

New and little-known Middle Asian species of the spider wasp genus *Cryptocheilus* Panzer, 1806 (Hymenoptera, Pompilidae). I.

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The present paper contains first descriptions of four new Central Asian representatives of *C. notatus* species-group. Part of the material used for these descriptions was collected by author, the majority of other specimens was given to me for examination by the colleagues mentioned below. Besides, some specimens were received on the loan from the collection of Zoological Institute, St.-Petersburg (ZISP). All the type specimens established on the base of ZISP material are placed into this collection, other holotypes are prepared to be placed into collection of Tel-Aviv University (TAU). Part of paratype material is divided between ZISP, TAU and Zoological Museum of Moscow University.

The major part of indexes is accurate to 0.1, only in those cases when the more precise ratios were required the appropriate indexes are specified to 0.01.

Few used abbreviations are the follows: HR – ratio of the total length of radial cell and its maximal height; M2/M3 – ratio of two sectors of median vein: first of them is distance between the ending of first radiomedial vein (R1) and the ending of second radiomedial vein (R2), and the second one is distance between the last point and the ending of third radiomedial vein (R3); MR1 – ratio of total length of the first radiomedial vein and length of the sector of medial vein that is located between the crossings with the first and the second radiomedial veins; MR2 – the same for total length of the second radiomedial vein and the sector of medial vein located between the crossings with the second and the third radiomedial veins; OOL – ocular-ocellar line; POL – post-ocellar line; RM – radiomedial cells in fore wing; RQ – ratio of distance between the beginning of radial vein in hind wing and the point of its crossing with radiomedial vein on the one hand and total length of the last vein on the second one.

Cryptocheilus oxianus sp. n.

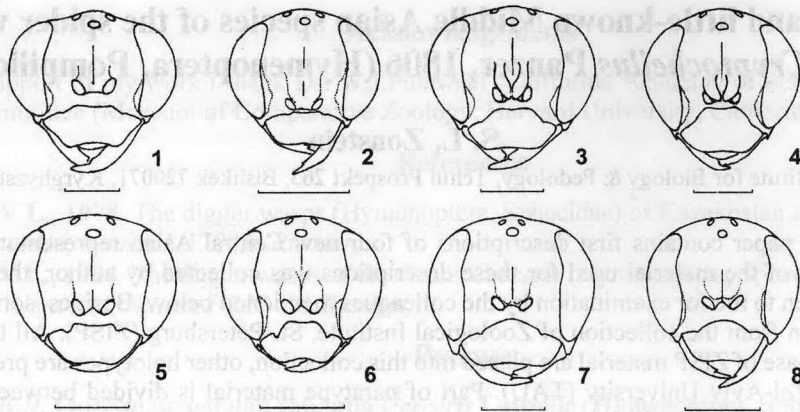
(Figs. 1, 2, 9, 10, 17, 18)

Types. Holotype ♀ – “[Cyr.:] Dzhilikul, Staraya Pristan [Tajikistan] 7 VII 1944, Gussakovskij” (ZISP). Paratypes: 1♂, 2♀. Tajikistan: “[Cyr.:] Sarai-kamar, r. Pyandzh, Tadzhih. 7 X 1935, Gussakovskij” – 1♀; “Tajikistan, Tigrovaya Balka, 26.06.1979 Gafarov” – 1♂. UZBEKISTAN: “Sherabad riv. 2 km N Sherabad, S. Uzbekistan. 37°42'N 67°01'E, 420 m. S. L. Zonstein, 4 VI 1995” – 1♀. The type seria, except for female specimen from Uzbekistan, consists of partially damaged specimens. Female holotype possesses right antenna lacking 5 distal segments, left fore leg without 2 distal segments, right median leg without 3 distal segments. Female paratype from Gussakovskij's collection is found lacking both antennae. The only male paratype possesses antennae with few retained segments: 1–3 on left antenna, only two first segments on the right one.

Diagnosis. Due to the general type of coloration and propodeal sculpture *C. oxianus* sp. n. somewhat resembles *C. notatus affinis* (V.D. Linden, 1827); it can be easily distinguished from the last taxon as well as from other representatives of the group by peculiarities of coloration (abdomen completely, femora and tibiae II–III with rich light red coloration), and by details of configuration of the male hypopygium and structure of the male genitalia.

