

Notes on systematics of the genus *Aprostocetus* Westwood, 1833
(Hymenoptera: Eulophidae)
with description of a new species from Uzbekistan

Заметки по систематике рода *Aprostocetus* Westwood, 1833
(Hymenoptera: Eulophidae)
с описанием нового вида из Узбекистана

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КЛЮЧЕВЫЕ СЛОВА: Hymenoptera, Eulophidae, *Aprostocetus ferganicus*, sp.n., Узбекистан.

ABSTRACT: A brief historical review of systematics of the genus *Aprostocetus* Westwood, 1833 is given. *Aprostocetus ferganicus*, sp.n. is described from Uzbekistan and compared to *A. forsteri* Walker, 1847.

РЕЗЮМЕ: Дан краткий исторический обзор систематики рода *Aprostocetus* Westwood, 1833. Из Узбекистана описан *Aprostocetus ferganicus*, sp.n., который сравнивается с *A. forsteri* Walker, 1847.

The genus *Aprostocetus* Westwood, 1833 belongs to the subfamily Tetrastichinae. Walker [1838–1839] described most of the species of the Tetrastichinae as members of the genus *Cirrospilus* Westwood, 1832. Therefore Walker might not consider *Aprostocetus* as a valid genus. In 1846 he transferred the described species to the genus *Tetrastichus* Haliday, 1844, which was initially proposed for a single species, *Cirrospilus attalus* Walker, 1839. It is uncertain why Walker ignored the generic name *Tetrastichus* published by himself in 1842 (type species: *Cirrospilus lycidas* Walker, 1839).

Graham [1961] placed nearly all the European species of the Tetrastichinae in the genus *Aprostocetus* (s.l.). In this paper *Aprostocetus* Westwood was recognized as a generic name including *Tetrastichus* Haliday and *Tetrastichus* Walker. However, many entomologists had an opinion to preserve *Tetrastichus* Haliday. In 1965 the International Commission of Zoological Nomenclature decided that the name *Tetrastichus* Walker, 1842 was invalid. Domenichini [1966] accepted *Tetrastichus* Haliday, 1844 for both *Aprostocetus* Westwood, 1833 and *Tetrastichus* Walker, 1842. Kostjukov [1977] discussed morphology, types of parasitism, host-parasite

relationships of the genus *Tetrastichus* (s.l.) containing 17 subgenera.

Graham [1987] published the revision of European Tetrastichinae with 28 valid genera including *Tetrastichus* Haliday, 1844 and *Aprostocetus* Westwood, 1833 with the following subgenera: *Tetrastichodes* Ashmead, 1887, *Ootetrastichus* Perkins, 1906, *Coriophagus* Graham, 1987, *Chrysotetrastichus* Kostjukov, 1977, and *Aprostocetus* Westwood. Kostjukov [2004] restored the generic status of the *Tetrastichodes*, *Ootetrastichus*, *Hyperteles* Forster, 1856 and *Synthomosphyrum* Forster, 1878. He also considered *Chrysotetrastichus* and *Coriophagus* as separate genera and transferred the *aurantiacus* group to the genus *Stepanovia* Kostjukov, 2004.

