

Zeitschrift: Entomologica Basiliensia
Herausgeber: Naturhistorisches Museum Basel, Entomologische Sammlungen
Band: 16 (1993)

Artikel: New species of the subfamily Patrobinae (Coleoptera, Carabidae) from China
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DOI: <https://doi.org/10.5169/seals-980481>

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New species of the subfamily Patrobinae (Coleoptera, Carabidae) from China

by A. S. Zamotajlov

Abstract: Two Patrobine species are described as new: *Parapenetretus pilosohumeralis* n.sp. (Szechwan) and *Diplous julonshanensis* n.sp. (Yunnan).

Keywords: Coleoptera Carabidae – China – Patrobinae – description – new species.

By the kind offices of Dr. M. Brancucci and Dr. R. Heinertz I have had an opportunity to study Chinese materials on Patrobinae obtained by the Natural History Museum in Basel in 1991, for which I express my sincere gratitude. Both of the two species found were new, their description is given below. The type materials are deposited in the Natural History Museum, Basel (NHMB) and in the collection of the author (AZ). I express my sincere gratitude to Mr. A. Solodovnikov of Krasnodar for drawings of the general aspects of the new species.

1. *Parapenetretus* (s. str.) *pilosohumeralis* n.sp. Figs 1–5.

Body black, shiny, antennae, mandibles, and legs dark brown, palpi reddish-brown. Head ovate, eyes small, convex, temporae faintly tumid, longer than eye diameter, neck constriction distinct, although not so deep as in the other *Parapenetretus* (s. str.)-species; frontal furrows fairly shallow, almost parallel, surface smooth, 3 supraorbital setae, 2 near anterior margin and 1 near posterior margin of eye, and 2 setiferous pores (one large and one small) near neck-constriction present on each side of head. Tooth of mentum bifid. Pronotum cordate, 1.12 times as wide as long, faintly convex, front margin almost even, only slightly rounded, lateral sides widely rounded in front and strongly sinuated before hind angles, basal margin nearly straight, front angles distinct, dull, not projected anteriorly, hind angles slightly protruding laterad, faintly carinate, nearly rectangular, pointed; anterior transverse impression small and shallow, basal foveae rather long and deep, gently rugous-punctate, disk smooth, median line distinct, obliterated at both extremities, basal area punctate; lateral sides of pronotum with 5–6 setae before middle, 1 seta situated in hind angles. Elytra oblong-ovate, 1.61 times