Female. Head 1.1 times as broad as long and 1.3 times wider than pronotum. Face as shown on Fig. 1. Temples 1.8–2.0 times shorter than eye (viewed from above). Ratio POL – OOL 0.54–0.56. Ocellar angle 80°. Clypeus with slightly excavate anterior margin. Antennae on joint mound divided with deep median longitudinal groove into two rounded carinae. Ratio of 1–4 antennal segments: 2.8 - 1- 4.4 - 3.7. Third antennal segment 4.7–5.0 times as long as broad apically. Postnotal junction 1.5–1.8 times shorter than metanotum. Propodeum with anterior third sculptured with thin dense transverse ridges, posterior part coarsely sculptured with well developed short and densely spaced wrinkles; longitudinal groove shallow and almost indistinct. Pterostigma, radial and radiomedial cells of fore wing as shown on Fig. 9. HR = 3.51–3.88. MR1 = 1.13–1.33. MR2 = 1.70–1.94. M2/M3 = 0.77–0.83. RQ = 2.87–3.02. Head and thorax black; inner orbitae with small yellowish-brown spot; mandibles apically dark reddish-brown; clypeus with more or less developed brown apical fascia; lateral margins of pronotum, antennae, tegulae, coxae, fore legs, tarsi II–III brown to reddish-brown; whole abdomen, femora and tibiae II–III light red to reddish-orange. Wings light brown with more dark apical fascia, pterostigma and veins brown. Body and legs covered with appressed light grey pubescence, abdomen and legs with reddish-grey pubescence; frons, temples, propodeum laterally and fore coxae with relatively short and rare light grey hairs. Length 8.3–12.0 mm.

Male. Head 1.1 times as broad as long and 1.4 times wider than pronotum. Face as shown on Fig. 2. Temples 2.0 times shorter than eye (viewed from above). Ratio POL – OOL 0.55. Ocellar angle 80°. Ratio of 1–4 antennal segments: 2.7 - 1 - 3.8 - ?. Third antennal segment 3.8 times as long as broad apically. Postnotal junction 2.2 times shorter than metanotum. Sculpture of propodeum as in female. Pterostigma, radial and radiomedial cells



Figs. 1–8. *Cryptocheilus* spp., face: 1, 2 – *C. oxianus* sp. n.; 3, 4 – *C. carinatus* sp. n.; 5, 6 – *C. taigan* sp. n.; 7, 8 – *C. karamergen* sp. n.; 1, 3, 5, 7 – ♀; 2, 4, 6, 8 – ♂. Scale bar: 1.0 mm

of fore wing as shown on Fig. 10. HR = 3.58. MR1 = 1.21. MR2 = 1.87. M2/M3 = 0.81. RQ = 2.97. Hypopygium with narrow and slightly excavate posterior margin covered with dense setae (Figs. 17, 18). Black, tergites 1–3 with more or less developed red-colored parts. Face with narrow white spots confined to lower part of inner orbitae. Antennae and legs black or dark reddish brown, femora with preapical yellow spot. Color of wings and pubescence as in female, but clypeus and lower part of face with very dense silver pubescence. Length 8.0 mm.

Distribution. Far Southern Uzbekistan and South-Western Tajikistan.

Habitats. The present data show that *C. oxianus* inhabits gallery riverside forests and shrubs at 300–400 m above sea level.

Cryptocheilus carinatus sp. n.

(Figs. 3, 4, 11, 12, 19, 20)

Types. Holotype ♂ – "Tadj., Hissar Mts. Kondara, V. Gussakovskij, 5.07.1937" (ZISP). Paratypes: 2♂, 1♀. TAJKISTAN: 1♂ – ibidem, but collected 20.09.1937. UZBEKISTAN: "Uzbekistan, Zeravshan Mts., Aman-Kutan pass, 1700 m, 39°18'N 66°54'E, S. Zonstein, 8.06.1997" – 1♀; 1♂ – ibidem, but collected 8.06.1995.

Diagnosis. By presence of a well-developed baseantennal carina transformed into keels the new species could be drawn together with East-Palaearctic *C. gyrifrons* (F. Morawitz, 1889) which was, most seemingly, reported from Mongolia sub *C. bicallosus* sensu Wolf & Moczar, 1972, not *Salix bicallosus* F. Morawitz, 1893 (belonging actually to the genus *Priocnemis* Schiödtte, 1837 – see: Lelej, 1986). *C. carinatus* differs from *C. gyrifrons* by more short although more widely spaced carinal keels, more coarse and high propodeal ridges and by presence of light spots on inner orbitae both in male and female.