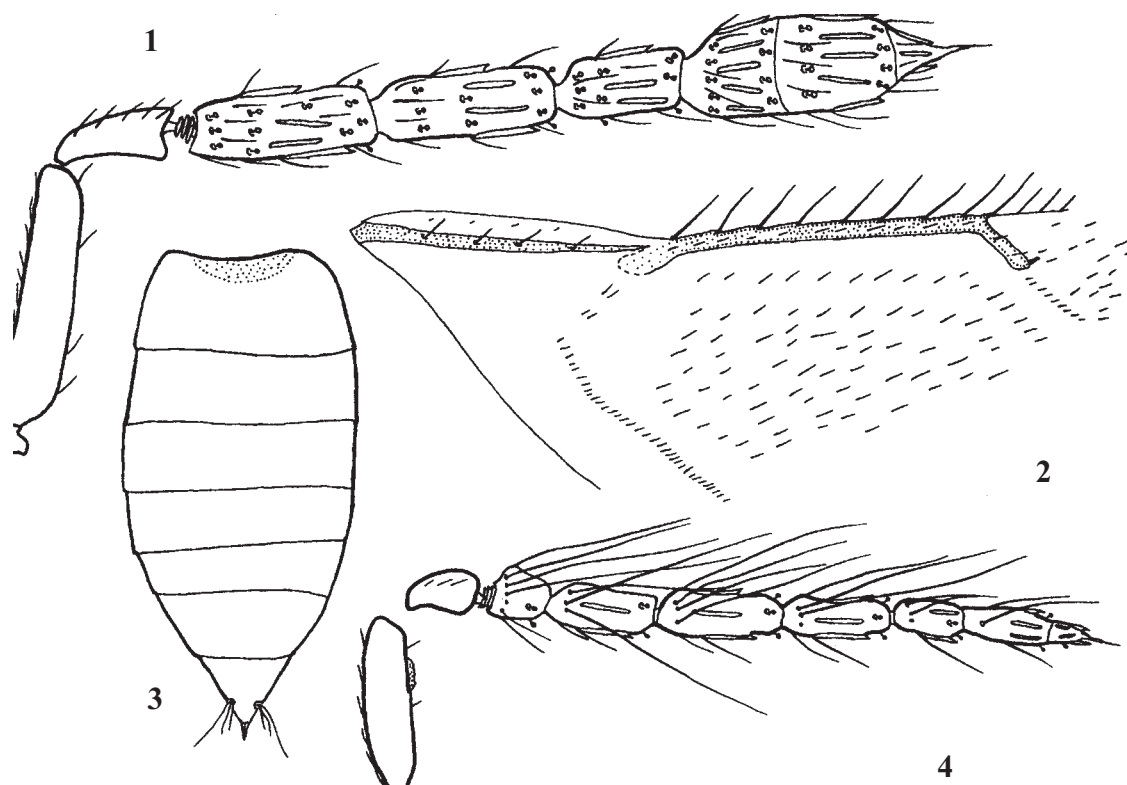
A new species of the genus *Aprostocetus* from Uzbekistan, *Aprostocetus ferganicus* sp.n., is described below.

Following abbreviations are used in the text: POL — postero-ocellar length, the shortest distance between lateral ocelli; OOL — oculo-ocellar length, the shortest distance between lateral ocellus and eye margin; OD — major diameter of lateral ocellus; F₁, F₂, F₃, F₄ — funicular segments of antenna; C₁, C₂, C₃ — claval segments of antenna; SM — submarginal vein of forewing; M — marginal vein of forewing; ST — stigmal vein of forewing.

Aprostocetus ferganicus
Kostjukov et Khomchenko, sp.n.

Figs. 1–4.

TYPE MATERIAL. Holotype ♀: Uzbekistan, Fergana distr. 20 km. SE of Kokand. Ex *Salsola* sp. 24–25.09.1994 (Krivokhatsky). Paratypes, 1 ♀, 1 ♂, same label. Holotype and paratype ♂ are deposited in the collection of the Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia); paratype ♀ — in the collection of Zoological Museum of the Moscow State University - ZMMU (Moscow, Russia).



Figs 1–4. *Aprostocetus ferganicus* sp.n.: 1 — antenna, ♀; 2 — base of fore wing; 3 — metasoma, ♀; 4 — antenna, ♂.
 Рис. 1–4. *Aprostocetus ferganicus* sp.n.: 1 — усик, ♀; 2 — основание переднего крыла; 3 — брюшко, ♀; 4 — усик, ♂.

DESCRIPTION. Female (holotype). Head 2.4 times as broad as long, slightly broader than mesoscutum and as broad as high. POL 1.4 OOL; OOL 1.5 OD. Eyes 1.4 times as long as broad. Malar space 0.9 eye length, malar sulcus slightly curved. Mouth 1.1 malar space. Scape reaching median ocellus, as long as eye, 3.2 times as long as broad. Pedicel plus flagellum 1.4 breadth of mesoscutum. Pedicel 2.0 times as long as broad, as long as F_1 , F_1 2.5 times as long as broad, F_2 2.5 times as long as broad, F_3 1.8 times as long as broad; clava 1.3 as broad as F_3 and 2.8 times as long as broad (Fig. 1). Mesosoma 1.3 times as long as broad, propodeal slope about 60° . Pronotum short. Mid lobe of mesoscutum 1.1 times as broad as long, without median line, with 4 adnotaular setae on each side, arranged in 1 row. Scutellum 1.3 times as broad as long, submedian lines parallel and situated slightly nearer to lateral lines than to each other, enclosing space 2.0 times as long as broad; setae equal, their length 0.7 distance between submedian lines, anterior pair of setae situated behind the middle. Dorsellum 3.0 times as broad as long, hind margin angulate. Propodeum as long as dorsellum, median carina strong, spiracles small and circular, close to anterior margin of propodeum, callus with 2 setae, hind margin deeply and broadly emarginate. Forewing 2.3 times as long as broad, costal cell slightly shorter than marginal vein, 10.0 times as long as broad; submarginal vein with 3 dorsal setae, marginal vein 3.9 times as long as stigmal vein, with 9 frontal setae which are 0.7–0.9 length of stigmal vein; speculum small, not reaching marginal vein (Fig. 2). Hindwing 5.3 times as long as broad, with obtusely angulate apex, cilia 0.4–0.5 its breadth.

