

First record of the genus *Kostjukovius* Graham, 1991  
(Hymenoptera: Eulophidae) in Russia, with description  
of a new species from the Russian Far East

Первая находка рода *Kostjukovius* Graham, 1991  
(Hymenoptera: Eulophidae) в России с описанием нового вида  
с российского Дальнего Востока

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KEY WORDS: parasitoids, Tetrastichinae, *Kostjukovius*, Russian Far East, new species.

КЛЮЧЕВЫЕ СЛОВА: паразитоиды, Tetrastichinae, *Kostjukovius*, Дальний Восток России, новый вид.

ABSTRACT. The genus *Kostjukovius* Graham, 1991 is recorded for the fauna of Russia for the first time. A new species, *K. arkharensis* sp.n., from the southeast of Amur Province is described and illustrated. The new species is close to *K. platycephalae* (Kostjukov, 1978) by the scutellum without submedian lines and mid lobe of mesoscutum without median line, but differs from the latter species by the shape of the frontofacial sutures, the shape of pronotum, and by the ratio of the lengths of mid lobe of mesoscutum, scutellum and dorsellum.

РЕЗЮМЕ. Впервые для фауны России приводится род *Kostjukovius* Graham, 1991. Описывается и иллюстрируется новый вид *K. arkharensis* sp.n. с юго-востока Амурской области. Новый вид наиболее близок к *K. platycephalae* (Kostjukov, 1978) по отсутствию продольных срединных борозд на щитике среднеспинки и срединной борозды на щите среднеспинки, но отличается от последнего формой фронтально-лицевых швов, формой переднеспинки и соотношением длин щита среднеспинки, щитика и заднещитика.

### Introduction

The genus *Kostjukovius* Graham, 1991 (type species *Crataepiella platycephalae* Kostjukov, 1978) belongs to the subfamily Tetrastichinae, the largest of the family Eulophidae. Up to now, three species were known in this genus, among them *K. platycephalae* (Kostjukov, 1978) has been described from Moldova [Dyurich, Kostjukov, 1978], *K. grahami* LaSalle, 1994 from the USA

[LaSalle, 1994] and *K. keralensis* Narendran, 2007 from India [Narendran, 2007].

Host and biology are known for *K. platycephalae*, which was reared from the pupae of *Platycephala umbraculata* (Fabricius, 1794) (Diptera, Chloropidae) living in the shoots of *Phragmites australis* ssp. *altissimus* (Bentham) [Dyurich, Kostjukov, 1978], and *K. grahami*, which is associated with pinecones, possibly as a parasitoid of *Dioryctria* Zeller, 1846 (Lepidoptera, Pyralidae) or Cecidomyiidae [LaSalle, 1994].

### Material and methods

The holotype and paratype of the new species are deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia (ZISP).

Morphological terminology follows Graham [1987] and Gibson [1997]. Following abbreviations are used in the text: POL — posterior ocellar line, the shortest distance between the posterior ocelli; OOL — ocello-ocular line, the minimum distance between a posterior ocellus and compound eye margin; F1–F2 — funicular segments; C1–C3 — claval segments; M — marginal vein; ST — stigmal vein and PM — postmarginal vein. The pedicel is measured in lateral view.

Photographs of adult parasitoids were taken with a Canon EOS 70D digital camera mounted on an Olympus SZX10 microscope (Zoological Institute RAS, St. Petersburg).

### Taxonomic part

Family Eulophidae Westwood, 1829  
Subfamily Tetrastichinae Foerster, 1856  
Genus *Kostjukovius* Graham, 1991

*Kostjukovius* Graham, 1991: 167–168.

Type species: *Crataepiella platycephalae* Kostjukov, 1978 (original designation).