Female. Head 1.1 times as broad as long and 1.2 times wider than pronotum. Face as shown on Fig. 3. Temples 1.7 times shorter than eye (viewed from above). Ratio POL – OOL 0.55. Ocellar angle 90°. Ratio of 1–4 antennal segments: 2.1 – 1 – 3.6 – 3.3. Third antennal segment 4.7 times as long as broad apically. Postnotal junction 3 times shorter than metanotum. Propodeum with moderately developed parallel transverse ridges, without longitudinal groove. Pterostigma, radial and radiomedial cells of fore wing as shown on Fig. 11. HR = 3.52. MR1 = 1.25. MR2 = 2.03. M2/M3 = 0.82. RQ = 3.42. Black; inner orbitae with small yellowish spot; mandibles proximally dark reddish brown; antennae, fore tibiae and tarsi I–III brownish-black. Wings light brown with more dark apical margin, pterostigma and veins brown. Body and legs covered with appressed brownish pubescence, lower face and coxae also with light-greyish pubescence; frons and temples with moderately dense hairs. Length 10.3 mm.

Male. Head 1.1 times as broad as long and 1.2 times wider than pronotum. Face as shown on Fig. 4. Temples 2.5 times shorter than eye (viewed from above). Ratio POL – OOL 0.70. Ocellar angle 80°. Ratio of 1–4 antennal segments: 3.1 – 1 – 4.4 – 4.1. Third antennal segment 4.7 times as long as broad apically. Postnotal junction 2.3 times shorter than metanotum. Sculpture of propodeum as in female. Pterostigma, radial and radiomedial cells of fore wing as shown on Fig. 12. HR = 3.34. MR1 = 1.33. MR2 = 1.81. M2/M3 = 0.92. RQ = 3.40. Hypopygium hirsute with posterior margin covered with dense setae (Figs. 19, 20). Black; mandibles dark red apically; tergites I–III with more or less developed red-colored parts. Face with narrow white spots confined to lower part of inner orbitae. Antennae and legs black or dark reddish brown, femora with preapical yellow spot. Color of wings and pubescence as in female, but clypeus and lower part of face with dense light-grey and bronze pubescence. Length 10.2–13.0 mm.

Distribution. South-Eastern Uzbekistan and Western Tajikistan.

Habitats and biology. The species occurs in relatively humid mountain regions at 1200–1800 m above sea level in open forest localities. Male specimen from Aman-Kutan was collected on flowers of *Ferula* sp. (Apiaceae).

***Cryptocheilus taigan* sp. n.**

(Figs. 5, 6, 13, 14, 21, 22)

Types. Holotype ♀ – “Naryn r. valley, 920 m 41°47'N 73°26'E, Inner T.–Shang, Kirgh. Zonstein, 6.07.1993” (TAU). Paratype: “Naryn, Kurpsai gorge, South Kirghizia, 650 m. Zonstein, 25 VI 1992” – 1♂.

Etymology. “Taigan” in Kyrghyz means “whippet”. This specific name is given because of a graceful shape of body and legs that are long and slender in both sexes.

Diagnosis. The species belongs to the *notatus* species-group. Differs from *C. gazella* Haupt, 1962, the nearest species (types in TAU, examined) by lesser ratio POL – OOL, acute (not rectangular) ocellar angle, details of fore wing venation and dense dust-like silver toment covering body and legs.

Female. Head 1.2 times as broad as long. Face as shown on Fig. 5. Ratio POL – OOL 0.62. Ocellar angle 80°. Anterior clypeal margin slightly excavate. Ratio of 1–4 antennal segments: 2.5 - 1 - 4.6 - 4.0. Third antennal segment 5.3 times as long as broad apically. Postnotal junction shining with low transverse ridges, without median depression, 1,6 times shorter than length of scutellum. Propodeum finely shagrenized without certain ridges and medial furrow. Pterostigma, radial and radiomedial cells of fore wing as shown on Fig. 13. HR = 3.93. MR1 = 1.34. MR2 = 2.41. M2/M3 = 0.72. RQ = 3.33. Black; legs and antennae dark brown. Wings subhyaline with dark-brown distal fascia, pterostigma and veins brown. Head, pronotum, mesonotum, abdomen and legs covered with thin appressed silver pubescence. Length 10.0 mm.