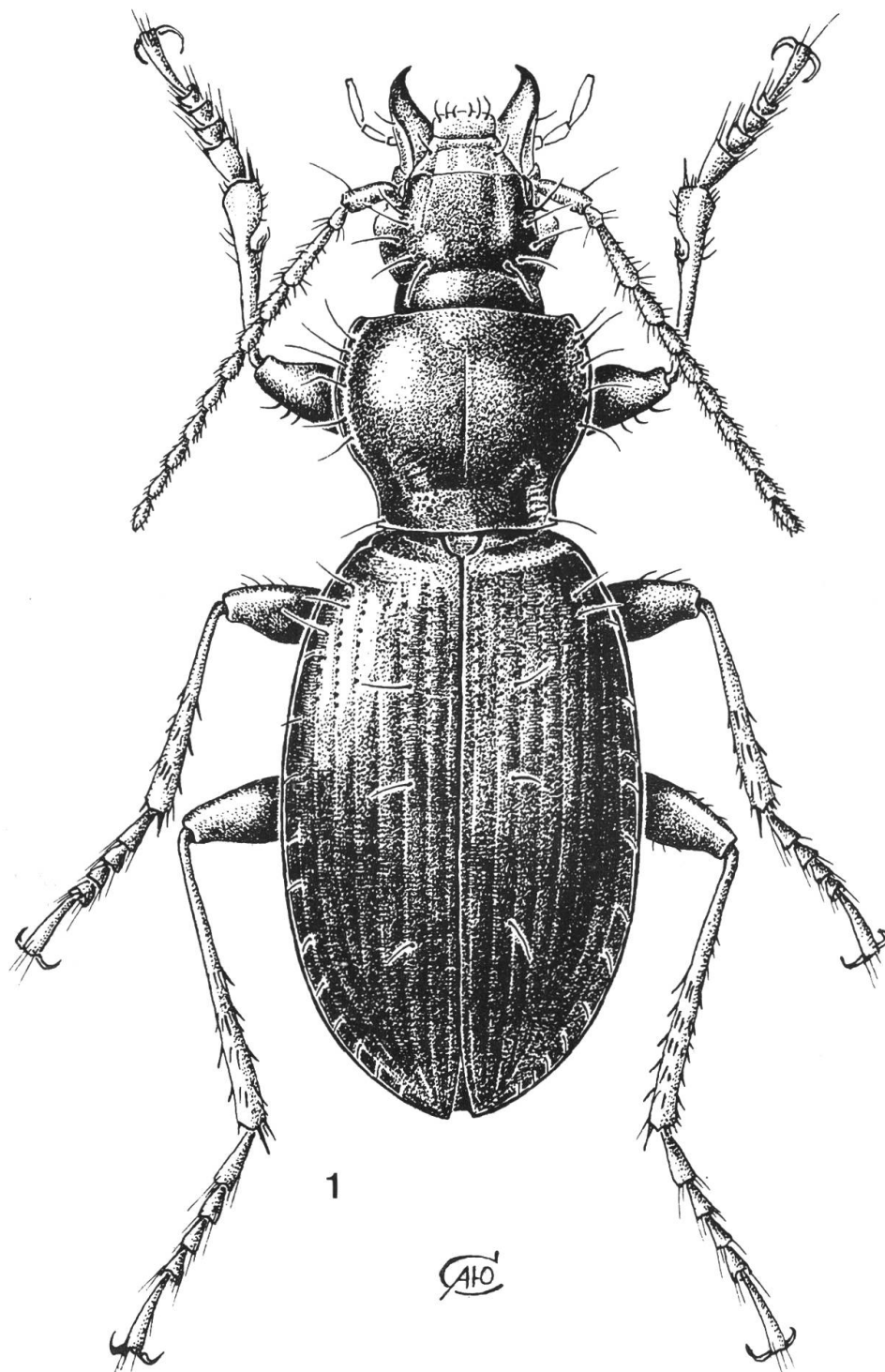


Fig. 1: *Parapenetretus pilosohumeralis* n.sp., general view.

as long as wide, somewhat convex, lateral sides rounded, especially near shoulders, they are distinctly angulate, raised with small humeral teeth; inerspaces flat, striae shallow, punctate, interspace 3 with 3 setiferous pores adjoining stria 3, also bundles of setae in humeral areas on interspace 7 developed, 2 setiferous pores near stria 6 and 1 pore near stria 7 on left elytron of holotype, and 2 pores near stria 6 on right elytron, marginal series composed of 11–12 pores; microreticulation of very fine transverse meshes or wrinkles, almost invisible. Tarsal upper surface glabrous, metatarsal segment 5 with 3 setae on each side ventrally. Pro-, meso-, and metepisterna, mesosternum, and prosternum finely and sparsely punctate, sternites finely rugous in lateral areas. Aedeagus (Figs. 2, 3) strongly bent at base, basal part very short, apical lamella fairly curved ventrally (viewed laterally), sharply attenuating towards apex (viewed dorsally), apex with large horn-shaped protuberance on the right side; armature of endophallus consists of one slightly twisted spirally proximal copulatory piece; left paramere (Fig. 4) larger than right one (Fig. 5), both with short and rather broad apical projections, left bearing 1 long and 1 short setae, right – 2 long and 1 short setae. Total length 9.9 mm.

