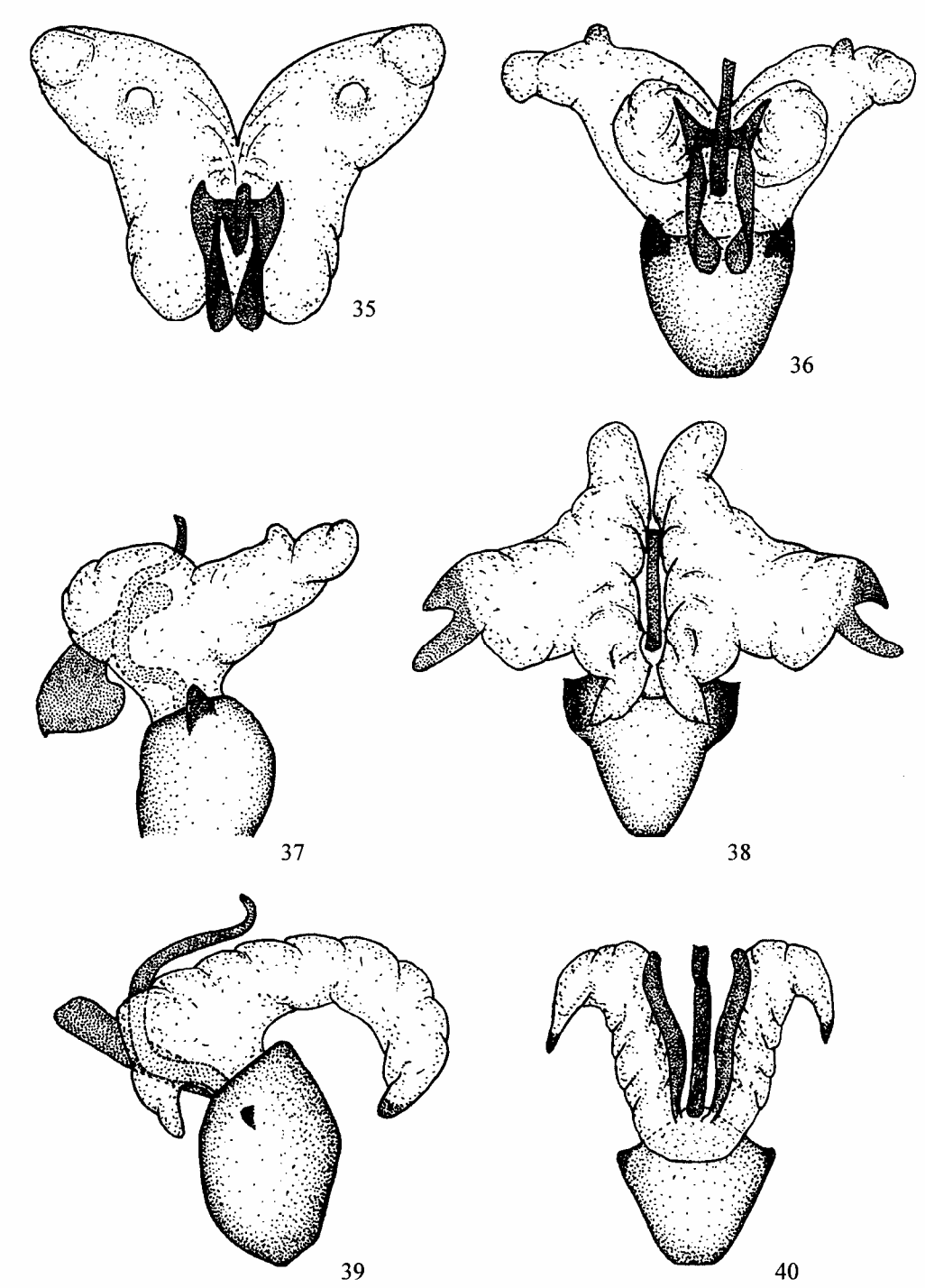
Figs. 29–34. *Peribalus* Mulsant et Rey, aedeagus, lateral view: (29) *P. inclusus* (Dohrn), (30) *P. congenitus* Putsh., (31) *P. ovatus* (Jak.) (= *inclusus*), (32) *P. nitidus* (Kir.), (33) *P. manifestus* Kir., (34) *P. tianshanicus* sp. n.

Pronotum transverse [p. wl 2.22–2.5 (2.36)], with straight or weakly emarginate sides bordered with sharp costa deflexed upwards and with rounded lateral angle slightly projecting beyond elytral base (Fig. 91). Scutellum about as long as wide, s. lw 0.97–1.07 (1.01).

Structure of male and female genitalia as in Figs. 3, 19, 55, 74.

Distribution. This is a Euro-Siberian subspecies of *P. strictus*. Records from Southern Europe require specification.

Material examined. France. 1 ♀, France, Devonne-les-Bains, VI–VII.1896 (Neklyudov). **Switzerland.** 1 ♂**,** Suisse, St. Nicolas, Cent du Valais, VII.96 (Neklyudov). **Serbia.** 1 ♀, Dubovacz, Banat (Holtz); 1 ♂, Topchider, near Belgrade, 28.IV.1928 (Martino); 1 ♂, Kumanovo, 25.VII.1928 (Martino). **Italy.** 1 ♀, Triest, 21.VIII.1929 (Passauro). **Greece**. 1 ♂, Graecia; 1 ♂, Attica. **Turkey.** 1 ♂, Mersina, Cilicia, Asia Minor, 1897 (M. Holtz); 1 ♂, Ardanuch, E of Artvin, 15.VII.1898 (Deryugin). **Poland** [actually, Leningrad Prov. of Russia—Ed.]. 1 ♀, Preobrazhensk Station, Warsaw Railway, 20.VI.1898 (Chechini). **Belarus.** 1 ♂, 1 ♀, Bagovitsa, Kamenetskii Uyezd [District], VI–VII.1905 (Grum-Grzhimailo); 1 ♂, 1 ♀, Turki, Bobruiskii Uyezd, Minsk Gubernia, 19.VIII.1917 (Afanas'eva). **Ukraine.** 1 ♂, Markovichi, Volynsk Gubernia, 19.V.1899; 1 ♀, Kamenets-Podolsk, 25.II.1911 (Yakubovskii); 1 ♂, Desna River valley, 26–27.V.1898 (Kolachev); 1 ♂, Kiev (A. Kushakevich's coll.); 2 ♀, Kiev Gubernia, 4.VI.1924 and 6.VI.1926 (V. Grossheim); 1 ♂, Odessa, Khadzhibeisskii Estuary, saline, 28.IX.1922 (Kiritshenko); 1 ♂, Elizavetgrad, Kherson Gubernia, 16.V.1904 (E. Yatsentkovskii); 1 ♀, Evpatoria (Jakovlev's collection); 2 ♀, Kerch, Crimea, 22.II.1908 and 16.VII.1918 (Kiritshenko); 1 ♂, Salachik, near the Sea of Azov, Feodosiiskii Uyezd, 21.VIII.1905 (Bianchi); 1 ♂, Simferopol, 22.IV.1899; 1 ♂, Bakhchisarai, Crimea, 18.VII.1936 (Dombrovskaya); 1 ♀, Sevastopol (Zhitkov); 1 ♂, 1 ♀, Kastropol, southern coast of the Crimea, 30.VI.1902 (N. Kuznetsov). **Moldova.** 1 ♀, Kishinev, 17.X.1957 (Talitskii); 1 ♂, Bessarabia (A. Kushakevich's collection); 1 ♂, Purkary, Akkermanskii Uyezd, Bessarabia, 16.IV.1911 (Chernavin). **Caucasus. Krasnodar Territory**. 1 ♂, Ekaterinodar, Kuban Province, 18.IV.1911 (Bogdanov-Kat'kov); 1 ♂, Kubanskaya near Armavir, 6.VII.1934 (Zimin); 1 ♂, Krasnaya Polyana, 7.V (Kiritshenko). **Stavropol Territory**. 1 ♂, Zimnyaya Stavka, lower course of Kuma, River 30.IV.1911 (Uvarov); 1 ♂, Teberda Nature Reserve, 10.IX.1952 (Arens); 1 ♀, Azgen River, tributary of Teberda River, 1–2.VII.1915 (Bogdanov-Kat'kov); 1 ♀, Daut River, 1200 m, Karachai, Northern Caucasus, VIII.1935 (Dyakonov). **North Ossetia**. 1 ♂, environs of Vladikavkaz, 17.VII.1886 (Ananov); 1 ♀, Sunzhenskii Mt. Range, between Kardzhin and Elkhotovo villages, 680 m, 4.VII.1985 (S. Alekseev). **Ingushetia**. 1 ♂, 1 ♀, Salgi, 5462', Terskaya Province, 30.VII and 6.VIII.1927 (Kiritshenko). **Daghestan**. 1 ♂, Kizlyar, Terek River valley, 9.V.1925 (Kiritshenko); 1 ♀, Kapchugai, Buinaksk, 2.X.1937 (Ryabov); 1 ♂, Derbent, 30.VI, 2.VII.1925 (Kiritshenko); 1 ♂, Temir-Khan-Shura [= Buinaksk—Ed.], 21.VI. 1925 (Kiritshenko); 1 ♀, Petrovsk, 2.XI.1925 (Ryabov). **Transcaucasia**. **Georgia.** 1 ♀, Sukhumi, 30.V. 1954 (Kir'yanova); 1 ♀, Sukhumi Nature Reserve, V.1928 (Yu. Zimin); 1 ♀, Kelasuri River mouth, 14.V.1954 (Kir'yanova); 1 ♂, Bakuriani, 2.VII.1949 (Kiritshenko); 1 ♀, Borzhom, Tiflisskii Uyezd, 1867 (Brandt); 1 ♂, 1 ♀, Tiflis, 15.VI.1902 (K. Satunin) and 20–25.VI.1911 (Bogdanov); 1 ♀, Mtskhet, Tiflis Gubernia, 5.VI.1933 (Kirshenblat); 1 ♂, 2 ♀, Benara, 19 km W of Akhaltsikhe, 9.VI.1949 (Kiritshenko); 2 ♂, 1 ♀, Lagodekhi, Signakhskii Uyezd, Tiflis Gubernia, 29.IV.1910 and 20–24.VI.1916 (Mlokosevich). **Azerbaijan**. 1 ♀, Akstafa, 6.VIII.1915 (Satunin); 1 ♀, Elizavetpol Gubernia, Adzhikent, 5.VIII.1912 (Azimovich); 1 ♀, Geoktapa, Areshskii Uyezd, Elizavetpolsk Gubernia, 1893–1900 (A. Shelkovnikov); 1 ♂, Mingechaur on Kura River, 16.V.1948 (Bogachev); 1 ♀, Sarydzha steppe N of Evlakh, 20.V.1948 (Bogachev); 1 ♀, Agdam, Karabakhskaya steppe, 18–19.VI.1933 (Lukjanovitsh); 1 ♂, Gyaur-arkh Channel, Milskaya steppe, 9, 10.VI.1933 (Lukjanovitsh); 1 ♀, Talysh, 9.VII.1971 (Ermolenko); 1 ♂, Talysh, Lerik, 13.V.1906 (Kiritshenko); 1 ♀, Divagach on Vasharu-Chai River, Talysh, 5.V.1933 (Lukjanovitsh); 1 ♀, Kumbashi, Lenkoranskii Uyezd, 25.IV.1909 (Kiritshenko); 1 ♂, 1 ♀, Disar, near Ordubad, Nakhichevan Territory, 1934 (Ter-Minassian). **Armenia**. 1 ♀, Yerevan, 3.VI.1925 (Ryabov); 1 ♀, Tsakhadzor, Tekerlu Mt. Range, 21.V.1997 (Melnik); 1 ♀, Byurakan, southern slope of Alagez, 24, 25.VII.1948 (Richter); 1 ♀, Byurakan, Ashtarakskii District, 18–20.VII.1955 (Ter-Minassian); 1 ♂, Migry (Megri), 18.VI.1977 (Putshkov). **European part of Russia.** 1 ♀, Lebyazh'e, 19.VII.1948 (Nikolskaya); 1 ♂, Luzhskii Uyezd, St. Petersburg Gubernia, 28.VIII. 1898 (Beling); 1 ♂, Voron'ya Gora, Krestsovskii Uyezd, Novgorod Gubernia, 5.VI.1898 (R. Schmidt); 1 ♂, Berditsyno, Yaroslavlskii Uyezd, 27.VIII.1907 (N.M. Jakovleva); 1 ♂, Moscow Gubernia, Boblovo, Klinskii Uyezd, 20.V.1905 (D. Smirnov); 1 ♂, Porech'e, Mozhaiskii Uyezd, 1.VIII.1903 (Bianchi); 1 ♂, 2 ♀, Gremyachka, Dankovskii Uyezd, Ryazan Gubernia, 17.VI.1899, 26.V.1908, 12.VI.1911 (A. Semenov); 1 ♂, Petrovskoe Vill., Mtsenskii Uyezd, Orel Gubernia, 6.VII.1897 (Favorskii); 3 ♂, 3 ♀, Belgorod Province, Borisovskii Distr., "Les na Vorskle" Nature Reserve, 31.VI.1989 (Davidian); 1 ♂, Borisovka,



Figs. 35–40. Aedeagus, front and lateral view: (35, 36) *Himalayacoris pilosus* sp. n., (37) *Peribalus hoberlandti* Lodos et Önder., (38) *Paraholcostethus breviceps* (Horv.), (39, 40) *Holcostethus sphacelatus* (F.).

Graivoronskii Uyezd, Kursk Gubernia, 18.VI.1907 (S. Malyshev); 1 ♀, Kamennaya Steppe, 11 km S of Talovaya, 15.VI.1935 (Stark); 2 ♂, 6 ♀, Rostov Province, Zernogradskii District, Manychskii Sovkhoz, 20.V.1988 (I. Belousov); 1 ♂, Novocherkassk, 7.IV.1909 (Kizeritskii); 1 ♂, Tambov Gubernia, 2–4.V.1911 (Rydzeevskii); 1 ♂, Tsivilsk, Kazan Gubernia, 1.VII.1875 (Ksenzhopolskii); 1 ♀, Zhuravlinyi Pitomnik, Pugachevskii District, 10.IX.1949 (Grunin); 1 ♂, Astrakhan (A. Golde); 1 ♀, Sarepta (Becker). **Urals.** 1 ♂, Kharkin, Ural River bank, lower course, 17.V.1951 (Romadina); 1 ♂, Troitsk, steppe, Orenburg

Gubernia, 28.V.1916 (N. Kuznetsov); 1 ♀, Irgizla, Orenburg Gubernia, Belaya River bank, 13.VI.1899 (Jacobson, Schmidt). **Western Siberia.** 1 ♀, Omsk Gubernia, 11.VI.1922 (A. Reichardt); 1 ♀, Vaganovo, Kemerovo Province, 18.VI.1955 (Falkovitsh). **Altai**. 1 ♀, Biisk, 5.VI.1898 (Klements); 1 ♀, Turochak on Biya River, 22.VI.1926 (D. Suvorov); 1 ♂, 1 ♀, Pavlovsk, Altai Terr., 20.VI.1944 (Stark); 1 ♀, shore of Lake Teletskoe, 21.VI.1912 (Yurganova); 1 ♂, Chilish River, Lake Teletskoe, Tomsk Gubernia, 24.VII.1909 (Emeljanov); 1 ♀, 20 km SE of Ongudai, 28.VI.1964 (Kerzhner); 1 ♀, Lake Kureevskoe, upper course of Biya River, 18.VIII.1926 (Valdaev). **Eastern Siberia.** 1 ♀, Konnyi Island, Yenisei River, Krasnoyarsk, 26.V.1899 (M. Kibort); 1 ♂, Bazaikha, near Krasnoyarsk, 1895 (Ulrich); 1 ♂, same locality, 1910 (Degtyarev); 1 ♀, pass to Karasyube River, S of Abakan, 18.VI.1897 (Wagner); 1 ♂, Yurty, Kanskii Uyezd, 23.V.1912 (Mishin); 1 ♀, Tulun, 15–16.V.1936 (Lukjanovitsh); 1 ♀, Ust-Urluk on Selenga River, Transbaikalia, 3.VII.1928 (Lukjanovitsh); 1 ♀, Malta railaway station, Irkutsk Gubernia, 27.VI.1909 (Tikhomirov); 1 ♂, Irkutsk, Pivovarikha Vill., VI.1907 (D. Smirnov).

Peribalus strictus capitatus Jakovlev, 1889, stat. n.

Peribalus capitatus Jakovlev, 1889 : 236–237.

Peribalus peltatus Jakovlev, 1894 : 134 (syn. Kerzhner, 1976 : 82).

Peribalus vernalis var. *stramineus* Horváth, 1895 : 222 (syn. Kerzhner, 1976 : 82).

Peribalus pallescens Jakovlev, 1902 : 159. (syn. Kerzhner, 1976 : 82).

Holcostethus capitatus: Putshkov, 1965 : 237.

P. strictus capitatus described by Jakovlev (1889) from northwestern China differs from the nominotypical subspecies in the same set of characters as *P. strictus vernalis*, but has the body paler, punctation denser, and head slightly larger. The structure of its male and female genitalia is similar to that of *P. vernalis*. Therefore, the author proposes to consider *P. capitatus* an Asian subspecies of *P. strictus*. The border between their ranges passes through the southern Transcaucasia and Northern Kazakhstan, and punctation and coloration of insects from the arid areas of the Caucasus and Transcaucasia (Daghestan, Milskaya Steppe) may be intermediate.

Diagnosis. The subspecies differs from *P. strictus strictus* in its paler body covered with fine dense paler punctation and in the larger head.

Description. Body sandy-colored to pale brown, covered with dense, fine, usually concolorous, occasionally brown punctures separated by intervals less than own diameter; surface not smooth. Underside pale, finely punctate. Abdominal segments with black punctation in corners of tergites. First and second antennal segments pale, 3rd–5th dark in middle parts. Length of body 7.8–10.8 (9.06) mm, b. lw 1.51–1.76 (1.66).