Legs of medium length, hind femora 4.0 times as long as broad, spur of mid tibia 0.8 length of basitarsus, basitarsus of mid and hind legs as long as fourth tarsomere. Metasoma longish-oval (Fig. 3), 1.5 times as long as mesosoma, 1.1 times as mesosoma plus head; extending part of ovipositor sheath less than 0.2 length of hind tibia; longest setae of cercus at least 1.6 times as long as the other ones, slightly curved.

Body yellowish, head yellow, scape black, funicle and clava brown, mandibles reddish, propodeum and metasoma brown-yellowish, legs yellow, fourth tarsomere infuscate, venation yellow. Paratype (♀) more black: face, vertex, pronotum, 0.3 proximal part of mesoscutum, propodeum, metasoma, coxae, proximal half of femora and fourth tarsomere black.

Length 1.2–1.3 mm.

Male. Head 2.4 times as broad as long, 1.2 times as broad as mesoscutum, as broad as high. POL 2.0 OOL; OOL 1.6 OD. Eyes 1.4 times as long as broad. Malar space 0.8 eye length. Mouth 1.05 length of malar space. Scape 0.75 eye length, not reaching median ocellus, 2.75 times as long as broad, with ventral plaque 0.33 length of scape; pedicel 1.8 times as long as broad, slightly longer than F_1 , F_1 hardly longer than broad, 0.55 length of F_2 , F_2 2.4 times as long as broad, slightly shorter than F_3 , as long as F_4 , F_3 2.2 times as long as broad, F_4 2.4 times as long as broad, narrower than F_3 ; clava obviously more narrow than F_4 , as long as $F_3 + F_4$, 5.4 times as long as broad, C_1 about twice as long as broad, 0.45 length of C_2 , C_2 about 3.0 times as long as broad, about twice as long as C_3 , C_3 2.4 times as long as broad, 1.5 times more narrow than C_2 , terminal spine 0.4 length of C_3 , apical setae as long as terminal spine (Fig. 4).

Mesosoma 1.6 times as long as broad, propodeal slope about 65°. Pronotum subconical, 1.8 times as broad as long, 0.5 length of mesoscutum, mid lobe of mesoscutum 1.15 times as broad as long, without median line, with 4 adnotaular setae on each side, arranged in one row. Scutellum 1.3 times as broad as long, 0.6 length of mesoscutum, submedian lines parallel and slightly nearer to lateral lines than to each other, enclosing space 2.5 times as long as broad, anterior setae situated in the middle, as long as posterior setae, their length 0.6 distance between submedian lines. Dorsellum 2.5 times as broad as long, with angulate hind margin. Propodeum 1.6 times as long as dorsellum, with weak median carina, spiracles

small and circular, close to anterior margin of propodeum, callus with 2 setae, hind margin of propodeum narrow, deeply emarginate. Forewing 2.2 times as long as broad, costal cell slightly longer than marginal vein, 14.0 times as long as broad, submarginal vein with 3 dorsal setae, marginal vein 5.6 times as long as stigmal vein.

Body yellowish, antenna brown, propodeum and metasoma brown yellowish, legs yellow, fourth tarsomere infusate. Length 1.0 mm.

DIFFERENTIAL DIAGNOSIS. The new species differs from *Aprostocetus forsteri* Walker in following morphological structures:

Character	<i>A. forsteri</i> Walker	<i>A. ferganicus</i> sp.n.
Female		
F ₁	1.6–2.1 times as long as broad	2.5 times as long as broad
F ₂	1.5–2.0 times as long as broad	2.5 times as long as broad
Clava	2.1–2.4 times as long as broad	2.8 times as long as broad
Mid lobe of mesoscutum	with median line	without median line
Setae of scutellum	subequal, their length slightly less than distance between submedian lines	equal, their length 0.6 distance between submedian lines
Speculum	of moderate size, extending as a wedge below marginal vein and sometimes reaching submarginal vein	small, no extending below marginal vein
Mesoscutum	with reddish blot	without reddish blot
Mid lobe of mesoscutum	with 4–8 adnotaular setae	with 3–4 adnotaular setae
Male		
F ₂	1.8–1.9 times as long as broad	2.4 times as long as broad
Clava	4.3–4.7 times as long as broad	5.4 times as long as broad
C ₂	about twice as long as broad and as long as C ₁	about 3.0 times as long as broad and 2.0 times as long as C ₁
C ₃	1.8 times as long as broad, 0.9 length of C ₂	2.4 times as long as broad, 0.5 length of C ₂

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