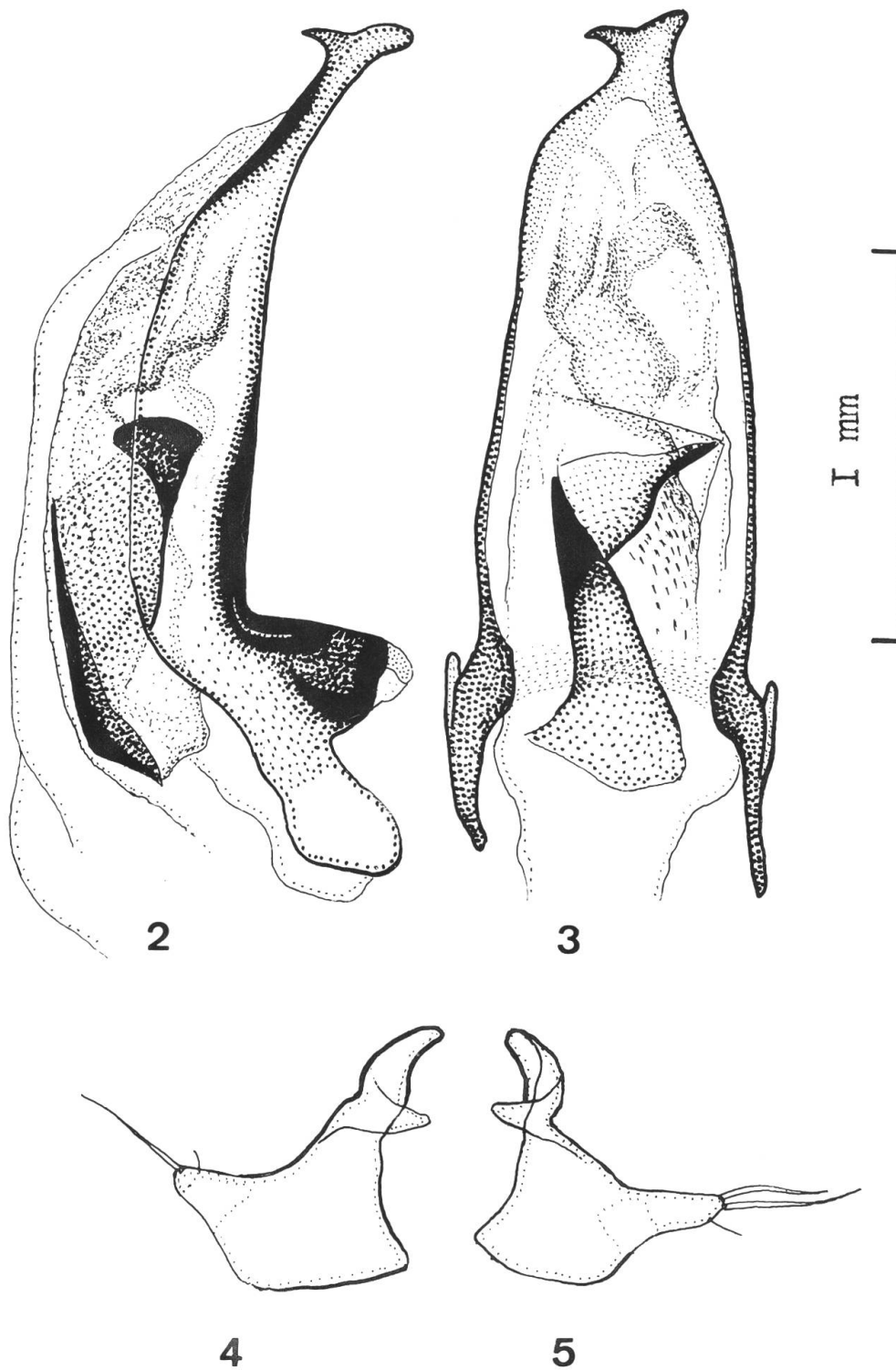
Holotype: ♂ (NHMB): China: Szechwan, 33°10'N, 103°50'E, Min Shan, 2500–4500 m, 14.–16.VII.1990, J. Kolibáč.

In general appearance, peculiarities of chaetotaxy, and shape of male genitalia resembles most *P. caudicornis* Kurn., although the new species is smaller, eyes smaller, genae less tumid, frontal furrows parallel (in *P. caudicornis* Kurn. they are divergent posteriad), humeral bundles composed of 2–3 setae (in *P. caudicornis* Kurn. of 1 seta only), aedeagus smaller, proximal copulatory piece of single lobe (in *P. caudicornis* Kurn. of two fused lobes). This similarity is not so strange, because *P. caudicornis* Kurn. was captured in “Ta-Tskhao-Ping near Lun-Au-Fu,” which is situated apparently in the upper reaches of river Mingkiang, SE of Sunpang, i.e. not so far from the type locality of *P. pilosohumeralis* n.sp.

2. *Diplous julonshanensis* n.sp.

Figs 6–11.