Head transverse [h. wl 1.08–1.26 (1.17)], medium-sized, l. bh 3.86–4.53 (4.19). Jugae longer than clypeus, widely rounded, running behind each other at apex, with weakly convex to slightly emarginate sides (Fig. 92). Eye medium-sized, ds 1.36–1.57 (1.44). Antenna rather short, l. ba 1.94–2.3 (2.12).

Pronotum transverse [p. wl 2.16–2.79 (2.33)], with straight or slightly emarginate sides bordered with pale costa. Length and width of scutellum subequal, s. lw 0.87–1.12 (1.0).

Male (Figs. 20, 54 and 76) and female (Fig. 1, l. bb 9.0) genitalia typical of the subgenus.

Distribution. The subspecies is widely distributed in the southern part of Palaearctic Asia. In the west it reaches the southern slopes of Elburz Mts., in the southwest, the coast of the Persian Gulf, in the north, northern Kazakhstan, and in the east, Kashgaria and Mongolia. In the mountains it reaches a height of 2750 m.

Type material. Holotype: ♀, Kashgaria, Niya and Keriya oases, 22.V–21.VI.1885 (Przhewalski). **Additional material. Kazakhstan.** 1 ♀, Solyanka River, left tributary of Ural River, 13.IX.1949 (Kiritshenko); 1 ♀, Karkaralinsk, Semipalatinsk Province, 17.V.1927 (Dobzhanskii); 1 ♀, Dzhulek on Syr-Darya River, 15.VI.1948 (Formozov); 1 ♂, foothills of Karatau, near Turkestan, 26.VIII.1909 (Trizna); 1 ♂, Turkestan, Syr-Darya, Iskander, 12.VII.1913 (Kiritshenko); 1 ♀, Bolshaya Almaatinka River, 31.VII.1928 (Shnitnikov); 1 ♀, Dzungar Ala Tau, N of Rudnichnyi Vill., 30.V.1998 (I. Kabak); 1 ♂, Kyzylagach, foothills of Dzungar Ala Tau, 2.VII.1932 (Shnitnikov); 1 ♀, Topolevka, 17 km S of Taldy-Kurgan, Dzungar Ala Tau, 2.VII.1957 (Kerzhner); 1 ♂, Lepsinsk, Semirech'e Province (Kiritshenko); 1 ♀, Makanchi, near Ala-Kul, Semirech'e, 24.VII.1930 (Lukjanovitsh); 1 ♀, Kokpekty, Zaisan, Semipalatinsk Gubernia, 9.VI.1930 (Lukjanovitsh). **Kirghizia**. 1 ♀, western Tien Shan, Chatkal Mt. Range, Zartskent, 2100–2750 m, 6.VI. 1998 (I. Kabak); 1 ♀, Aleksandrovskii Mt. Range,

Semirech'e Province, 5600′, Taldy-Bulak River, 12.VII.1910 (Kiritshenko); 1 ♀, Arkit, Khodzhaata River, Chatkal Mt. Range, 8.IX.1845 (K. Arnoldi); 1 ♂, locality Ak-Terek, 5 km N of Gava, Ferghana Mt. Range, 14.IX.1937 (Kiritshenko); 1 ♂, 1 ♀, Przhevalsk, Karakol George, 16.IX.1942 (Lyubishchev); 1 ♀, Przhevalsk, 1910 (Pedashenko). **Tajikistan**. 1 ♂, Pendzhikent, Zeravshan River valley, 25.IX.1943 (Kiritshenko); 1 ♂, Lake Der'ekul, left bank of lower course of Vakhsh River, 15.III.1944 (Kiritshenko); 1 ♀, environs of Dushanbe, 6.V.1962 (Gurjeva); 1 ♂, Shainuk, Hissar Valley, 14.IV.1944 (Kiritshenko); 2 ♂, Pakhtaabad, W of Hissar Valley, 8–12.IV.1943 (Kir'yanova). **Uzbekistan**. 1 ♂, Kyrk-Kuduk, Saryagach, Chimkentskii Uyezd, 4.V.1926 (Prinada); 1 ♂, Tashkent, Jakovlev's collection; 1 ♀, Yangabad, spurs of Western Tien Shan, 24.IV.1977 (Putshkov); 1 ♀, Ura-Tyube, Samarkand Province, 1.VII.1908 (Pavlovskii); 2 ♀, Bukhara, Termez, 25.VI.4.VII.1912 (Kiritshenko). **Turkmenistan.** 1 ♂, Karlyuk, near Mukra, Amu Darya River, 17.V.1934 (Petrishcheva); 1 ♂, 1 ♀, Kopet Dagh, Kara-Kala, 20.X. 1944 (Myatlevskii); 1 ♂, Kopet Dagh, Aidere Vill., Kara-Kala District, 25.V.1977 (Putshkov). **Mongolia**. 3 ♂, Syutsukte, Hentiy, NW of Urga, 28.VI–18.VII.1924 (Kozlov); 1 ♂, southern Mongolia [actually, China—Ed.], Chekin-ta-sy, 4.VII.1886 (Potanin). **China**. 3 ♂, upper Kunges, early September (Przhewalski); 1 ♀, valley of middle course of Kunges River, last third of August (Przhewalski); 1 ♀, valley of lower course of Kunges River, August (Przhewalski); 1 ♂, 1 ♀, 4000′, first half of June (Przhewalski). **Iran.** 1 ♀, Astrabad, 21.IV.1919 (Kiritshenko); 1 ♀, Karasu River mouth, northeastern Iran, 13.V.1913 (Solovkin); 1 ♂, same locality, 28.VII.14 (Kiritshenko); 1 ♀, 16 km SE of Teheran, 14.IV.1955 (Steinberg); 1 ♀, N Iran, Golhak, 1700 m, bei Teheran, 9–23.VI.1961 (leg. J. Klapperich); 1 ♀, same locality, 1400 m, III–V.1961; 1 ♀, same locality, 2.X.1961; 1 ♀, N Iran, 1700 m, Teheran, Evin, 26.VI–2.VII.1973, loc. no. 260; 1 ♀, same locality, 13.III. 1973, loc. no. 124; 1 ♀; same locality, 16.VIII.1971; 1 ♀, N Iran, 40 km S Teheran, 7.IV.1977, loc. no. 278; 2 ♂, 2 ♀, N Iran, 1650 m, Chashmen-ye-Sargaz, 20–21.V.1977, loc. no. 339; 2 ♀, E Iran, 1100 m, 33 km W Sabzevaran, 6–7.V.1973, loc. no. 189; 1 ♀, E Iran, Deh-Bakri, 1700–1750 m, 30.IV–3.V.1973, loc. no. 186; 1 ♂, S Iran, 33 km S Sabzevaran, 17.V.1977, loc. no. 335. **Afghanistan.** 1 ♂, 1 ♀, Khodzhailgar, Kattagan, Badakhshan Province, 8–10.IV.1940 (Kostylev); 1 ♂, N Afghanistan, Balkh, V.1941 (Kostylev); 1 ♂, Talikan, N of Khanabad, 10–12.IV.1940 (Kostylev); 1 ♂, E Afghanistan, Umgebung von Kabul, 1740 m, 17.IX.1952 (J. Klapperich); 1 ♂, S Afghanistan, Kandahar, 950 m, 19.II.1953 (J. Klapperich); 1 ♀, S Afghanistan, Kandahar, 1.III.1940 (Kostylev).

Subgenus ***Asioperibalus*** Belousova, subgen. n.

Type species *Cimex inclusus* Dohrn, 1860.

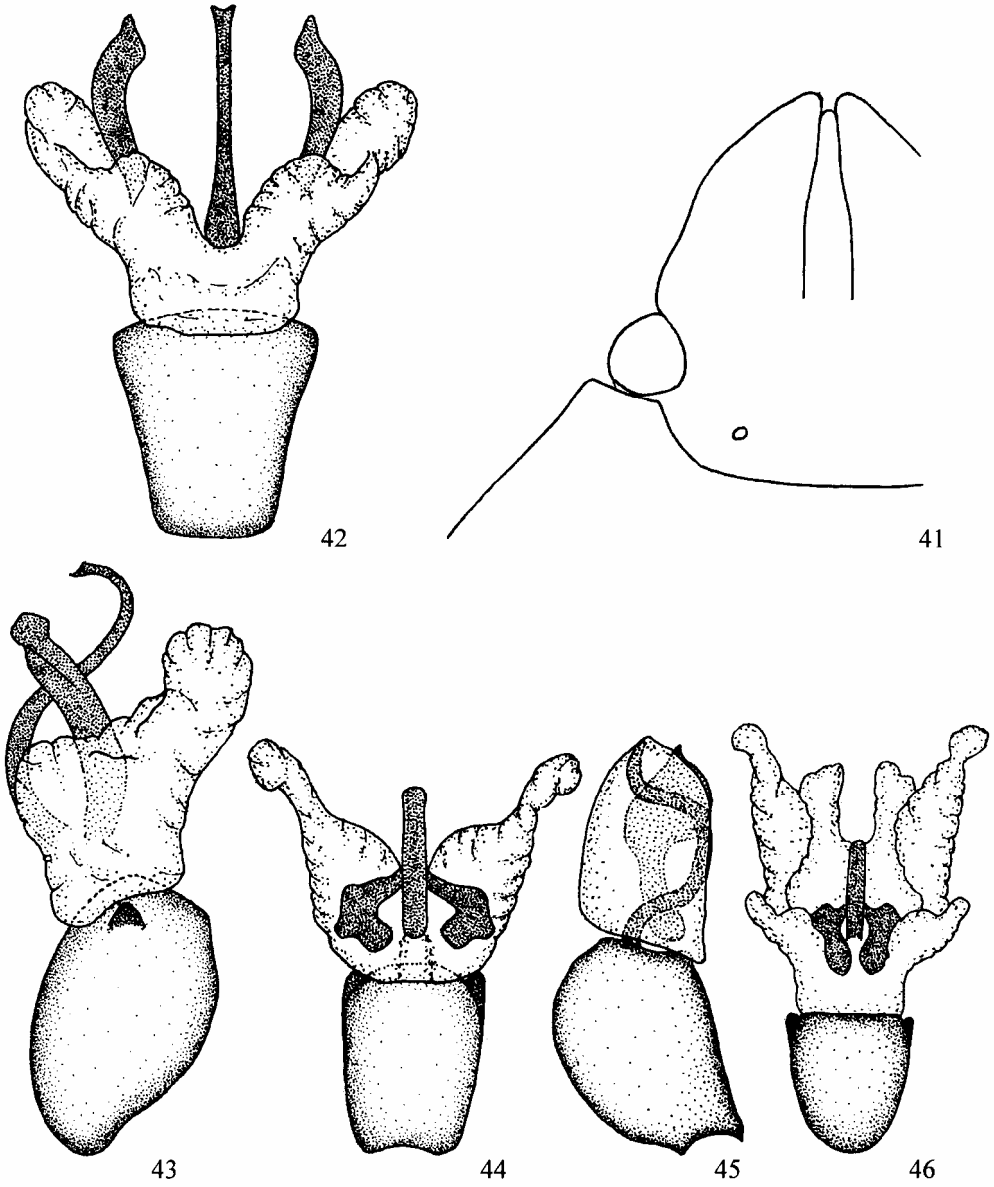
Diagnosis. The new subgenus differs from the nominotypical one in the following characters: aedeagus with 2 pairs of conjunctive processes (one pair in the subgenus *Peribalus*), vesica strongly curved (weakly curved in *Peribalus*), theca with lateral processes, sensory lobe distinct (smoothened in *P. hoberlandti*), inner surface of paramere with uneven area pointed at base, spermathecal bulb weakly elongate or spherical, and sclerotized duct not widened at base, laterotergite IX wide at apex and narrowly rounded at base, sternite IX of medium length and width, its lower margin slightly concave medially, with obtused apices.

Composition. The subgenus comprises nine described species-group taxa mainly inhabiting Asia.

H. sinuatus Ahmad et al. (Figs. 22, 73) and *H. urakensis* Ahmad et al. (Figs. 14, 45), both described from Pakistan, demonstrate all the listed characters of the subgenus *Asioperibalus* and, undoubtedly, should be included in this subgenus. In the descriptions, these species were compared with representatives of other subgenera, or among themselves, but not with *P.* (*A.*) *nitidus* widely distributed in Middle Asia, Iran, and Afghanistan. *H. urakensis* differs from *P.* (*A.*) *nitidus* in the sclerotized spermathecal duct slightly widened at the base, whereas considering *H. sinuatus* a separate species needs additional confirmation since no differences have been revealed.

H. imtiazi Abbasi possesses the parameres characteristic of the subgenus (with sensory lobe) and lateral processes of the theca, but bears only one pair of conjunctive processes (Figs. 44, 71). Since this species was described from a single male and since its conjunctive processes, when straightened, probably resemble in shape those of species of the subgenus, it seems rather probable that the conjunctive processes of *H. imtiazi* in the figure of the original description are not entirely straightened and, therefore, this species should also be placed in the subgenus *Asioperibalus*.

Unfortunately, all the three above taxa remain unknown to the author of the present study. Treatment of



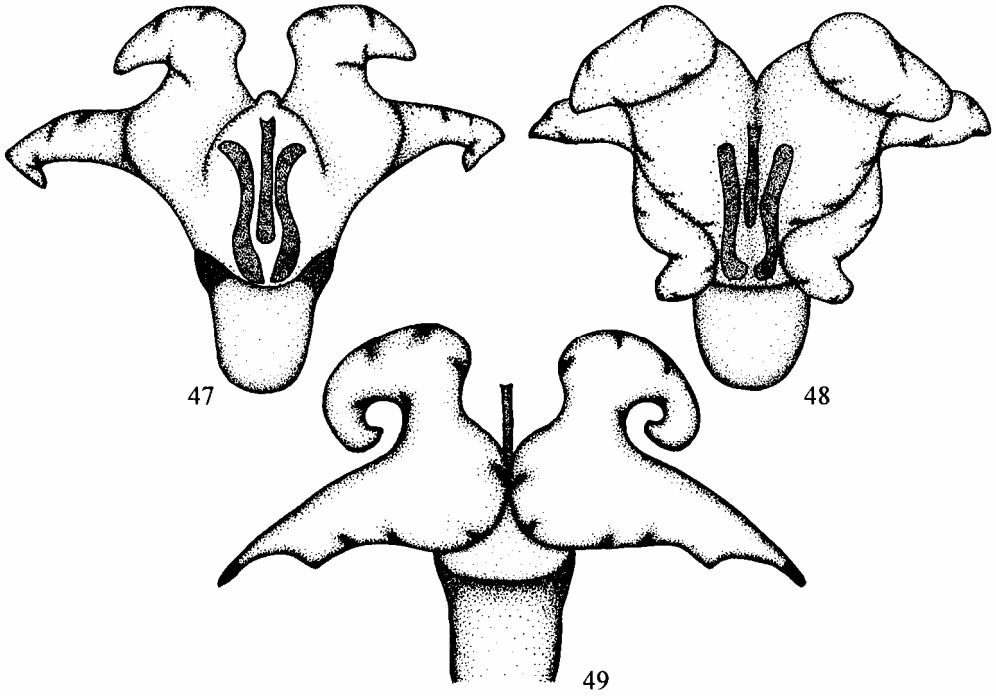
Figs. 41–46. (41–43) *Holcostethus fissiceps* Horv. [(41) head, (42, 43) aedeagus]; (44–46) *Peribalus* Mulsant et Rey, aedeagus [(44) *P. imtiazi* Abbasi, (45) *P. urakensis* Ahmad, (46) *P. classeyi* Hob.].

the taxa by Ahmad and co-authors appears rather disputable. They relate *P. sinuatus* and *P. pishinensis* (in my opinion, representatives of different subgenera) on the basis of the antennal index, though this character varies rather widely even within a species and cannot be used for comparison of only two specimens, from which the descriptions have been made. One more evidence of affinity of the species was the ratio of two parameters: distance from the anterior margin of the head to the eyes and that from the eyes (including them) to posterior margin of the head. However, this difference mismatches even the measurements given by the authors in the original descriptions. Actually the first parameter is always greater than the second one. Thus, the Pakistan researchers overlooked features of the genitalia structure, characteristic of any subgeneric complex, and did not consider two species widely distributed in Palaearctic Asia, which resulted in the conclusions mismatching the comparisons. These species are not included in the present revision.

Peribalus* (*Asioperibalus*) *nitidus
Kiritshenko, 1914

Peribalus nitidus Kiritshenko, 1914 : 184.

Diagnosis. Head with swollen jugae. Sides of pronotum without costa deflexed upwards. Body sparsely punctate.



Figs. 47–49. *Holcostethus abbreviatus* Uhler, aedeagus.

Description. Body sandy-rufous to brownish, with sparse black punctation (distance between punctures several times exceeding their diameter). Antenna pale yellow, with darkened apical segment. Abdominal segments pale, with black punctation in anterior and posterior corners of tergites. Length of body 7.2–9.7 (8.66) mm, body slender, b. lw 1.59–1.81 (1.69).

Head narrowed toward anterior margin, rather wide [h. wl 1.16–1.33 (1.25)], small, l. bh 4.0–4.78 (4.39). Jugae swollen, with sides slightly emarginate before eyes, covering apex of clypeus. Eye medium-sized, ds 1.33–1.5 (1.42). l. ba 1.95–2.31 (2.11).