Male. Head 1.2 times as broad as long. Face as shown on Fig. 6. Ratio POL – OOL 0.67. Ocellar angle, anterior clypeal margin and postnotal junction as in female. Ratio of 1–4 antennal segments: 2.2 - 1 - 3.1 - 3.1. Third antennal segment 4.75 times as long as broad apically. Pterostigma, radial and radiomedial cells of fore wing as shown on Fig. 14. HR = 3.86. MR1 = 1.30. MR2 = 1.69. M2/M3 = 0.80. RQ = 2.68. Hypopygium broad-oval with convex lateral and posterior margins; posterior edge of hypopygium covered with unnumerous bristles (Figs. 21, 22). Color as in female with few distinctions: legs and antennae brownish-black, inner orbitae with narrow yellowish-white spots occupying about 2/5 of their length. Color of wings and pubescence as in female. Length 9.2 mm.

Habitat and biology. The species occurs in dry steppe localities. Female holotype was collected visiting the flowers of *Tamarix* sp. (Tamarixaceae).

***Cryptocheilus karamergen* sp. n.**

(Figs. 7, 8, 15, 16, 23, 24)

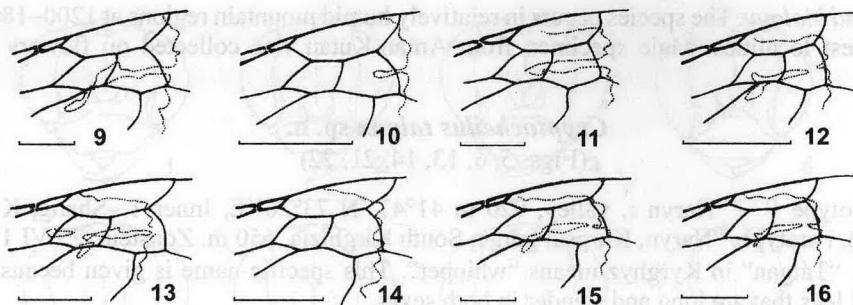
Types. Holotype ♀ – “Sufi-Kurgan, Kirgh., Alai Mt. R. 2300 m, Zonstein, 11.08.1985” (TAU). Paratypes: 3♂, 3♀. “Gultcha, S. Kirghizia, Alai Mt. Ridge, 1900 m. Zonstein, 9 VIII 1985” – 1♀; “Kirghizia, Alai Mt. R., nr. Langar, 13.07.1997 Coll. S.V. Ovchinnikov” – 1♀; “Kirghizia, Alai Mt.R., N-slope, Katta-Karakol riv. 39°52'N 73°22'E, 2600 m. S. Zonstein, 22.07.1998” – 3♂; 1♀ – ibidem, but collected by V.I. Makogonova.

Etymology. “Karamergen” in Kyrghyz means “black hunter”.

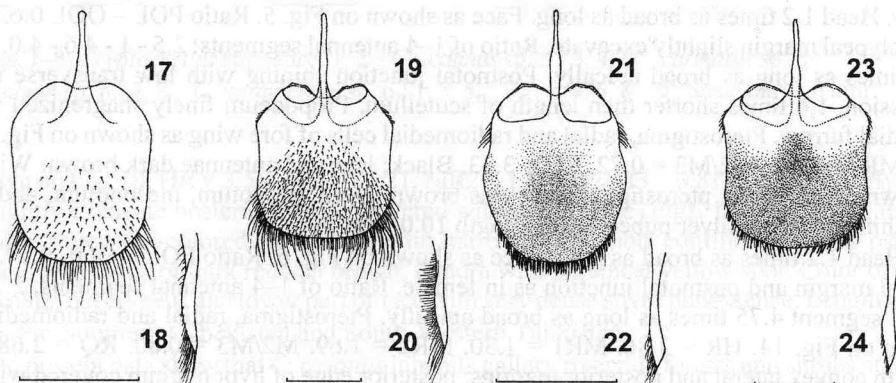
Diagnosis. The species belongs to *notatus* species-group where by the presence of baseantennal carina it could be drawn together with *C. carinatus* sp. n. Differs from the last species by noticeably lesser developed carina (sf. Figs. 5–8) and very wide and glabrous male hypopygium (sf. Figs. 19 and 23).