Body black, shiny, mandibles dark brown, antennae palpi, and legs brown. Head ovate, eyes rather large, convex, temporae almost as long as eye diameter, prominently tumid, neck-constriction more or less deep; frontal furrows strongly divergent posteriad, surface



Figs 2–5: Male genitalia of *Parapenetretus pilosohumeralis* n.sp., holotype. 2, aedeagus in left lateral view. 3, aedeagus in dorsal view. 4, left paramere. 5, right paramere.

smooth, somewhat rugous in fontal furrows and punctate near neck-constriction, 2 supraorbital setae present on each side, posterior one situated closer to eye than to neck constriction; palpi slender, at tip truncate. Pronotum cordate, 1.24–1.32 times as wide as long, widest a little back from its middle, front margin almost even, sides rounded in front and prominently sinuated behind, more or less narrowly bordered, basal margin nearly straight, front angles dull, although prominent, not or faintly projected forwards, hind angles rectangular, pointed, finely carinate, faintly protruding laterad; anterior transverse impression large, although shallow, rugous, basal foveae deep, coarsely punctate, basal area and lateral grooves punctate, disk faintly rugous, median line distinct, not reaching apex; lateral margins with 1 seta before middle and 1 seta in hind angles. Elytra ovate, rather convex, broad, 1.57–1.66 times as long as wide, shoulders angulate although dull, interspaces flat, striae distinct, at base punctate, interspace 3 with 3 setiferous pores adjoining stria 3, marginal series composed of 11–13 pores, sometimes united into two more or less clear groups; microreticulation forming isodiametric meshes. Tarsi slender, tarsal upper surface glabrous, metatarsal segment 5 without setae ventrally; pro- and mesotarsal segment 4 strongly bilobed in both sexes. Pro-, meso-, and metepisterna, mesosternum, and prosternum punctate, sternites finely rugous in lateral areas. Aedeagus (Figs 7, 8) bent step-like at base, basal part rather long, ventral side faintly arcuate, at apex slightly curved ventrally (viewed laterally), apical lamella broad, apex dull (viewed dorsally); armature of endophallus consists of single twisted spirally (with about 1.5 coils), poorly chitinized at apex proximal copulatory piece; left paramere (Fig. 9) larger than right one (Fig. 10), apical projections long and narrow, bearing both 2 long apical and 5 small subapical setae. Spermatheca (Fig. 11) with chitinized oval ring ventrally and large poorly chitinized plate dorsally. Total length 11.9–13.2 mm.

Holotype: ♂ (NHMB), China, N Yunnan, Yulongshan Mts, 2500–2800 m, Ganhaitsi-Lijiang road, 24.–26.VII.1990, D. Král. Paratypes, 1 ♀ (NHMB); 1 ♀ (AZ), same locality, together with holotype; 1 ♀ (NHMB), China, Yunnan prov., 27°08'N, 100°14'E, Yulongshan Mts, 2900–3500 m, 7.–12.VII.1990, V Kubán.

According to some remarkable characters, the new species belongs to “I Gruppe” of the genus *Diplous* Motsch. after KÜHNELT (1941). However, like another species of this genus, which also occurs in Yunnan, *D. davidis* (Fairm.), it possesses some features of two other