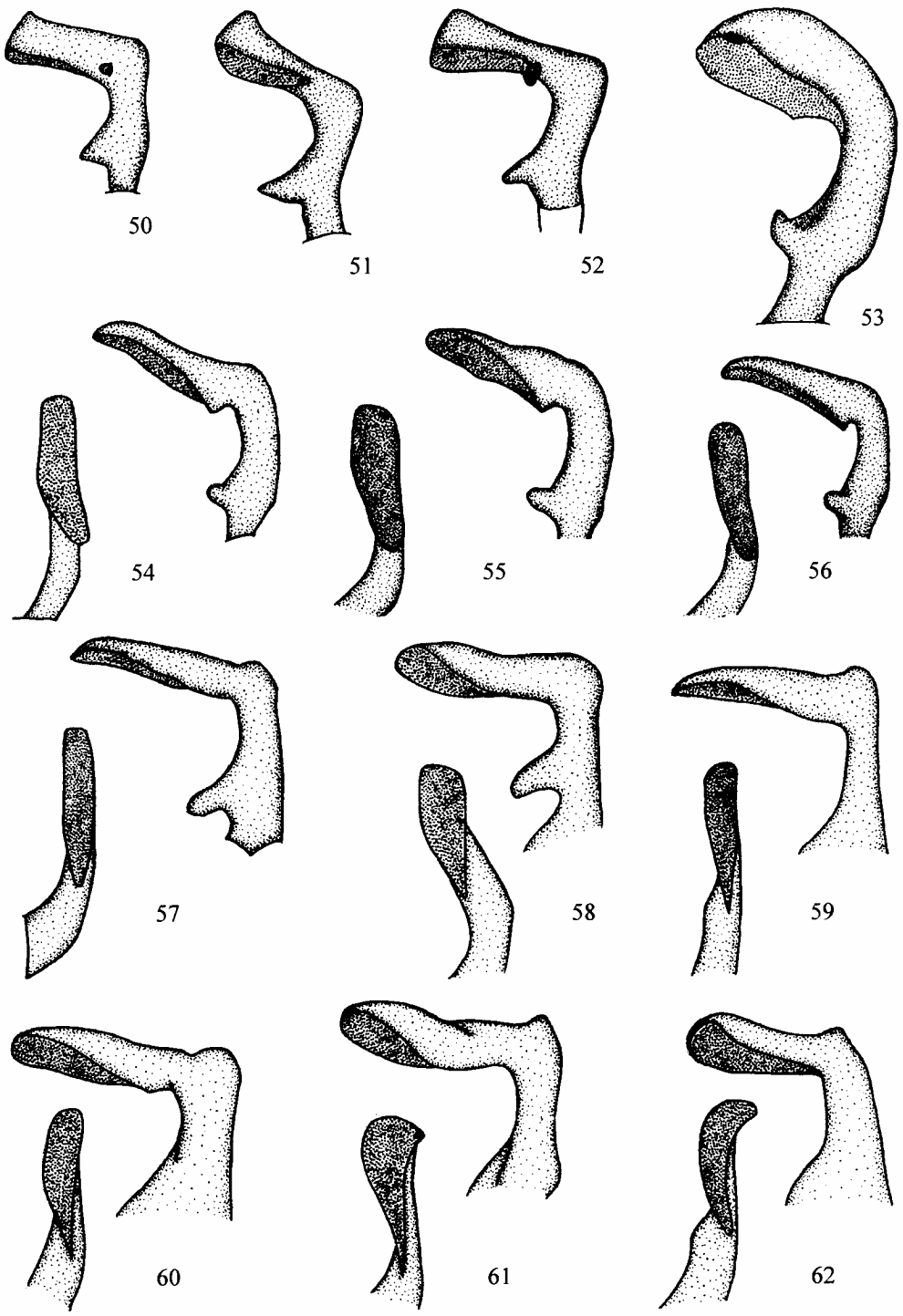
Pronotum transverse [p. wl 2.09–2.38 (2.2)], with straight or slightly concave sides, with more or less developed pale callose edging, without costa deflexed upwards. Lateral angles rounded. s. lw 0.93–1.11 (1.05).

Male genitalia. Aedeagus with 2 pairs of conjunctive processes (Figs. 26, 32). Theca with lateral processes. Sclerotized median plates wide, connected at base. Paramere in form of overturn "L," with distinct sensory lobe, its inner surface with narrow uneven area pointed downwards (Fig. 59). Apical margin of pygofer with narrowly rounded median emargination (Fig. 77).

Female genitalia. Spermatheca with weakly elongate bulb rounded apically and bearing 1–3 processes not reaching proximal flange, its sclerotized duct narrowed toward base (Fig. 6). Of special note is variation in structure of bulb, which may be rounded (Tajikistan: Hissar Mt. Range; Iran; 2 specimens) or pointed at apex (N Afghanistan, 1 specimen).

Distribution. This is an upland species inhabiting the mountains of Tien Shan, Pamiro-Alai (from the Zeravshan Mt. Range in the north to the Khozratisho Mt. Range in the south), northern Afghanistan, and southern Iran. It reaches a height of 2650 m (southern Iran).

Type material. Lectotype: ♂, Chapanata, Samarkand, 15.IV.1912 (Kiritshenko) (ZIN); paralectotypes: 3 ♀, as holotype; 1 ♂, 1 ♀, Agalik-Poion, 16.IV.1912, (Kiritshenko); 2 ♂, 1 ♀, Tutakata, Bukhara, 3.IX.1911 (Kiritshenko); 1 ♀, Dukanchana, Bukhara, 26.VI.1911 (Holbeck); 1 ♀, Derbent, 4.VI.1912 (Kiritshenko); 1 ♀, Kugitang-Tau Mt. Range, Bukhara, 1.V.1913 (Kiritshenko); 1 ♂, Termez, 9.V.1912 (Kiritshenko). **Additional material**. **Kazakhstan and Middle Asia (Turkmenistan, Uzbekistan, Tajikistan).** 1 ♂, Western Tien Shan, Karzhantau Mt. Range, upper course of Badam River, 2000 m, on snow, 25.IV.1990



Figs. 50–62. Parameres: (50–53) *Holcostethus* Fieber [(50) *H. albipes* (F.), (51) *H. sphacelatus* (F.), (52) *H. evae* Ribes, (53) *H.* (*E.*) *fissiceps* Horv.], (54–62) *Peribalus* Mulsant et Rey [(54) *P. strictus capitatus* (Jak.), (55) *P. strictus vernalis* (Wolff), (56) *P. strictus strictus* (F.), (57) *P. congenitus* Putsh., (58) *P. hoberlandti* Lodos et Önder, (59) *P. nitidus* (Kir.), (60) *P. inclusus* (Dohrn), (61) *P. manifestus* Kir., (62) *P. tianshanicus* sp. n.].

(I. Belousov); 1 ♀, Anzob Pass, 2300 m, Hissar Mt. Range, 18.VIII.1962 (V. Zaitzev); 1 ♀, Takobskoe Gorge, 17.VI.1952 (Jenjouriste); 2 ♂, 1 ♀, Kondara, Kvak, Varzob River valley, 5–8.VI.1943 (Kiritshenko); 3 ♂, locality Ruidasht, 2600 m, southern slope of Hissar Mt. Range, 2.VII.1943, 10.IX.1947 (Kiritshenko); 68 specimens, Stalinabad [Dushanbe—Ed.], 9.IV.1943 (Gussakovskii); 1 ♂, 3 ♀, same locality, 15

and 24.IV, 11.VII (Kiritshenko); 2 ♀, Lyuchob, upstream of Stalinabad, 19.IV.1944 (Kiritshenko); 1 ♂, Novabad, near Stalinabad, 8.IV.1944 (Kiritshenko); 1 ♂, Hissar Valley, S of Eskiguzar, 30.IV.1943 (Kiritshenko); 1 ♂, 1 ♀, Khochildyyar, Hissar Valley, 19–24.VI.1947 (Kiritshenko); 1 ♀, Arab-Bolo, 2400 m, Khozratisho Mt. Range, 6.VII.58 (Lopatin); 1 ♀, Shuroabad Vill., Khozratisho Mt. Range, 2.VI.1986 (Podlipaev); 1 ♂, 20 km ENE Pyandzh, 30.V.1986 (Podlipaev); 1 ♀, same locality 31.V.1986 (Volkovitsh); 1 ♀, Arzancha, Eastern Bukhara, 23.VI.1910 (Zarudny); 1 ♂, Darvaz, Eastern Bukhara (Regel); 1 ♂, 1 ♀, Kammashi, NE of Guzar, Bukhara, 17.IV. 1931 (Gussakovskii); 1 ♂, W of Guralash, Kuyan-Sai, biotope no. 2, 29.VI.1948; 2 ♀, Turkmenistan, Badkhyz, 6, 10.V.1975 (Putshkov); 1 ♀, Turkmenistan, Kopet Dagh, Aidere Vill., Kara-Kala District, 25.V.1977 (Putshkov). **Iran.** 1 ♂, 1 ♀, Byardzu-Khushkek, SW of Zurabad, Persia, 3.IV.1898 (Zarudny); 1 ♀, Shiraz, Farsistan, 23–28.V.1927 (Siyazov); 1 ♀, S Iran, 27 km E Yasuj, 2650 m, 16.VI.1973, loc. no. 244 (Exp. Nat. Mus. Praha); 2 ♀, S Iran, 1700 m, Dashte-Arjan, 9.VI.1973, loc. no. 230 (Exp. Nat. Mus. Praha). **Afghanistan.** 1 ♀, Khodzhailgar, Kattagan, Badakhshan Province, 8–10.IV.1940 (Kostylev); 2 ♂, N Afghanistan, Polihomri, 700 m, 5.VI.1956 (H.G. Amsel leg.) (Exp. Nat. Mus. Praha).

Peribalus* (*Asioperibalus*) *inclusus (Dohrn, 1860)

Pentatoma inclusa Dohrn, 1860 : 103.

Peribalus inclusus: Reuter, 1900 : 233; Jakovlev, 1902 : 159.

Peribalus ovatus Jakovlev, 1889 : 319, syn. n.

Peribalus pallidicornis Reuter, 1913 : 16 (syn. Kerzhner, 1972 : 368, *ovatus*).

P. ovatus, described by Jakovlev from a single female collected in Siberia, does not differ from *P. inclusus*: their external characters and structure of genitalia are identical (Figs. 7, 9, 23, 25, 29, 31, 88, 98). Therefore, this name is downgraded to a synonym of *P. inclusus*.

Diagnosis. *P. inclusus* differs from the similar *P. nitidus* in the flat jugae and in the structure of the pronotum more densely punctate and edged by a pale yellowish costa deflexed upwards.

Description. Body on upper side sandy-rufous to grayish green, with more or less dense, fine, black punctation. Underside yellow, with sparse black punctures. Length of body 6.8–9.0 (7.61) mm; b. lw 1.56–1.75 (1.63).

Head narrowed anteriorly, with rounded anterior margin [h. wl 1.08–1.25 (1.16)], l. bh 3.63–4.50 (4.07). Jugae flat, with raised margins, slightly emarginate before eyes, longer than clypeus, converging its apex (Fig. 88). Eye medium-sized, ds 1.36–1.44 (1.40). Antenna rufous, with darkened apical segment, l. ba 1.90–2.18 (2.08).

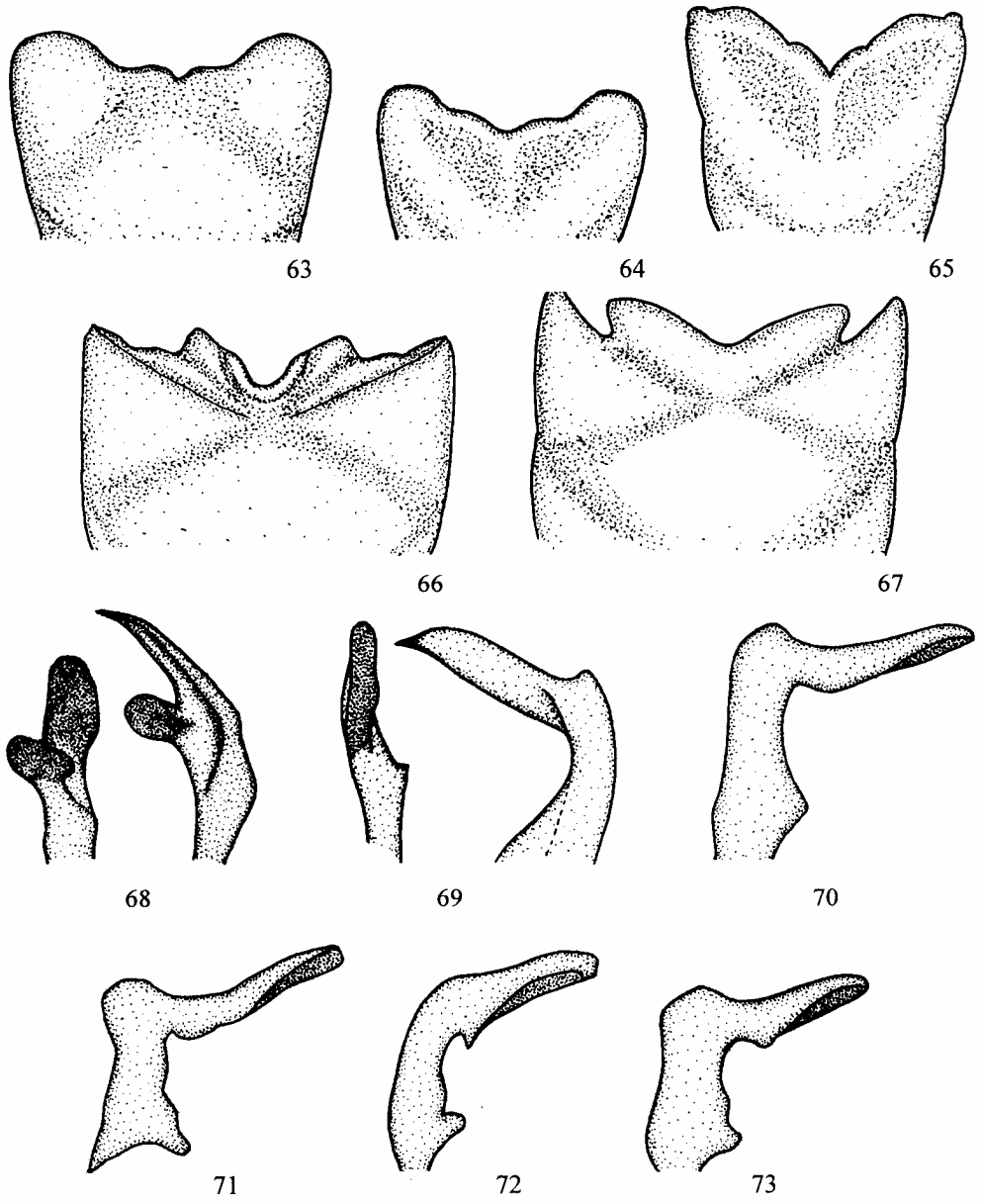
Pronotum transverse [p. wl 2.08–2.38 (2.21)], with straight or slightly concave sides and pale yellowish marginal costa deflexed upwards. Lateral angles rounded, slightly projecting beyond elytral base. Scutellum about as long as wide, s. lw 0.91–1.02 (0.97).

Male genitalia. Aedeagus with 2 pairs of conjunctive processes, sharply curved vesica, and wide sclerotized median plates (Figs. 23, 29). Parameres as in Fig. 60. Apical margin of pygofer with narrowly rounded median emargination; apical angles narrowly rounded (Fig. 78).

Female genitalia. Spermatheca with slightly elongate bulb bearing processes, rather well-developed flanges, and sclerotized duct narrowed toward base (Fig. 7).

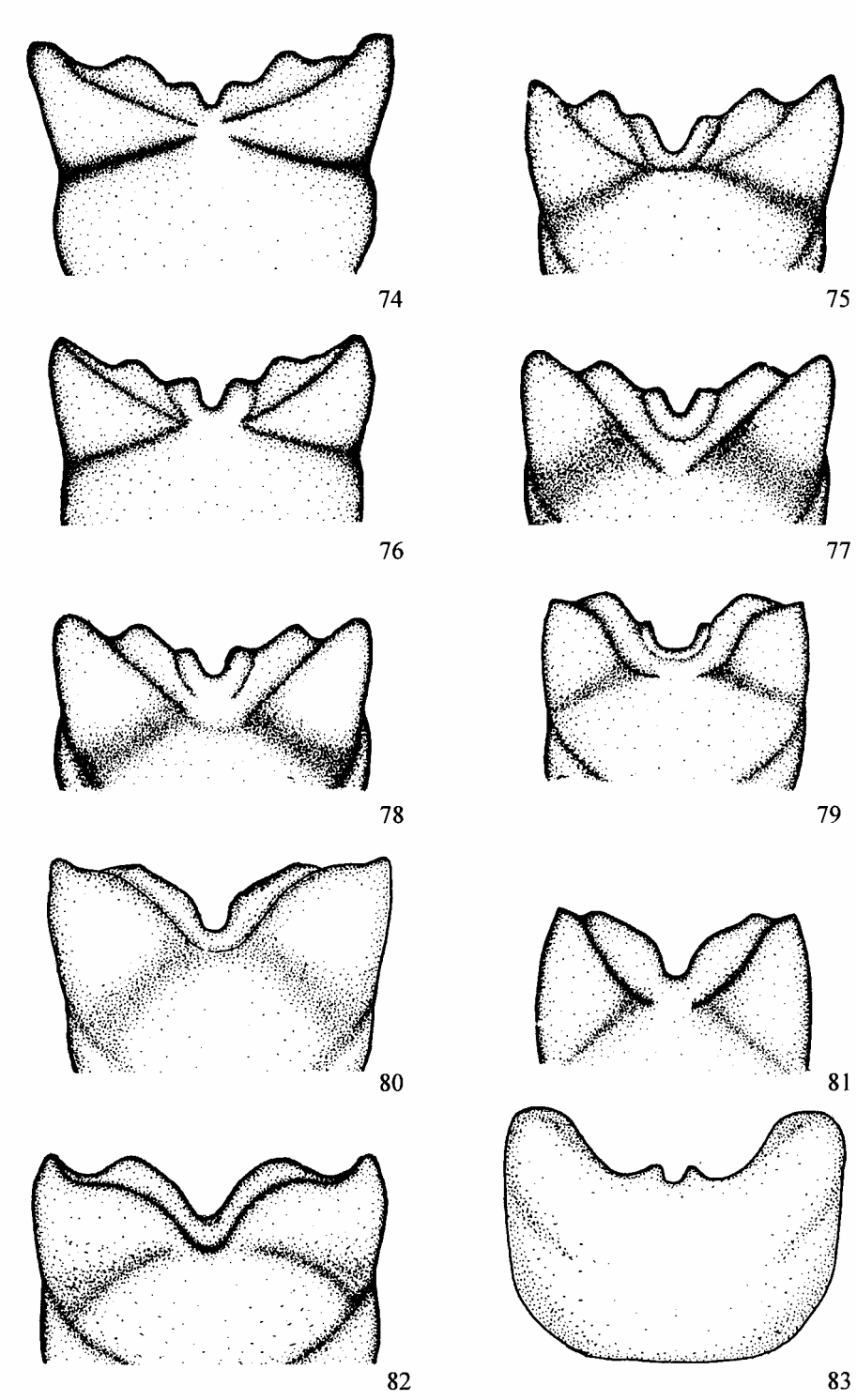
Distribution. The species is widely distributed in the Eastern-European Plain, southern part of Western Siberia (Altai), Kazakhstan, southern and middle parts of Eastern Siberia, the Far East, and Mongolia. In the south it reaches the Transcaucasia and eastern Turkey, occurs in the mountain part of Azerbaijan (Ordubad, Chananab) (Gidayatov, 1982). The species is trophically associated with *Stachys recta*, *Verbascum orientale*, *Centaurea pseudocoriacea*, and *Filipendula hexapetala* (Putshkov, 1961).