Female. Head 1.1 times as broad as long and 1.1 times wider than pronotum. Face as shown on Fig. 7. Temples 1.6 times shorter than eye (viewed from above). Ratio POL – OOL 0.59–0.65. Ocellar angle 90°. Baseantennal carina developed into weakly raised rounded keel. Ratio of 1–4 antennal segments: 2.6 - 1 - 4.8 - 4.4. Third antennal segment 5.5–5.7 times as long as broad apically. Postnotal junction 1.3 times shorter than metanotum. Propodeum coarsely sculptured, with raised subparallel transverse ridges (less developed in anterior third) and well-developed longitudinal groove. Head and thorax with small shallow punctures, tergites with more larger in size and depth sparsely distanced pits. Pterostigma, radial and radiomedial cells of fore wing as shown on Fig. 15. HR = 4.40–4.45. MR1 = 1.26–1.32. MR2 = 1.95–2.02. M2/M3 = 0.75–0.80. RQ = 3.40–3.56. Black; mandibles proximally dark reddish brown; tarsi I–III brownish-black. Wings light brown with more dark apical margin, pterostigma and veins brown. Body and legs covered with appressed brownish pubescence; frons and temples with moderately dense hairs. Length 11.0–13.5 mm.

Male. Head 1.1 times as broad as long and 1.3 times wider than pronotum. Face as shown on Fig. 8. Temples 1.9–2.1 times shorter than eye (viewed from above). Ratio POL – OOL 0.61–0.67. Ocellar angle 90°. Ratio of 1–4 antennal segments: 2.2 - 1 - 3.6 - 3.4. Third antennal segment 4.2–4.3 times as long as broad apically. Postnotal junction 1.2–1.3 times shorter than metanotum. Sculpture of propodeum as in female. Pterostigma, radial and radiomedial cells of fore wing as shown on Fig. 16. HR = 3.55–3.59. MR1 = 1.33–1.36. MR2 = 1.77–1.83. M2/M3 = 0.86–0.89. RQ = 3.18–3.25. Hypopygium wide with flat ventral surface lacking hairs, posterior margin covered with dense setae (Figs. 23, 24). Black, mandibles brownish-black. Face with narrow



Figs. 9–16. *Cryptocheilus* spp., details of fore wing venation: 9, 10 – *C. oxianus* sp. n.; 11, 12 – *C. carinatus* sp. n.; 13, 14 – *C. taigan* sp. n.; 15, 16 – *C. karamergen* sp. n.; 9, 11, 13, 15 – ♀; 10, 12, 14, 16 – ♂. Scale bar: 1.0 mm.



Figs. 17–24. *Cryptocheilus* spp., male hypopygium: 17, 18 – *C. oxianus* sp. n.; 19, 20 – *C. carinatus* sp. n.; 21, 22 – *C. taigan* sp. n.; 23, 24 – *C. karamergen* sp. n.; 17, 19, 21, 23 – ventral view; 18, 20, 22, 24 – lateral view. Scale bar: 0.5 mm.

brownish spots confined to lower part of inner orbitae. Antennae and legs black except for slightly lighter brownish-black tarsi I–III. Color of wings and pubescence as in female, but lower part of face with greyish pubescence. Length 9.5–12.0 mm.

Other material examined. "Kirgh., In. Tien–Shang, Kokomeren r. valley, 1800 m, nr. Kyzyl–Oi, D. Milko, 27.07.1993" – 1 ♀; "Yarodar 4 km E Arslanbob, Ferghana Mt. R. (N), H=1300 m, 15 X 1992" – 1 ♀; "Arpatuk, Kirg., 1400 m. 41°23.3'N 73°06'E, Ferghana Mt. R. (N–part). S. Zonstein, 11.07.1993" – 1 ♂; "Ferghana Mt. R., n. part, Karaungur r., Kirghizia, 41°31'N 73°02'E, 1800 m. S. L. Zonstein, 16 VII 1995" – 3 ♂, 1 ♀; "Kirghizia, Tchatkal Mt. R., Khodzha–Ata river canyon, 41°50'N 71°56'E, 1400 m, S. Zonstein, 23. 08. 1998" – 2 ♀.

Distribution: Southern Kyrgyzstan.

Habitat and biology. The species occurs mainly in semi-humid and humid biotopes in midlands and highlands (broad-leaved and coniferous forests, different types of meadows) without strong biotopic localization. One female was collected with prey – immature specimen of *Zoropsis kirghisicus* Ovtchinnikov et Zonstein (Zoropsidae). Few specimens were occurred on the flowers of *Ferula* spp., one male was taken from the flowers of *Prangos pabularia* Lindl. (Apiaceae = Umbrellifera).

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Резюме

Зонштейн С. Л. Новые и малоизвестные среднеазиатские виды дорожных ос рода *Cryptocheilus* Panzer, 1806 (Hymenoptera, Pompilidae). I.