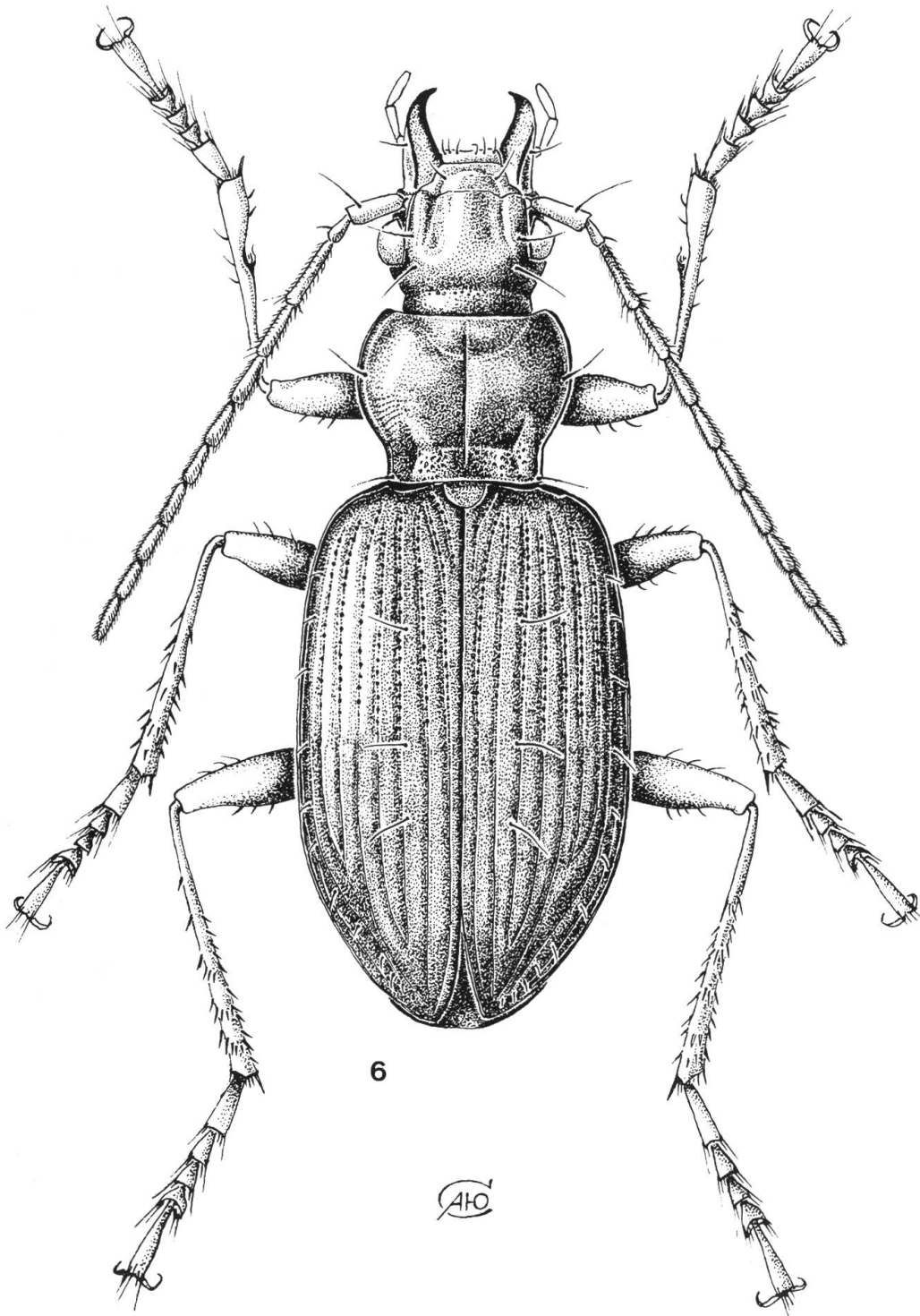
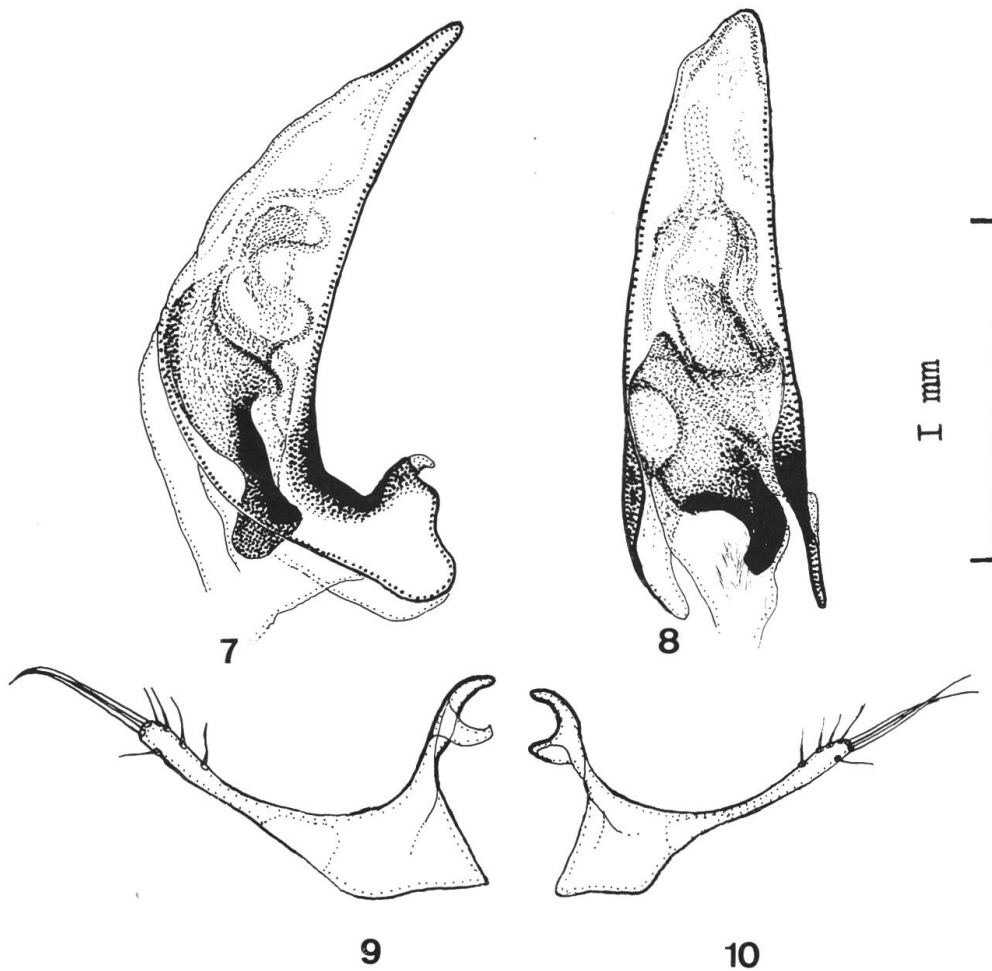