Type material. Holotype of *P. ovatus*: ♀, Siberia, Krasnoyarsk (M.E. Kibort); holotype of *P. pallidicornis*: ♂, "Ust-Vilim ad fl. Lena (D. Poppius) (Mus. Helsingf.); unicum specimen." **Additional material**. **Turkey**. 2 ♂, 8 ♀, Kazikoporan, Kars Gubernia, 10.VI (Kiritshenko's collection). **Georgia.** 1 ♂, Akhalkalaki, Laki, 31.VII.1916 (TEK Bureau). **Armenia.** 1 ♀, Artik, NW Alagez, 13.VII.1934 (Ter-Minassian); 1 ♀, Kipchakh, northwestern slope of Alagez, 13.VI.1934 (Ter-Minassian); 1 ♂, foothills of Alagez, 13.X.1940 (Esterberg); 2 ♀, Erivan, 8.VIII.935 (Ter-Minassian, Richter); 1 ♂, Elidzha, Kotaikskii District,



Figs. 63–73. (63–67) Pygofer [(63) *Paraholcostethus breviceps* (Horv.), (64) *Holcostethus albipes* (F.), (65) *Holcostethus evae* Ribes, (66) *Peribalus classeyi* Hob., (67) *Holcostethus* (*Enigmocoris*) *fissiceps* Horv.]; (68–73) parameres [(68) *Paraholcostethus breviceps* (Horv.), (69) *Himalayacoris pilosus* sp. n., (70) *Peribalus classeyi* Hob., (71) *Peribalus imtiazi* Abbasi, (72) *Peribalus lodosi* Ahmad, (73) *Peribalus sinuatus* Ahmad)].

13.VII.1954 (Ter-Minassian); 1 ♀, Megrichai River bank, Megri, 28.VI.953 (Trjapitzin). **Russia.** 1 ♂, Streletskaya Steppe, 5.VI.1953 (IZASU); 1 ♀, Penza, 5.V.1921 (Olsuf'ev); 1 ♀, Kinel, Samara Gubernia, 25.V.1928 (Lyubishchev); 3 ♀, Sarepta (Becker); 1 ♀, Saperta, 19.V.1909 (D. Glazunov); 1 ♀, Ershov, Saratov Province, 15–16.VI.1939 (Lukjanovitsh); 1 ♀, 22 km W of Elista, Kalmykia, 8.VII.1974 (Panasenkov); 1 ♀, Levashi, Daghestan, 21.VI.1926 (Ryabov); 1 ♀, Khodzhalmakhi, 20.VI.1944 (Ryabov). **Western Siberia**. 1 ♀, Troitskoe, Novosibirsk Province, 14.VI. 1966. Altai. 3 ♀, 20 km SE of Ongudai, 28.VI.1964 (Kerzhner); 1 ♀, Tyudrala, 25.V.1906; 1 ♀, Seminskii Pass, 11.VII.1908 (Steinfeld). **Eastern Siberia**. 1 ♂, Yurty, Kanskii Uyezd, Yenisei Gubernia, 29.V.1912 (Mishin, Verkhovskii); 1 ♂, Chadan, upper course of Khemchik River, Tuva, 9.VII.1948 (Cherepanov); 1 ♀, Chadan Experimental Station, Khemchik River bank, Tuva, 1.VII.1947 (Fedorova); 1 ♀, Boyarovka, Osman River, Kaa-Khem River, Tuva, 11.VII.1949 (Perevoz-



Figs. 74–83. Pygofer: (74–80, 82) *Peribalus* Mulsant et Rey [(74) *P. strictus vernalis* (Wolff), (75) *P. strictus strictus* (F.), (76) *P. strictus capitatus* (Jak.), (77) *P. nitidus* (Kir.), (78) *P. inclusus* (Dohrn), (79) *P. congenitus* Putsh., (80) *P. hoberlandti* Lodos et Önder, (82) *P. manifestus* Kir.]; (81) *Himalayacoris pilosus* sp. n.; (83) *Dryadocoris* sp. ("*orientalis*" on label).

chikova); 1 ♂, Irkutsk Gubernia, Malta St., 13.VI.1907 (Smirnov); 1 ♂, 1 ♀, Padun Vill., Angara, Irkutsk Gubernia, 1867 (Czekanowski); 1 ♂, Sretensk, Transbaikalia, 29.VIII.1930 (Kapustin); 1 ♀, Listvennichnoe, Irkutsk Province, 22.VIII.1950 (Kiritshenko); 1 ♀, Kuchug River, Irkutsk Gubernia, 15 V–15.VI. 1915 (Lukashin, Cheglintsev); 1 ♂, environs of Yakutsk, 1893. **Far East.** 1 ♂, Magadan Province, 3 km

upstream of Orotuk Vill., steppe slope, 25–29.VI.1997 (D. Berman); 1 ♂, Magadan Province, Olen' Stream, Sibit-Tyellakh River basin, 14.VI.1978 (Budarin). **Kazakhstan**. 1 ♀, Khanskaya Stavka (Urda), Ryn-Peski (Plyushchevskii); 1 ♂, 1 ♀, Urda (Khanskaya Stavka), 14–28.V.1936 (Vorontsov); 1 ♀, Solyanka River, left tributary of Ural River, 13.IX.1949 (Kiritshenko); 1 ♀, Mangyshlak, Chair, 5.IX.1906 (I. Vasil'ev); 1 ♂, Mugodzhary, 18.VII.1904 (V. Dubyanskii); 1 ♂, Kokdzhida, Temir River mouth, Ural Gubernia, 27.VII.1926 (Burachek); 2 ♀, Emba River near source of Temir River, 25.VII and 2.VIII.1926 (Burachek); 1 ♂, 1 ♀, Yanvartsevo, right bank of Ural River, 10.IX.1949 (Kiritshenko); 1 ♀, Akmolinsk Province, Kokshetau Mts., 17.VII.1957 (Asanova); 2 ♂, 1 ♀, Kazakhstan, 31.VIII.1936 (Rezvoi); 1 ♀, right bank of Ishim River, between Atbasar and Kipshakh, 1.VII.1957 (Arnoldi); 1 ♀, 40 km S of Zhana-Arka, Karaganda Province, 15.VI.1960 (Kerzhner); 1 ♀, Zhana-Arka St., Sary-Su River, 13.VII.1949 (Bei-Bienko); 1 ♂, Bassaga, Karaganda Province, 23.VI. 1959 (Grunin); 1 ♂, Irgiz, 22.VI.1947 (Formozov); 1 ♂, Dzhemene River valley, Lake Zaisan, 18.IX.1946 (Kryzhanovsky); 2 ♀, Dzhanybek, N of Lake Elton, 15.VII.1934 (Lyubishchev); 1 ♂, Dzhurun St., Orenburg Gubernia, Tashkent Railway, 12.VII.1933 (Formozov); 1 ♀, lower course of Ak-Kolka River, 1100–1200 m, northern slope of Saur Mt. Range, 5.IX.1946 (Kryzhanovsky); 1 ♂, Sary-Su River, 23.VI.1937 (Selevin). **Mongolia**. 1 ♂, Uvs Aimak, Togtokhyn-Shin Mt. Range, 50 km ESE of Ulaangom, 1.VIII.1970 (Kerzhner).

Peribalus (*Asioperibalus*) *przewalskii* Belousova, sp. n.

Diagnosis. The species differs from the closely related species in its large subrectangular head, spermatheca with a spherical bulb and poorly developed flanges, and also in the length ratio of 2nd and 3rd antennal segments.

Description. Body sandy-colored, with fine black punctation densest on head, at sides of pronotum, and in basal part of scutellum. White edging running along lateral costa of pronotum and along base of elytra; apex of scutellum pale. Underside of body pale, with weak black punctation in central parts of sternites. Abdominal segments yellow, with black spots in anterior and posterior corners of tergites. Body rather wide, length 8.40–8.60 (8.53) mm; b. lw 1.59–1.64 (1.61).

Head subrectangular (Fig. 99) [h. wl 1.07–1.09 (1.08)], large, l. bh 3.73–3.82 (3.78). Jugae flat, slightly emarginate before eyes, rounded apically, longer than clypeus, not covering apex of clypeus. Eye medium-sized, ds 1.4–1.41 (1.4). l. ba 2.03–2.12 (2.07), 3rd antennal segment 1.14–1.24 (1.2) times as long as 2nd.

Pronotum transverse [p. wl 2.14–2.25 (2.2)], with straight flattened lateral margins bordered with fine costa slightly deflexed upwards. Scutellum of subequal length and width, s. lw 0.91–0.97 (0.94).

Female genitalia. Spermatheca with small spherical bulb bearing short processes; sclerotized duct with inconspicuous widening at base (Fig. 10). Flanges poorly developed, occasionally absent.

Distribution. The species is known from the eastern and northern provinces of China and Mongolia.

Material examined. Holotype: ♀, China, Huang He River valley, late July (Przhewalski). Paratypes: **China**. 1 ♀, Muny-Ula Mt. Range, N of Ordos, second half of June (Przhewalski). **Mongolia**. 1 ♀, northwestern Mongolia, Lake Uoideslon, second half of July; 1 ♀, Töv Aimak, northern slope of Mt. Bogdo-Ula near Ulan Bator, 22.VI.1967 (Emeljanov); 1 ♀, Dornodgovi Aimak, southern coast of Lake Tenger-Nur, 5.VIII.1978 (Emeljanov).

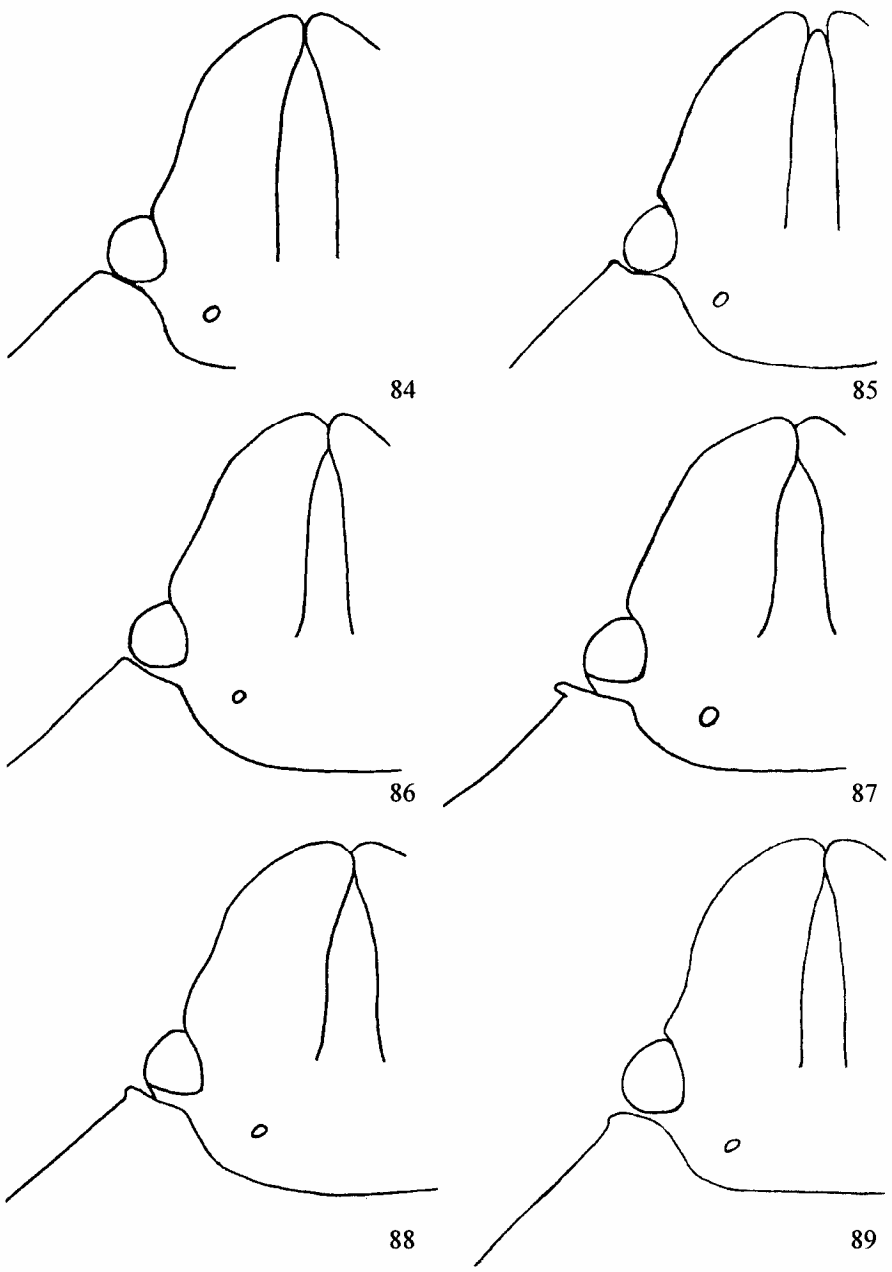
Peribalus (*Asioperibalus*) *congenitus* (Putshkov, 1965)

Holcostethus congenitus Putshkov, 1965 : 243–244.

Diagnosis. The species differs from the congeners in the narrow pygofer with not attenuate apical angles and wide rounded emargination of the apical margin (Fig. 79) and also in the aedeagus with the strongly widened sclerotized median plates and smoothly curved vesica (Figs. 24, 30).

Description. Body sandy-gray, with black punctation (distance between punctures exceeding puncture diameter); underside pale yellow, with concolorous, partly black punctation. Antenna pale yellowish; apical segments rufescent or reddish, frequently with dark rings. Body medium-sized, 7–9 (7.85) mm, b. lw 1.56–1.76 (1.66).

Head narrowed anteriorly, medium-sized, l. bh 3.95–4.58 (4.26); jugae longer than clypeus, covering its apex, slightly emarginate before eyes, h. wl 1.17–1.29 (1.22). Eye large, ds 1.41–1.52 (1.47). Antenna of medium length, l. ba 1.92–2.23 (2.06).



Figs. 84–89. *Peribalus* Mulsant et Rey, head: (84) *P. tianshanicus* sp. n., (85) *P. manifestus* Kir., (86) *P. congenitus* Putsh., (87) *P. nitidus* (Kir.), (88) *P. inclusus* (Dohrn), (89) *P. classeyi* Hob.

Pronotum transverse [p. wl 2.02–2.29 (2.18)], with straight lateral margins bordered with low blunt and indistinctly outlined costa not projecting above adjoining margins of disc. Scutellum of subequal length and width, s. lw 0.94–1.1 (1), pale at apex.

Male genitalia. Pygofer narrow, with apical angles not attenuate and median emargination widely rounded (Fig. 79). Aedeagus with 2 pairs of conjunctive processes, with strongly widened sclerotized median plates, and smoothly curved vesica (Figs. 24, 30). Parameres in form of overturn "L", sensory lobe rounded. Uneven area of inner surface of paramere with nearly straight sides, rounded apically, pointed at base (Fig. 57).

Female genitalia. Spermathecal bulb weakly elongate (l. bb 11.3), with short processes; sclerotized duct narrowed toward base (Fig. 8).

Distribution. Transcaucasia, Iran.

Type material. Paralectotypes: 4 ♂, 10 ♀, Tavriz [= Tebriz—Ed.], Persia, 2.V.1914 (Andrievskii). **Additional material.** 1 ♀, Armenian SSR, Khosrovskii Nature Reserve, 6.VI.1980 (Putshkov); 1 ♂, Azerbaijan, Nakhichevan ASSR, Kyukyu, 25.VI.1977 (Putshkov); material of Exp. Nat. Mus. Praha: 1 ♂, Oskou, 2.X.1975 (Sad); 1 ♂, Kermanschahan, Schahanabad, Chatiodjeh, 1800 m, 30.VI.1970 (Mirzayan Coll.); 1 ♂, N. Iran, C. Elburz, Gazanak, Haraz Chay, 1400 m, 20–21.VII.1970, loc. no. 63.

Peribalus* (*Asioperibalus*) *classeyi (Hoberlandt, 1984)
[The correct authorship is Putshkov, 1965.—Ed.]

Holcostethus classeyi Hoberlandt, 1984 : 103.

Diagnosis. The parandria are situated clearly above the horizontal level of the lateral angles of the pygofer. The species differs from the closely related Asian species in its coarse, black, rather dense punctation and spherical spermathecal bulb; laterotergite IX is very large, strongly widened toward the base.

Description. Body yellowish brown, with coarse dense black punctation. Margins of pronotum and apex of scutellum yellowish. Underside of body pale yellow, with sparser black punctation. Antenna pale, with darkened apical segment. Abdominal segments yellow, with dark spots in anterior and posterior corners of tergites. Length of body 8.5–9.8 (9.18) mm, b. lw 1.68–1.77 (1.73).

Head trapeziform (Fig. 89) [h. wl 1.13–1.19 (1.16)], small, l. bh 4.05–4.61 (4.42). Jugae converging, covering apex of clypeus, slightly emarginate before eyes. Eye medium-sized, ds 1.4–1.46 (1.42). Antenna of medium length, l. ba 1.99–2.16 (2.08).

Pronotum transverse [p. wl 2.15–2.33 (2.2)], with straight lateral margins, without costa, flattened at sides, with rounded lateral angles. Scutellum of subequal length and width, s. lw 0.95–1.13 (1.03).

Male genitalia. Parandria situated clearly above horizontal level of sharply rounded lateral angles of pygofer, latter with superficial, rounded median emargination (Fig. 66). Aedeagus as in Fig. 46 (when not straightened). Theca with small lateral processes. Parameres in form of overturn "L," with rounded sensory lobe. Uneven area of inner surface of paramere narrowed toward base (Fig. 70).

Female genitalia. Spermatheca with small spherical bulb bearing processes and with sclerotized duct narrowed toward base (Fig. 11). Laterotergite IX very large, strongly widened toward base; sternite IX long and narrow, with shallowly emarginate lower margin and pointed apices (Fig. 106).

Distribution. E Afghanistan, [Tajikistan—Ed.]: Badakhshan.

Type material. Holotype: ♂, E Afghanistan: Nuristan, Bashgultal, 1200 m, 8.IV.1953. Collected by Klapperich. In the collections of the National Museum (Nat. Hist.) Praha, no. 13320; paratypes: 1 ♂, 1 ♀, E Afghanistan: Nuristan, Bashgultal Valley, 1200 m, 8, 10.IV.1953 (Collected by Klapperich). **Additional material.** 1 ♀, Afghanistan, tributary of upper course of Vaigal River (Chamgal), 2600–3500 m, 28.VI.1972 (O.N. Kabakov); 1 ♀, Dekh, Yazgulemskii Mt. Range, Tajikistan, Gorno-Badakhshanskaya Autonomous Region, 18.VI.1986 (Volkovitsh).

Peribalus* (*Asioperibalus*) *hoberlandti
(Lodos et Önder, 1980)

Holcostethus hoberlandti Lodos et Önder, 1980 : 3–6.

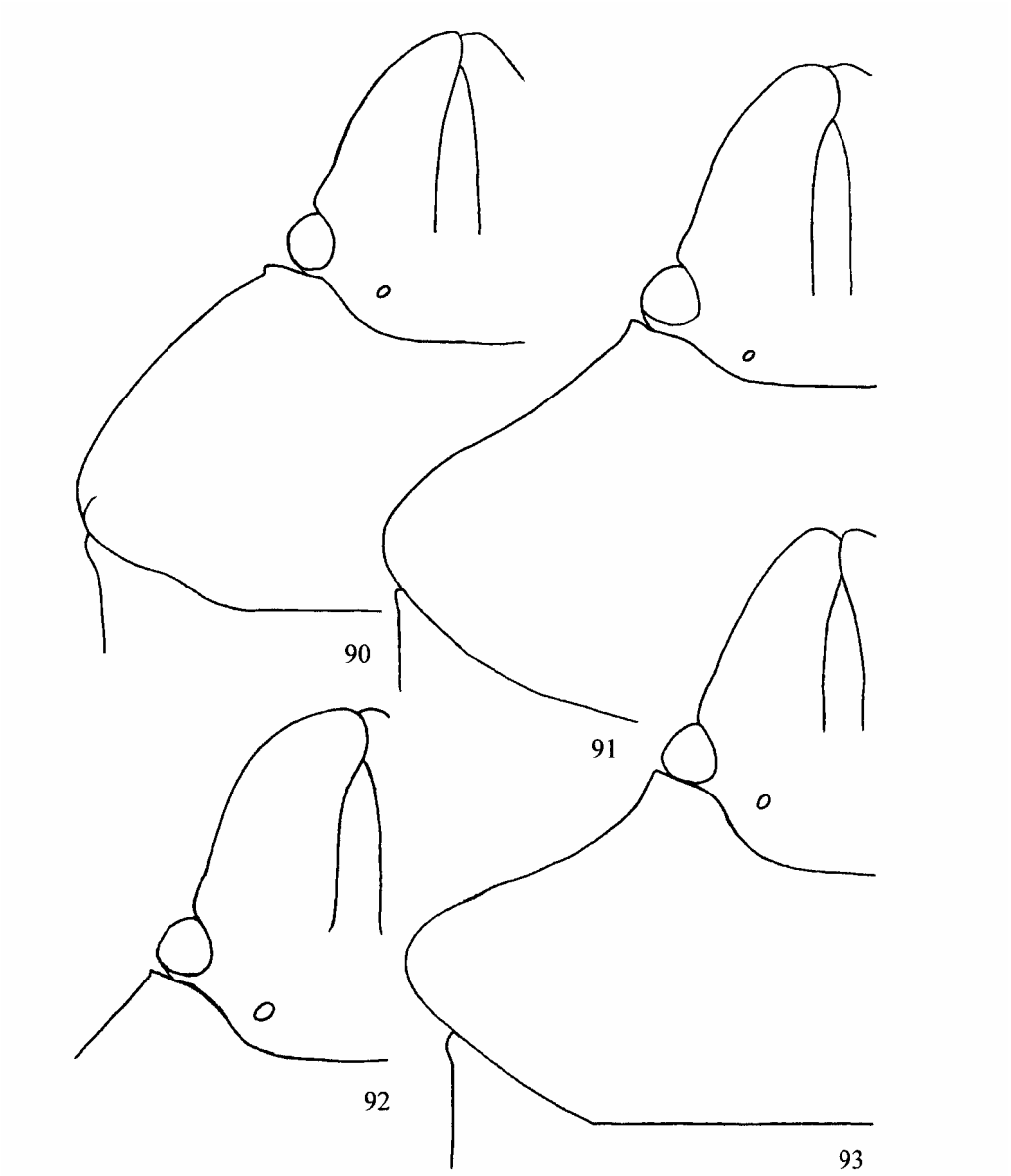
Diagnosis. The species clearly differs from all the other Palaearctic congeners in the convex sides of the pronotum (Fig. 90).

Description. Body with sandy-brown lower and upper sides and with fine brownish black punctation. Pronotum without pale edging at sides, apex of scutellum pale. Abdominal segments yellowish, with dark punctation in anterior and posterior corners of tergites. Underside of body yellowish. Antenna reddish, occasionally darkened at apex, basal segments yellowish. Length of body 7.5–9.0 (8.25) mm, b. lw 1.67–1.76 (1.72).

Head trapeziform; jugae converging, longer than clypeus, covering its apex, with slightly emarginate sides, raised (Fig. 90), 1.17 times as wide as long and 0.23 times as long as body. Eye medium-sized, ds 1.43. Antenna short, l. ba 2.12–2.32 (2.22).

Pronotum large [p. wl 2.02–2.07 (2.05)], with roundly convex sides, without costa along margin (Fig. 90). Lateral angles widely rounded. Scutellum only slightly longer than wide (s. lw 1.04), gradually narrowed toward apex and then moderately widely rounded.

Male genitalia. Aedeagus with 2 pairs of conjunctive processes, sclerotized median plates wide, theca with lateral processes (Fig. 37). Parameres in form of



Figs. 90–93. *Peribalus* Mulsant et Rey, head: (90) *P. hoberlandti* Lodos et Önder, (91) *P. strictus vernalis* (Wolff), (92) *P. strictus capitatus* (Jak.), (93) *P. strictus strictus* (F.).

overturn "L," sensory lobe absent, uneven area of inner surface of paramere narrowed toward base (Fig. 58). Pygofer with obtusely rounded apical angles and rounded emargination apically (Fig. 80).

Female genitalia. Spermathecal bulb rounded, small (l. bb 10), with 3 processes, longest of which projecting beyond proximal flange; sclerotized duct slightly widened at base (Fig. 17). Sternite IX long, rather wide, with attenuate apices. Laterotergite IX narrow, rounded at apex, narrowed toward base (Fig. 105).

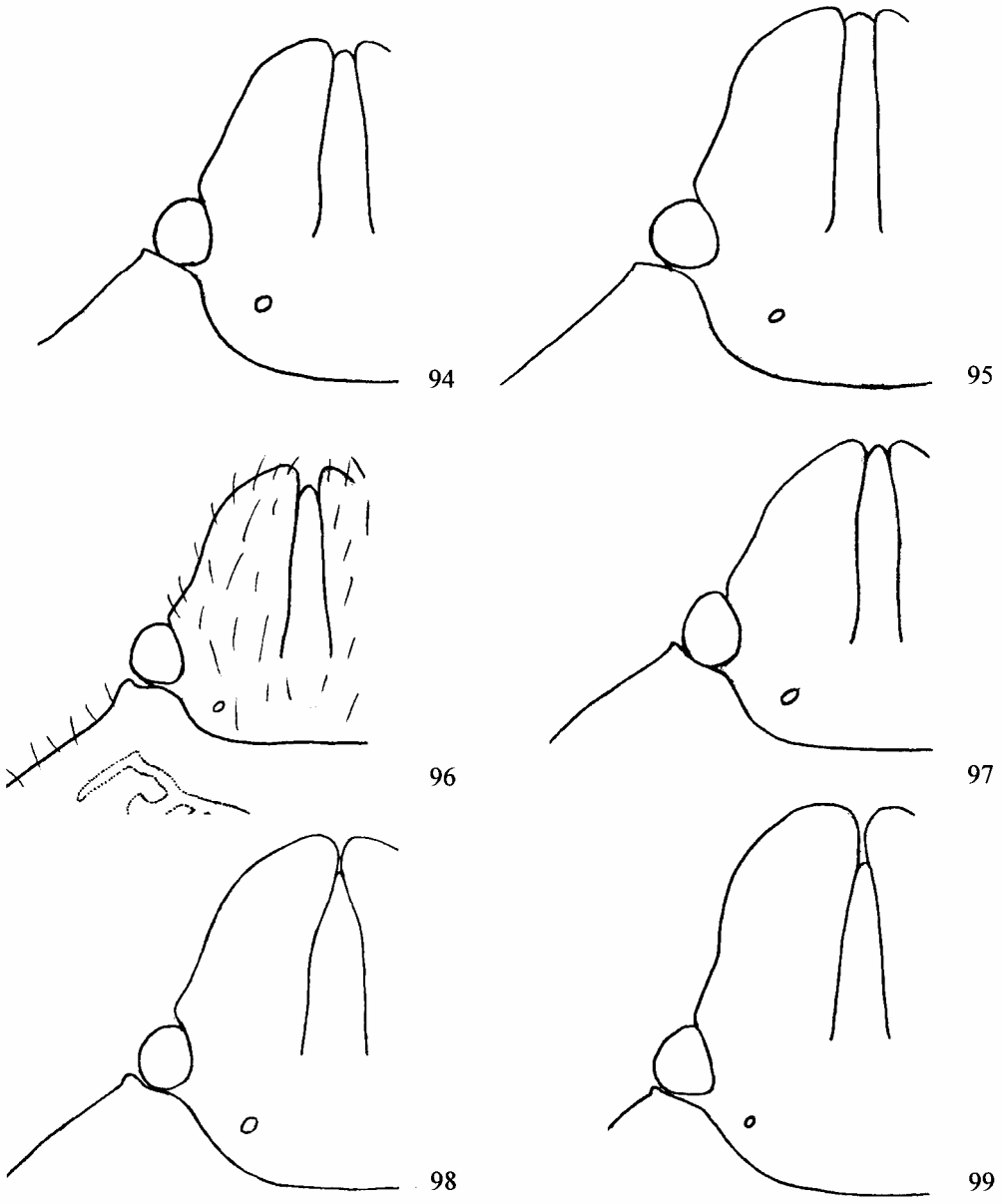
Distribution. Turkey.

Material examined. Paratypes: 1 ♀ (IZASU), 1 ♂, 1 ♀ (Exp. Nat. Mus. Praha), Kop, 2250 m, 9.VII.1978. Weed.

Subgenus ***Tianocoris*** Belousova, subgen. n.

Type species *Holcostethus manifestus* (Kiritshenko, 1952).

Diagnosis. The subgenus is most closely related to the preceding one, but the aedeagus bears three pairs of conjunctive membranous processes or, at least, two pairs of well-developed processes and a rudiment of the third pair; the pygofer forms pointed apical angles



Figs. 94–99. Head: (94, 95) *Holcostethus* Fieber [(94) *H. albipes* (F.), (95) *H. sphacelatus* (F.)]; (96) *Himalayacoris pilosus* sp. n.; (97) *Paraholcostethus breviceps* (Horv.); (98, 99) *Peribalus* Mulsant et Rey [(98) *P. inclusus*, (99) *P. przewalskii* sp. n.].

slightly attenuate inwards; the uneven area of the inner surface of the paramere is arcuately curved (Figs. 61, 62); the spermatheca forms the spherical bulb and a sclerotized duct widened at the base (Fig. 15); sternite IX is narrower, its proximal margin is more deeply emarginate and the apices are attenuate and obtused; laterotergite IX is widely rounded at the apex and slightly narrowed at the base.

Composition. The subgenus includes two species, *P. manifestus* (Kiritshenko) and *P. tianshanicus* sp. n., inhabiting the high mountains of the Pamiro-Alai and Tien Shan and reaching heights of nearly 3600 m.

Peribalus* (*Tianocoris*) *manifestus
(Kiritshenko, 1952)

Holcostethus manifestus Kiritshenko, 1952 : 154–156.

Diagnosis. The aedeagus bears two pairs of conjunctive processes and a rudiment of the third pair. The sclerotized median plates are strongly widened. In

addition to the subgeneric characters, the species differs in prevalence of intensive ochraceous or reddish tones in its coloration and in the well-developed black punctation.

Description. Body sandy-golden to reddish, with dense fine black punctation. Underside of body pale, yellow or with slight orange tint, sparsely punctate. Abdominal segments pale yellow, with agglomerations of black punctures in anterior and posterior corners of tergites. Antenna rufescent-reddish. Length of body 8–9.4 (8.8) mm, b. lw 1.6–1.77 (1.68).

Head transverse [h. wl 1.11–1.23 (1.16)], medium-sized, l. bh 3.95–4.64 (4.41). Jugae flat, slightly emarginate before eyes, narrowly rounded apically, longer than clypeus, occasionally not covering its apex (Fig. 85). Eye small, ds 1.34–1.48 (1.39). Antenna long, l. ba 1.78–2.15 (1.98).

Pronotum transverse [p. wl 2.1–2.31 (2.19)], flat, with straight sides, occasionally with fine pale costa along margin; lateral angles rounded. Scutellum with slightly emarginate sides, of subequal length and width, s. lw 0.94–1.05 (1).

Male genitalia. Pygofer wide, with pointed apical angles and sinuous apical margin (Fig. 82). Aedeagus with 2 pairs of well-developed conjunctive processes and with rudiment of third pair (Figs. 27, 33). Sclerotized median plates strongly widened, contacting. Theca with lateral processes. Paramere in form of overturn "L," with slightly projecting sensory lobe; uneven area of inner surface of paramere arcuately curved (Fig. 61).

Female genitalia. Spermatheca with small spherical bulb bearing a pair of processes, one of which occasionally slightly projecting beyond proximal flange. Sclerotized duct with spherical widening at base (Fig. 15). Sternite IX short and wide, with attenuate apices. Laterotergite IX slightly narrowed toward base (as in Fig. 104).

Distribution. Pamiro-Alai: the Zeravshan, Hissar, Alai, and Khozretisho Mt. Ranges, South-Tajik Depression. The species occurs on deciduous trees, bushes, and grasses, reaches a height of 3600 m.

Type material. Lectotype ♂, locality Kvak, 2000 m, 35 km N of Stalinabad, 20, 22.IX.1937 (Gussakovskii); paralectotypes: 2 ♀, as lectotype; 1 ♂, 2 ♀, Khodzha-Obi-Garm, southern slope of Hissar Mt. Range, 13–29.IX.1943 (Kiritshenko); 1 ♀, same locality, 26.V.1944 (Kir'yanova); 1 ♂, 2 ♀, Anzob Pass, 3583 m, southern slope of Hissar Mt. Range, 4–5.VII.1947 (Kiritshenko); 1 ♀, Sary-Tag River, Lake Iskanderkul, 25.VII.1947 (Kiritshenko); 3 ♀, northwestern shore of Lake Iskanderkul, Hissar Mt. Range, VII–VIII.1947 (Kiritshenko); 1 ♂, Khozormech River, near Lake Iskanderkul, 16.VIII.1947 (Kiritshenko); 1 ♂, right bank of Iskanderdarya River near sources, 7.VIII.1947 (Kiritshenko); 1 ♀, left bank of Iskanderdarya River, near sources, 12.VII.1947 (Kiritshenko); 1 ♀, Iol on Pyandzh River, 2–4.VI.1910 (Zarudny). **Additional material.** 1 ♀, Alai, Koksu, 12–19.VII. 1903 (Aris); 1 ♀, Kondara, Kvak, Varzob River valley, 5.VI.1943 (Kiritshenko); 1 ♂, locality Khan-Takhta, NW of Hissar Mt. Range, 7.IX.1933 (Veltishchev); 1 ♀, Zevar, southern slope of Hissar Mt. Range, 18.VII.1929 (Kuznetsova); 1 ♀, Ziddy, Tajikistan, 27.VI.1949 (Antova); 1 ♀, Gafil'abad, upper course of Luchob River, 2500 m, 18.VIII.1940 (Gussakovskii); 1 ♂, Tajikistan: middle course of Maikhur, 2700 m, 25.VIII.1962 (V. Zaitzev); 1 ♂, 1 ♀, Khozratisho Mt. Range, 1800 m, 11.V.1962 (Gurjeva); 1 ♂, Arab-Bolo, 3000 m, Khozratisho Mt. Range, 3.VII.1958 (Lopatin); 1 ♂, Audolon, 2800 m, Khozratisho Mt. Range, 7.VII.1958 (Lopatin).