Fig. 6: *Diplous julonshanensis* n.sp., general view.



Figs 7–10: Male genitalia of *Diplous julonshanensis* n.sp., holotype. 7, aedeagus in left lateral view. 8, aedeagus in dorsal view. 9, left paramere. 10, right paramere.

closely related species, *D. przewalskii* Sem. and *D. grummi* Zamot. & Kryzh. (ZAMOTAJLOV, 1992).

From *D. davidis* (Fairm.) differs in stronger lustre of dorsum, ovate, not rhombic head, shorter and more tumid temporae and shorter neck, in more shallow, not punctate anterior transverse impression, more narrow median line, striae punctate at base, presence of only 3 setiferous pores on interspace 3, and in the structure of male genitalia. It is noteworthy, that both southmost congeners from Yunnan, *D. davidis* (Fairm.) and *D. julonshanensis* n.sp., possess some characters in body proportions and particularly in the shape of head, usual among others Palearctic genera of Patrobinae and never taking place within *Diplous* Motsch.

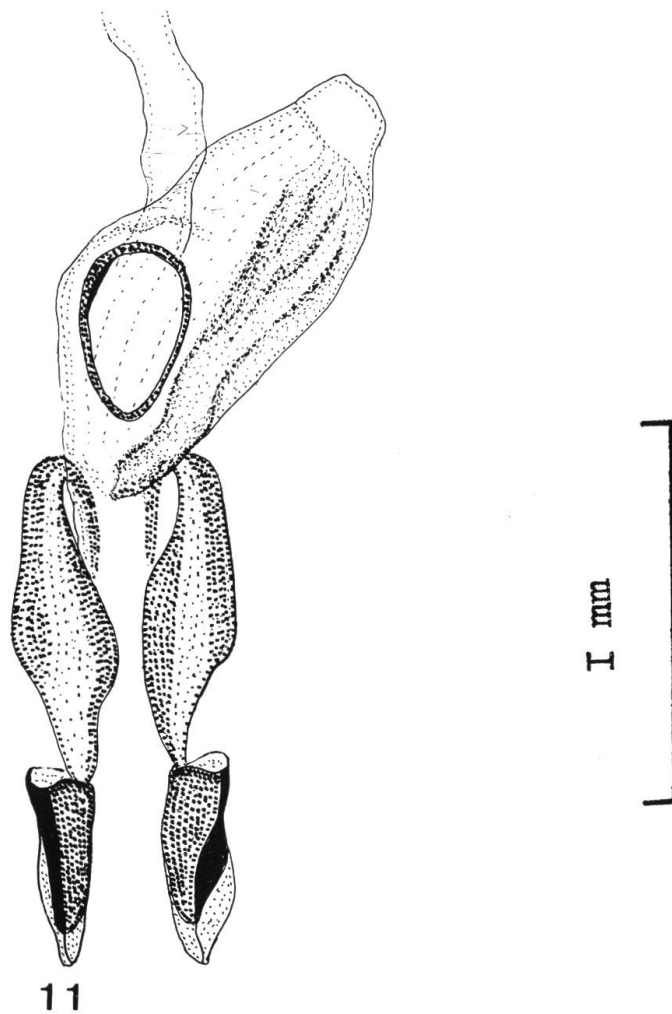


Fig. 11: Female reproductive tract in dorsal view of *Diplous julonshanensis* n.sp., paratype.

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