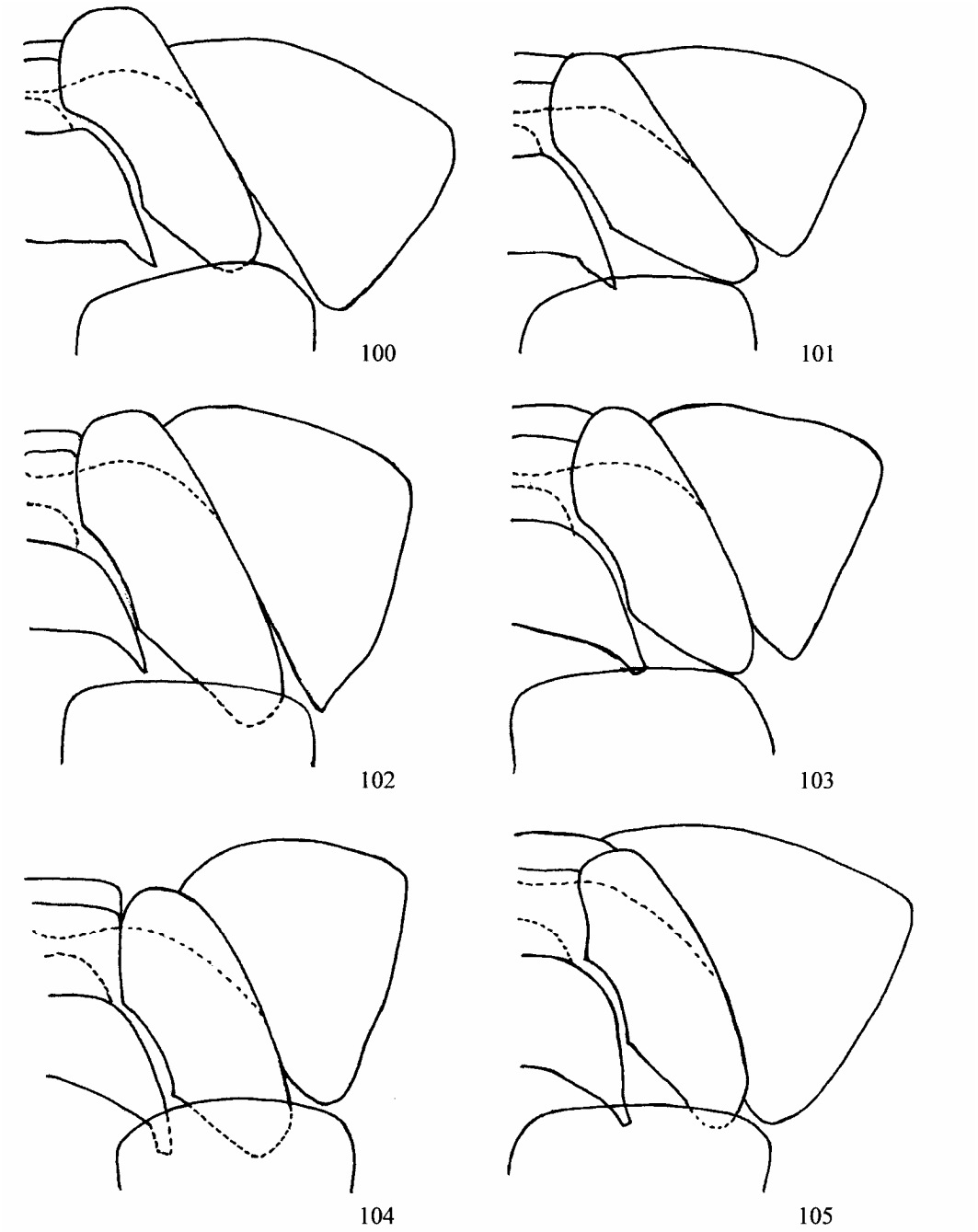
Peribalus* (*Tianocoris*) *tianshanicus Belousova, sp. n.

Diagnosis. This is the only species, in which the aedeagus has three pairs of well-developed conjunctive processes. It also differs from the closely related *P.* (*T.*) *manifestus* in the narrow sclerotized median plates not adjoining each other.

Description. Dorsal side of body golden-sandy to ochraceous, with very dense fine punctation (concolorous or dark) making surface not smooth. Lower side yellow, with very sparse punctation. Abdominal segments with agglomeration of sparse black punctures in anterior and posterior corners of tergites. Antenna yellowish brown with darker apical segments. Length of body 8–10.2 (8.79) mm, b. lw 1.51–1.69 (1.62).

Head narrowed anteriorly, emarginate before eyes [h. wl 1.10–1.23 (1.17)], medium-sized, l. bh 4.10–4.64 (4.33). Jugae longer than clypeus, converging at apex, occasionally not covering apex of clypeus (Fig. 84). Eye small, ds 1.37–1.45 (1.41). Antenna long, l. ba 1.73–2.21 (2.02).

Pronotum transverse [p. wl 2.07–2.42 (2.18)], with straight sides bordered with yellow costa deflexed upwards, with lateral depressions and rounded lateral

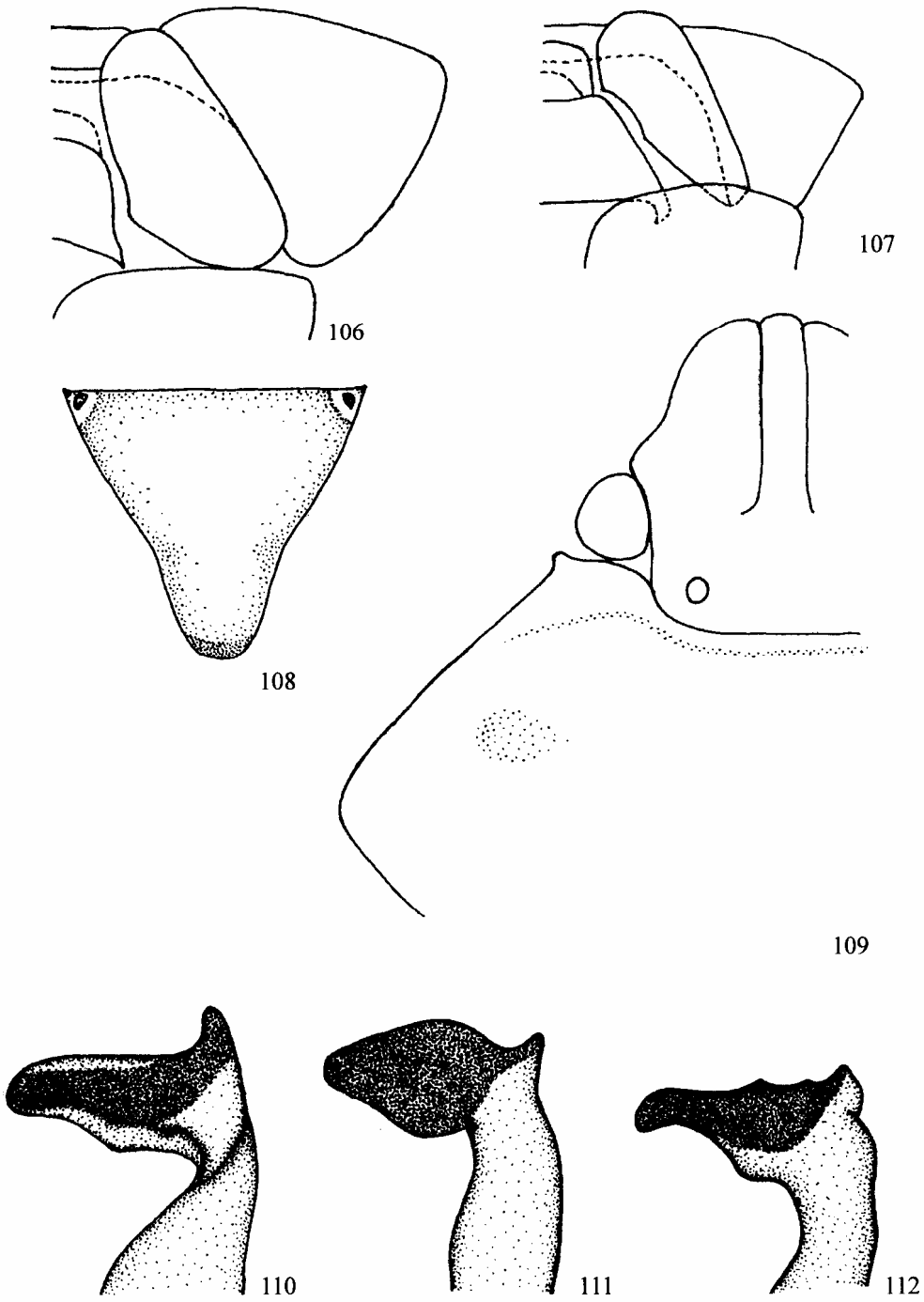


Figs. 100–105. Genital segments of female: (100, 101) *Holcostethus* Fieber [(100) *H. sphacelatus* (F.), (101) *H. albipes* (F.)]; (102–105) *Peribalus* Mulsant et Rey [(102) *P. strictus vernalis* (Wolff), (103) *P. inclusus* (Dohrn), (104) *P. tianshanicus* sp. n., (105) *P. hoberlandti* Lodos et Önder].

angles. Scutellum slightly emarginate at sides, s. lw 0.94–1.07 (0.98).

Male genitalia. Pygofer as in Fig. 82. Aedeagus with 3 pairs of conjunctive processes (Figs. 28, 34). Sclerotized median plates slightly widened toward apex, not contacting. Theca with lateral processes. Parameres in form of overturn "L," with slightly projecting sensory lobe and arcuately curved uneven area of inner surface (Fig. 62).

Female genitalia. Spermatheca with small spherical bulb bearing 2 processes and with sclerotized duct spherically widened at base (as in Fig. 15). Sternite IX short, wide, with attenuate apices. Laterotergite IX slightly narrowed toward base (Fig. 104).



Figs. 106–112. (106, 107) Genital segments of female: (106) *Peribalus classeyi* Hob.; (107) *Paraholcostethus breviceps* (Horv.); (108, 109) *Dryadocoris apicalis* (H.-Sch.) [(108) scutellum; (109) head]; (110–112) *Dryadocoris* Kirkaldy, parameres [(110) *D. apicalis* (H.-Sch.), (111) *D.* "*orientalis*," (112) *Dryadocoris* sp.].

Distribution. The Western and Central Tien Shan: the Kirghiz, Talas Ala Tau, Pskem, Chatkal, Ferghana, Dzhumgol, and Zailiiskii Ala Tau Mt. Ranges.

Type material. Holotype: 1 ♂, Pskem River valley, VIII.1902 (B. Fedchenko). Paratypes: 1 ♂, Turkestan, Chakpak, Vysokoe Vill., Syr-Darya Province, 960 m, 6.V.1907 (Jacobson). 3 ♂, 1 ♀, Western Tien Shan, Pskem River valley, VIII.1902 (B. Fedchenko); 1 ♂, Western Tien Shan, Pskem River, southern slope, Koksu River basin, Airyksai River, 2000–2300 m, 1.VI.1997 (Kabak, Molchanov); 1 ♂, Zaamin, Pskem River, 17.IV.1980 (IZASU); 1 ♀, Aksu canyon, Talas

Ala Tau, 14.IX.1935; 1 ♀, Kirghizia, Chatkal Mt. Range, Sary-Chelek, 18.V.1962 (Putshkov) (IZASU); 1 ♀, Arkit, Khodzhaata River, Chatkal Mt. Range, 16.IX.1945 (Arnoldi); 3 ♂, 2 ♀, locality Ak-Terek, 5 km N of Gava, Ferghana Mt. Range, 30.VII, 13, 17, 20.VIII, 21.IX.1937 (Kiritshenko); 1 ♀, Kugart Pass, Kuroves River, Ferghana Mt. Range, 15–20.VIII.1946 (Vasil'eva); 1 ♂, Uzun-Akhmat River, Namanganskii Uyezd, Ferghana, 7–8.VII.1905 (Abramov); 1 ♀, Ferghana Mt. Range, 25 km N of Mailisai, 20.VIII. 1974 (Putshkov) (IZASU); 1 ♂, Kugartsu River, Andizhanskii Uyezd, Ferghana, 31.VIII.1928 (Kuznetsov). Northern Tien Shan. 1 ♂, Zubenko apiary, Bolshaya Almaatinka River, Semirech'e, 31.VIII.1928 (Shnitnikov); 1 ♀, Malaya Almaatinka River, 1900 m, 20.VII.1957 (V. Kuznetsov); 1 ♂, Alma-Ata Province (G. Dzhalibaeva). Inner Tien Shan. 1 ♂, 1 ♀, Dzhumgol River mouth, Pishkekskii Uyezd, Semirech'e (Abramov, Begak).

Genus ***HOLCOSTETHUS*** Fieber, 1860

Holcostethus Fieber, 1860 : 79 [type species: *Cimex sphacelatus* Fabricius, 1794, by subsequent designation (Kirkaldy, 1909 : 47)]; Ribes and Schmitz, 1992 : 159–160.

Dryocoris Mulsant et Rey, 1866 : 267 (nom. n. pro *Holcostethus*).

Diagnosis. Clypeus open. Head without sharp constriction before eyes. Aedeagus with 1 pair of conjunctive processes usually sclerotized at apices (*Holcostethus* s. str.), with narrow sclerotized median plates. Theca with small processes at sides.

Composition. The genus includes four species subdivided into the two subgenera *Holcostethus* and *Enigmocoris* subgen. n. differing in the structure of the parameres and in the sclerotization of apices of the conjunctive processes.

A KEY TO SPECIES OF THE GENUS *HOLCOSTETHUS* FIEBER

1(6). Jugae as long as clypeus (Figs. 94, 95). Conjunctive processes of aedeagus sclerotized at apices. Parameres in form of overturn "L," flat; hypophysis with tooth; uneven area of inner surface of paramere poorly developed (Figs. 50–52). Spermatheca with spherical bulb bearing long processes projecting beyond proximal flange (Figs. 12, 13) ..... (*Holcostethus* s. str.).

2(5). Apex of pygofer with weak emargination (Fig. 64). Apices of parameres widened only in dorsal part, if at all (Fig. 51). Uneven area of inner surface of paramere poorly developed, finely granulate.

3(4). Sides of pronotum straight, with sharp pale costa deflexed upwards. Body larger (length 8.0–10.2 mm), dark. Hypophysis of paramere narrowed in middle, apex with developed dorsal part, tooth situated closer to center (Fig. 51). Spermathecal bulb small, with lateral appendages on processes (Fig. 12). Laterotergite IX strongly widened at apex (Fig. 100) .... *H.* (*H.*) *sphacelatus* (Fabricius, 1794).

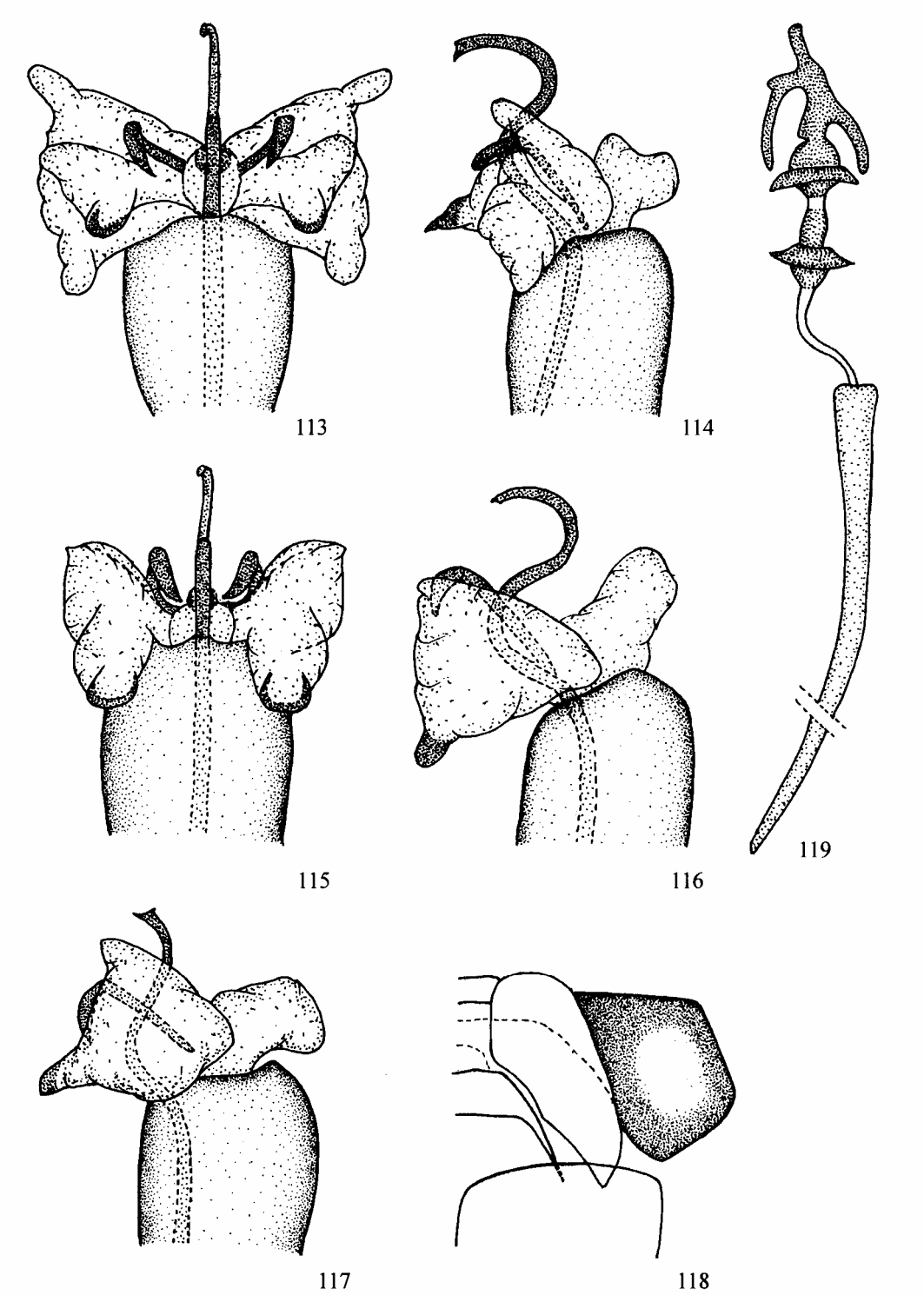
4(3). Sides of pronotum concave, with rounded pale costa not deflexed upwards. Body smaller (length 7–8.5 mm), pale. Hypophysis of paramere slightly narrowed in middle, not widened toward apex, with tooth at base (Fig. 50). Spermatheca with larger bulb, without lateral appendages on processes, latter frequently bifurcate at apex (Fig. 13). Laterotergite IX almost not widened at apex (Fig. 101) .... *H.* (*H.*) *albipes* (Fabricius, 1781).

5(2). Apex of pygofer with deep and sharp emargination (Fig. 65). Paramere symmetrically widened at apex, uneven area of inner surface of paramere more distinct, with coarser sculpture and large tooth at base (Fig. 52) .... *H.* (*H.*) *evae* (Ribes, 1986).

6 (1) Jugae slightly longer than clypeus (Fig. 41). Conjunctive processes of aedeagus not sclerotized at apices (Figs. 42, 43). Paramere large, smoothly curved; hypophysis wide, with tooth at apex; uneven area of inner surface of paramere well developed (Fig. 53) (*Enigmocoris* subgen. n.) ..... *H.* (*E.*) *fissiceps* Horváth, 1905.

Subgenus ***Holcostethus*** Fieber, 1860

Diagnosis. Jugae as long as clypeus. Pygofer small, with widely rounded apical angles and shallowly emarginate apical margin (Fig. 64). Conjunctive processes of aedeagus with sclerotized apices (Figs. 39, 40). Paramere in form of overturn "L," flat; hypophysis with tooth and with more or less strongly developed uneven area of inner surface. Spermatheca with spherical bulb bearing long processes projecting beyond proximal flange and with long sclerotized duct



Figs. 113–119. *Dryadocoris* Kirkaldy: (113–117) aedeagus [(113, 114) *D. apicalis* (H.-Sch.), (115, 116) *D.* "*orientalis*," (117) *Dryadocoris* sp.]; (118, 119) *Dryadocoris* sp., female genitalia [(118) genital plates, (119) spermatheca].

slightly widened closer to base. Laterotergite IX with widened and subrectangular apex; sternite IX rather long, with straight base and pointed anterior angles.

Composition. The subgenus includes three Mediterranean species: *H. albipes*, *H. sphacelatus*, and *H. evae*.

Holcostethus albipes (Fabricius, 1781)

Cimex albipes Fabricius, 1781 : 345.

Holcostethus congener Fieber, 1861 : 334 (syn. Stål, 1868 : 29).

Peribalus albipes: Puton, 1882 : 58.

Holcostethus albipes: Tamanini, 1981 : 133.

Diagnosis. *H. sphacelatus* differs from the closely related species in the smaller body, clearly concave sides of the pronotum bordered with a pale costa, and larger spermathecal bulb bearing shorter processes occasionally furcate at the apices; hypophysis of the paramere forms no constriction in the middle part, bears a tooth at the base (Fig. 50).

Description. Body pale yellow to brownish, with coarse black punctation (distance between punctures exceeding, or equal to diameter of puncture). Underside of body pale, with rather sparse punctation. Abdominal segments with black spots in anterior and posterior corners of tergites. Antennal segments dark, with pale bases. Body 7–8.5 (7.72) mm long, rather robust, b. lw 1.50–1.65 (1.57).

Head distinctly narrowed anteriorly, h. wl 1.12–1.21 (1.17), medium-sized, l. bh 3.95–4.36 (4.14). Jugae with narrowly rounded apices, slightly emarginate before eyes, as long as clypeus, not covering latter (Fig. 94). Eye large, ds 1.46–1.6 (1.5). Antenna long, l. ba 1.77–2.11 (1.93).

Pronotum with concave sides bordered with pale costa, p. wl 2.21–2.34 (2.25). Lateral angles widely rounded, slightly projecting beyond base of elytra. Scutellum of subequal length and width, s. lw 0.96–1.05 (1.01).

Male genitalia. Hypophysis of paramere without constriction in middle part, with small tooth at base (Fig. 50).

Female genitalia. Spermatheca with spherical bulb (r. bb 10.1) bearing processes occasionally branching at apices (Fig. 13). Laterotergite IX moderately widened at apex (Fig. 101).

Distribution. Mediterranean basin: Spain, southern France, including Corsica, Italy, Malta, the Balkan Peninsula, Algeria, Morocco, Syria.

Material examined: 3 ♂, 3 ♀, Positano, Campania, Italia, VII.1929 (El. Miram); 1 ♂, 2 ♀, Trieste, V–VIII.1929 (Passauro); 1 ♀, Asuni, Sardinia centr., V.1910 (A. Krausse).

Holcostethus sphacelatus (Fabricius, 1794)

Cimex sphacelatus Fabricius, 1794 : 120.

Pentatoma annulata Mulsant et Rey, 1852 : 86 (syn. Mulsant et Rey, 1866 : 267).

Peribalus sphacelatus var. *suboblongus* Rey, 1887 : 2.

Peribalus sphacelatus var. *roseus* Cerutti, 1937 : 168.

Holcostethus sphacelatus: Tamanini, 1981 : 133.

Diagnosis. The species differs from the closely related *H. albipes* in the larger body, straight sides of the pronotum, bordered with a sharp pale costa deflexed upward. Hypophysis of paramere strongly narrowed in middle part, with tooth distinctly distant from base of hypophysis (Fig. 51). Spermathecal bulb smaller, with longer processes usually bearing processes.

Body brownish, with large black punctation (distance between punctures exceeding, or equal to their diameter). Abdominal segments with black spots in anterior and posterior corners of tergites. Underside pale, with rather dense punctation. Antennal segments dark, with pale bases. Length of body 8.0–10.2 (8.95) mm, b. lw 1.52–1.61 (1.58).

Head trapeziform (Fig. 95) [h. wl 1.12–1.23 (1.18)], 0.21–0.26 (0.235) times as long as body. Jugae with widely rounded apices, slightly emarginate before eyes. Clypeus open, as long as, or slightly shorter than jugae. Eye large, ds 1.43–1.55 (1.49). l. ba 1.88–2.26 (1.04).

Pronotum with straight sides bordered with fine yellow costa deflexed upwards, p. wl 2.12–2.29 (2.21). Scutellum about as long as wide, s. lw 0.97–1.05 (1.03).

Male genitalia. Hypophysis of paramere narrowed in middle part, with tooth distant from base (Fig. 51).

Female genitalia. Spermatheca with small spherical bulb forming rather long processes (occasionally projecting considerably beyond proximal flange) bearing appendages (Fig. 12). Laterotergite IX with widened apex (Fig. 100).

Distribution. This is a Mediterranean species distributed in southern Europe and northeastern Africa.

Material examined. 1 ♀, Alpes mer. (Staudinger); 1 ♂, 1 ♀, Mt. Vitosha, Sofia, Bulgaria, 5–25.VII.1953 (Martino); 2 ♂, 4 ♀, Topchider near Belgrade, Serbia, VI–VIII.1927 (Martino); 1 ♂, same locality, 1.V.1928; 1 ♀, Monte-Carlo, 8.IV.1913 (N.L. Pastukhov); 1 ♀, Helvetia, 3.VII.1907; 1 ♂, Vittoria-Liguria, VII.1933 (G. Mantero); 1 ♀, Madrid; 1 ♂, 1 ♀, Monfalcone, Italie, IX.1933 (Passauro); 1 ♀, Bormio, Italy, 1933 (Passauro); 1 ♀, Trieste, 20.VII.1929 (Passauro).

Holcostethus evae Ribes, 1986

Holcostethus evae Ribes, 1986 : 142.

Diagnosis. The species is similar to *H. albipes* and *H. sphacelatus* in the appearance and in the structure of the genitalia, but clearly differs from them in the deep median emargination of the pygofer, paramere bearing a large tooth, hypophysis symmetrically widened in the apical part, and coarser sculpture of the uneven area of the inner surface of the paramere (Fig. 52).

Description. Length of body 8.5–10 mm. Similar to *H. sphacelatus*, with external structures, coloration, and morphometrical characters overlapping those of the latter.

Head. Jugae not covering clypeus, as long as latter.

Pronotum with sharp lateral edging wider in anterior part. This edging never taking form of callose costa. Punctation black. Proboscis always reaching posterior margin of metathorax.

Male genitalia. Pygofer with deep pointed emargination in apical part (Fig. 65). Paramere with large tooth, hypophysis symmetrically widened at apex, and with well-developed uneven area on inner surface, covered with large scales (Fig. 52).

Distribution. The eastern Pyrenees in France and Spain (Aragon and Northern Catalonia). The species was collected on *Verbascum*.

Holotype: ♂, paratype ♀, Espui, Spain.

The description and figures are taken from Ribes (1986).

Subgenus ***Enigmocoris*** Belousova, subgen. n.

Type species *Holcostethus fissiceps* Horváth, 1905.

Diagnosis. The open clypeus and structure of the aedeagus show clear relationship of the subgenus with the other species of the genus *Holcostethus*. The subgenus differs from them in the larger paramere resembling those of the genus *Carpocoris* (the paramere is smoothly curved, bears wide hypophysis and apical tooth). In addition, *Enigmocoris* differs from the other representatives of the genus in the longer jugae and not sclerotized apices of the conjunctive processes of the aedeagus. The pygofer in the new subgenus forms a wide median emargination with deep folds at its sides, the apical angles are narrowly rounded (Fig. 67).

Composition. The subgenus includes one species.

Holcostethus* (*Enigmocoris*) *fissiceps Horváth, 1905

Holcostethus fissiceps Horváth, 1905 : 180.

Description. Body brownish-reddish, large, 9.4–10.3 (9.8) mm. Head narrowed anteriorly (h. wl 1–1.1), jugae not covering apex of clypeus, distinctly longer than latter (Fig. 41). Scutellum rather short and wide, with slightly emarginate sides, widely rounded at apex, with narrow pale edging, without callose spots at base. Abdominal segments with black spots only in posterior corners of tergites.

Male genitalia. Aedeagus with 1 pair of conjunctive processes (Figs. 42, 43). Paramere large, arcuately curved, with tooth at apex (Fig. 53).

Distribution. This species from Turkey was collected from grasses at heights of 1200–1500 m.

Material. Holotype: ♀, Turkey, Ilani-Dagh, 6.VII.1902 (Penther).

The description and figures are taken from Seidenstücker (1975).

Genus ***PARAHOLCOSTETHUS*** Belousova, gen. n.

Type species *Peribalus breviceps* Horváth, 1897.

Diagnosis. The new genus differs from the other members of this generic complex in the following characters: conjunctive processes bifurcate and sclerotized at apices, sclerotized median plates of aedeagus absent, theca with larger lateral processes (Fig. 38), paramere with rounded lobe at base of hypophysis (Fig. 68), anterior angles of bucculae rounded.

Composition. This genus is monotypic.

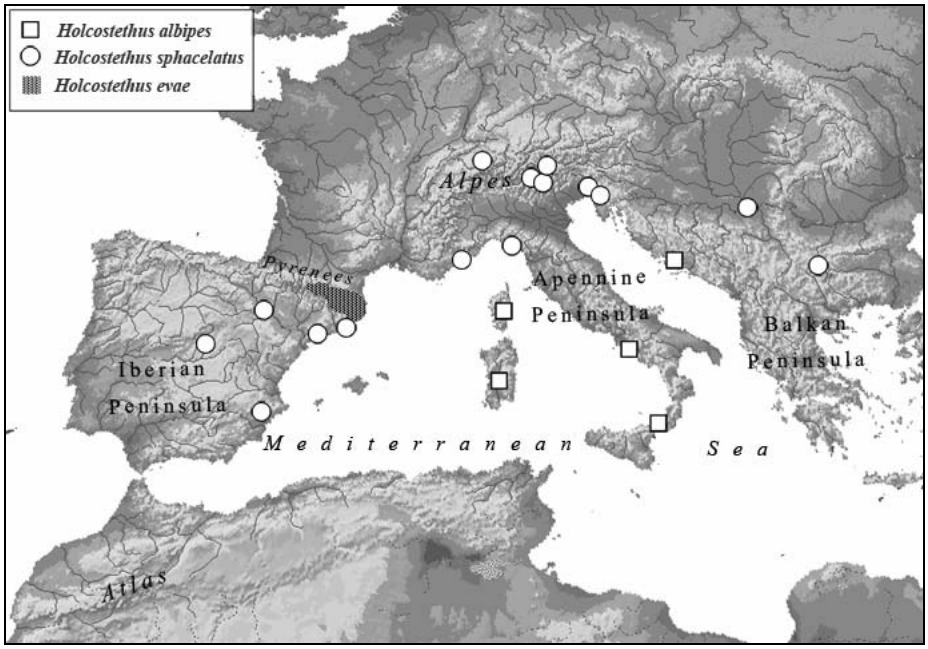


Fig. 120. Distribution of species of the genus *Holcostethus* Fieber.

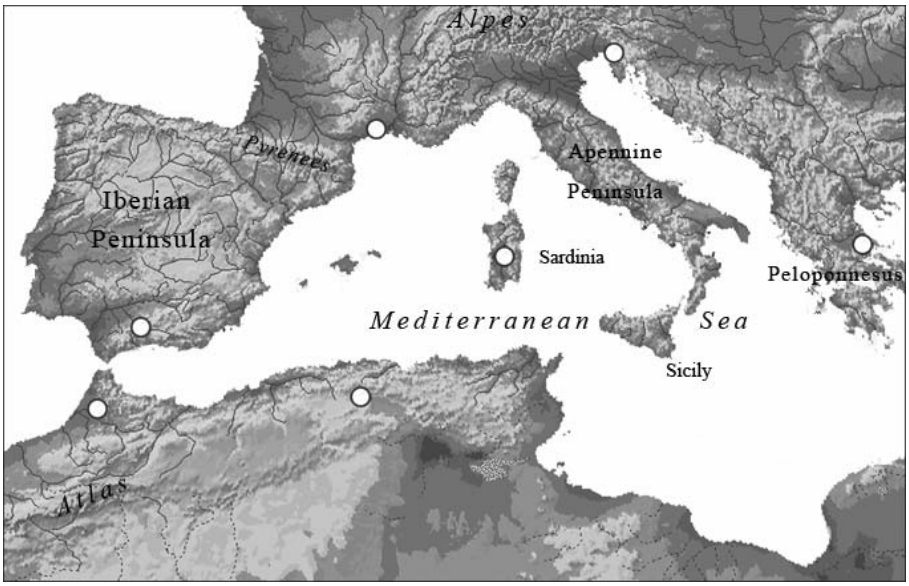


Fig. 121. Distribution of *Peribalus strictus strictus* (F.)

Paraholcostethus breviceps (Horváth, 1897)

Peribalus breviceps Horváth, 1897 : 81.

Description. Ventral and dorsal sides of body sandy yellowish, with black, rather sparse punctation (distance between punctures exceeding puncture diameter). Abdomen yellowish, with black punctation. Abdominal segments yellow, without black punctures. Scutellum paler at apex. 4th and 5th antennal segments black, with yellow bases. Body small, 6.7–8.6 (7.57) mm, b. lw 1.49–1.72 (1.64).

Head wide, h. wl 1.19–1.42 (1.3), medium-sized, l. bh 4.06–4.91 (4.33). Jugae slightly longer than clypeus, not covering it, slightly emarginate. Eye medium-sized, ds 1.34–1.51 (1.42). Antenna of medium length, l. ba 2.02–2.28 (2.12.); 3rd antennal segment 1–1.47 (1.29) times as long as 2nd.

Pronotum with straight sides bordered with yellow costa slightly deflexed upwards, p. wl 2.07–2.43 (2.21). Lateral angles widely rounded, almost not projecting beyond elytral base. Scutellum of subequal length and width, s. lw 0.91–1.03 (0.99).

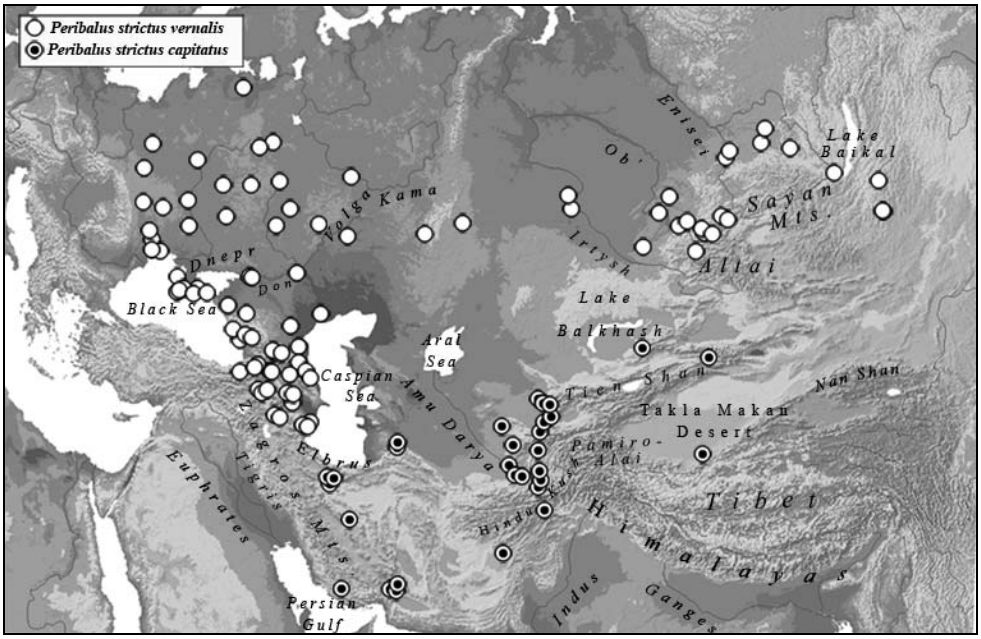


Fig. 122. Distribution of *Peribalus strictus vernalis* (Wolff) and *P. strictus capitatus* (Jak.).

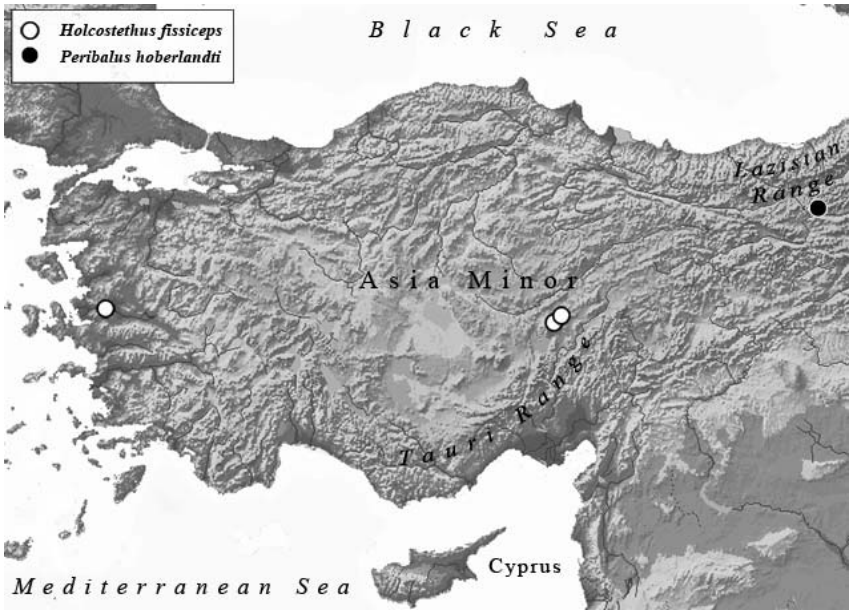


Fig. 123. Distribution of *Peribalus* (*Asioperibalus*) *hoberlandti* Lodos et Önder and *Holcostethus* (*Enigmocoris*) *fissiceps* Horv.

Male genitalia. Pygofer with widely rounded angles and shallowly emarginate apical margin (Fig. 63). Aedeagus with 3 pairs of conjunctive processes. Lateral processes with bifurcate and sclerotized apices. Sclerotized median plates absent. Theca with rather large lateral processes (Fig. 38). Paramere narrow, slightly curved; hypophysis flat, with rounded apex and with rounded lobe at base (Fig. 68).

Female genitalia. Spermatheca with small spherical bulb (l. bb 13.1) bearing up to 3 processes and with long sclerotized duct narrowed toward base (Fig. 16). Laterotergite IX widened at apex; sternite IX long, with straight base and curved pointed apex (Fig. 107).

Distribution. The southern part of the Russian Far East.

Holotype: ♀, "Eastern Siberia, Raddefka (Christoph)."

Material examined. 1 ♂, Tumen-Ula River mouth, 3.VII.1913 (Czerski); 2 ♂, 1 ♀, Sudzukhe River, Pri-

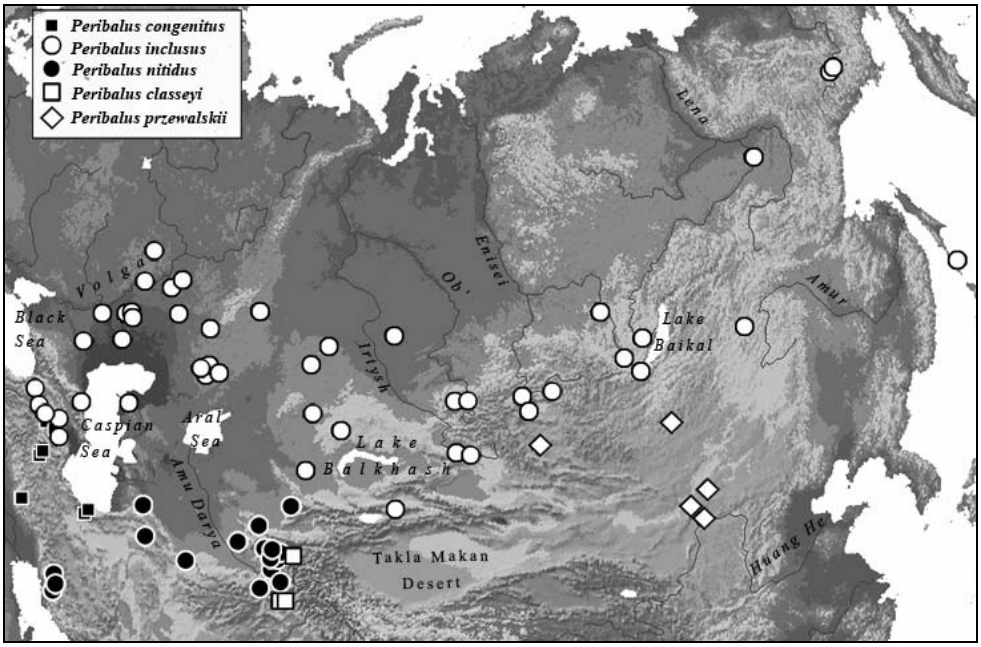


Fig. 124. Distribution of species of the genus *Peribalus*, subgenus *Asioperibalus*.

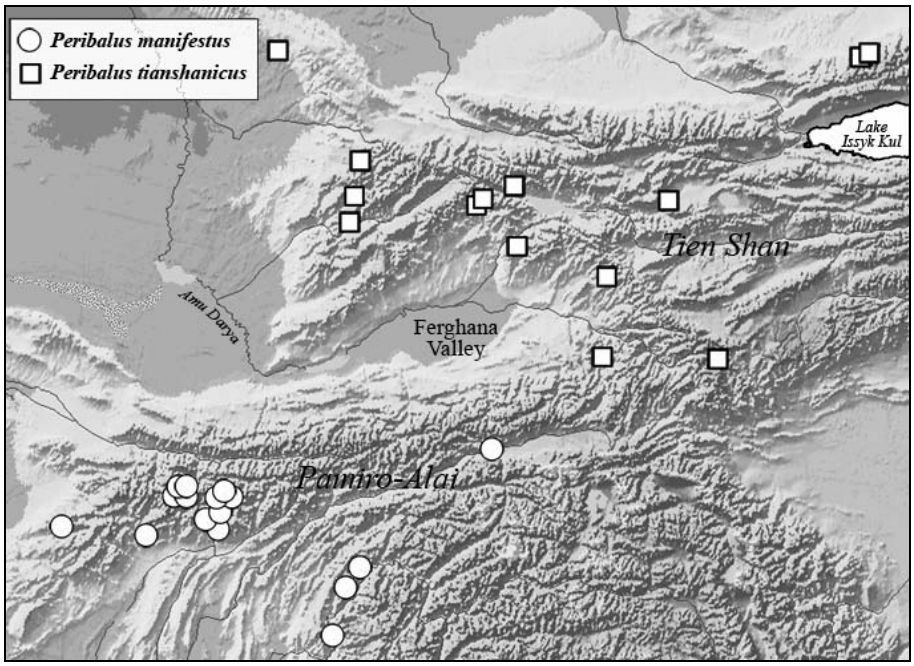


Fig. 125. Distribution of *Peribalus* (*T.*) *manifestus* Kir. and *P.* (*T.*) *tianshanicus* sp. n.

morskii Nature Reserve, 10.VIII.1946 (Zharov); 1 ♂, Kukan, NW of Khabarovsk, 8.X.1978 (Kabakov); 1 ♂, Yuzhno-Ussuriiskii Uyezd, Odarka River valley, 25 versts from Evgen'evka, 26.V.1911 (Czerski); 1 ♀, Yuzhno-Ussuriiskii Uyezd, Kamen-Rybolov, Lake Khanka, 29.VIII.1908 (Czerski); 1 ♂, Sivakovka, southern coast of Lake Khanka, Ussuriiskii Territory, 8.VII.1924 (Samoilova); 8 ♂, 13 ♀, Lake Khanka, W of Spassk, southern part of Primorskii Territory, 19.VIII.1963 (Kerzhner).

Genus ***HIMALAYACORIS*** Belousova, gen. n.

Type species *Himalayacoris pilosus* sp. n.

Diagnosis. The genus clearly differs from the closely related genera in the pale pubescence of the

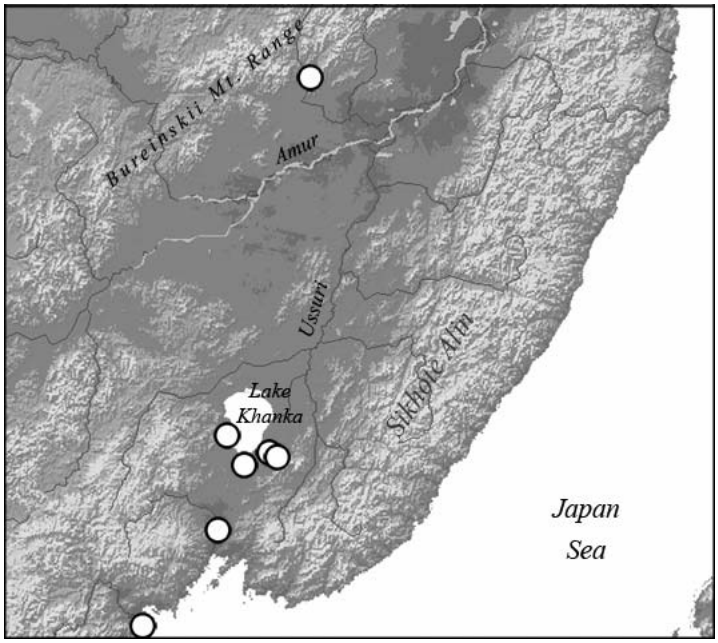


Fig. 126. Distribution of *Paraholcostethus breviceps* (Horv.).

body, most distinct on the head and pronotum. In the other morphological characters, the genus occupies an intermediate position between the genera *Holcostethus* and *Peribalus*. It is similar to the former genus in the open clypeus and in the presence of only one pair of conjunctive processes of the aedeagus, and to the latter, in the wide median plates connected at the base. Noteworthy also is the shape of the parameres pointed at the apices, which occurs within the limits of the discussed generic complex only in representatives of the genus *Paraholcostethus*. Thus, *Himalayacoris* is characterized by a distinctive combination of features.

Composition. This genus is monotypic.

Himalayacoris pilosus Belousova, sp. n.

Description. Upper side of body fuscescent-brown, with rather dense black punctation; lower side yellow, with black punctation. Head and pronotum with pale hairs. Scutellum without yellow spot and punctation at apex. Abdominal segments yellow, with large black spots in anterior and posterior corners of tergites. Length of body 7.2 mm, b. lw 1.55.

Head 0.24 times as long as body, 1.26 times as wide as long, narrowed anteriorly (Fig. 96). Jugae longer than clypeus, not covering its apex, narrowed toward apex, slightly wavy raised at sides, black on lower side. Eye medium-sized, ds 1.42. Antenna 0.51 times as long as body. Two basal antennal segments yellow, 3rd dark at apex, 4th and 5th entirely black, except for places of articulation. Length of antennal segments (mm): 0.46, 0.60, 0.61, 0.93, 1.1.

Pronotum transverse (width 2.11 times length), with straight lateral margins bordered with fine yellow costa slightly deflexed upwards. Scutellum slightly emarginate, 1.05 times as long as wide.

Male genitalia. Conjunctive processes of aedeagus with 2 apices and with small digitate process, sclerotized median plates wide (Figs. 35, 36). Paramere in form of overturn "L," with distinct sensory lobe and narrow hypophysis. Uneven area of inner surface of paramere narrow, parallel-sided, rounded at apex (Fig. 69). Theca with lateral processes. Apical margin of pygofer sinuous in dorsoventral plane, with oval emargination in middle; apical angles narrowly rounded (Fig. 81).

Distribution. The Himalayas: Kashmir.

Material examined. Holotype: ♂, locality Fargabad in Kresh-Nul, tributary of Vardvan-Maru River in Kashmir, 29.V.1910 (Trubetskoi).

Genus ***DRYADOCORIS*** Kirkaldy, 1909

Dryadocoris Kirkaldy, 1909 : 47 [nom. n. pro *Holcostethus* (non Fieber, 1860): Stål, 1872, type species: *Pentatoma analis* Costa, 1847 (= *Cimex apicalis* Herrich-Schaeffer, 1842), by original designation].

Dryadocoris: Tamanini, 1981; Linnavuori, 1982; Ribes et Schmitz, 1992.

Fieber (1861) described the genus *Holcostethus*, in which, in addition to *H. sphacelatus* and *H. albipes*, he also included *H. jani* (= *H. analis*). Kirkaldy (1909) established the genus *Dryadocoris* specially for *P. analis*. Analysis of the external and genital characters has substantiated the generic status of *Dryadocoris*. The characteristic structure of the male (Figs. 110–117) and female (Figs. 118, 119) genitalia is observed in the species from the Mediterranean basin (Morocco), southwestern Asia (Yemen), and Equatorial Africa (near lakes Victoria and Nyasa). Here only the type species of the genus is considered.

Diagnosis. Representatives of the genus *Dryadocoris* differ from species of the considered generic complex in the absence of a carina on the lateral margin of the pronotum, presence of pits at sides of the base of the scutellum (Fig. 108), in the large flattened paramere bearing dentiform attenuate sensory lobe, the aedeagus bearing an unpaired number of very short conjunctive processes (3), the clavate sclerotized median plates, and also in the distinctive shape of the spermathecal bulb (Fig. 119).

Description. Jugae strongly emarginate before eyes, as long as clypeus. Eye large (Fig. 109). Pronotum with straight or slightly curved sides with sharp margins, without carina or costa. Punctation sparse. Scutellum with pale or dark spot at apex. Odoriferous glands with long narrow groove.

Male genitalia. Aedeagus with 3 (2 paired and 1 unpaired) conjunctive processes, curved vesica, and clavate sclerotized median plates. Paramere flat, large, with distinctly separate sensory lobe. Pygofer with deep emargination also forming small median emargination; apices widely rounded (Fig. 83). Theca oval, without processes.

Female genitalia. Spermathecal bulb spherically widened at base, elongate toward apex, with long slender processes; sclerotized duct not widened at base (Fig. 119). Genital plates: laterotergites IX strongly widened toward apex; sternite IX very short, wide, with attenuate narrow apices and weakly concave distal margin (Fig. 118).

Dryadocoris apicalis (Herrich-Schaeffer, 1842)

Cimex apicalis Herrich-Schaeffer, 1842 : 95.

Pentatoma (*Pentatoma*) *analis* Costa, 1847 : 387 (syn. Linnavuori, 1975 : 86). Carapezza et al., 1995 : 291.

Pentatoma inquinata Stål, 1853 : 218 (syn. Stål, 1865 : 166).

Pentatoma bipunctipes Signoret, 1858 : 282 (syn. Stål, 1865 : 166); Linnavuori, 1975 : 86).

Holcostethus jani Fieber, 1861 : 334 (syn. Puton, 1874 : 225); Linnavuori, 1975 : 86.

Pentatoma heterocera Walker, 1867 : 297 (syn. Linnavuori, 1975 : 86).

Pentatoma confinis Walker, 1867 : 298 (syn. Distant, 1898 : 316).

Holcostethus obscuratus Distant, 1892 : 249 (syn. Distant, 1898 : 296, with *heterocera*).

Dryadocoris analis (Costa) 1847: Tamanini, 1981 : 133.

Dryadocoris apicalis: Linnavuori, 1982 : 124.

Description. Body ochraceous, with fine brown irregular punctation, 7.3 mm long. Pronotum convex, with straight, not flattened sides and with widely rounded angles. Scutellum with black spot at apex (Fig. 108). Paired membranous conjunctive processes of aedeagus with 3 apices, pointed, one of apices sclerotized at extremity. Unpaired process small, curved. Vesica long, strongly curved. Sclerotized median plates with small club (Figs. 113, 114). Paramere with elongate rounded hypophysis at apex and distinct sensory lobe; uneven area of inner surface of paramere in form of wide stripe passing through entire hypophysis and sensory lobe (Fig. 110).

Distribution. France, Italy, Portugal, Spain, Northern Africa, Syria.

Material examined. 1 ♂, Victoria, Nyasa, Tukoba, 27.VI.1912 (Troitskii); 1 ♀, same locality, 3.VII.1912 (Troitskii); 1 ♂, Marocco, 1900 (Vaucher).

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