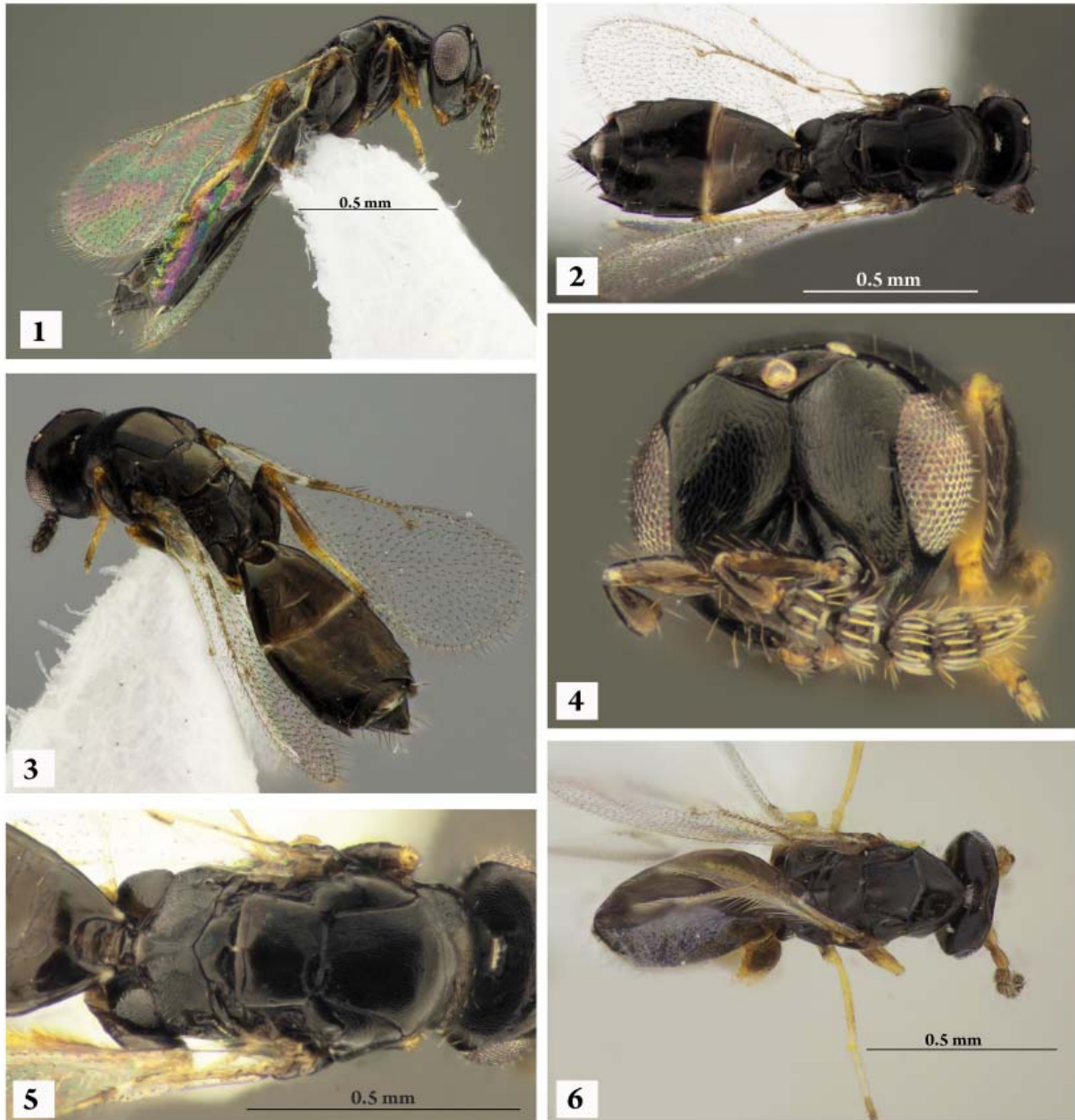
DIAGNOSIS [as per Graham, 1991]. Foramen magnum situated slightly to distinctly above middle of head height. Antennal toruli situated slightly below ventral edge of eye; scape shorter than eye; pedicellus longer than F1; flagellum short, clavate, funicular segments quadrate or transverse; clava ovate; spine as long as C3, apical seta as long as spine. Thorax strongly flattened, much broader than high; pronotum in dorsal view subtriangular. Scutellum broader than long. Propodeum long at sides, longer than dorsellum; median carina distinct;

spiracles circular. Forewing with costal cell about as long as M; SM with 1 dorsal seta. Gaster ovate-lanceolate, acute. Body black, non-metallic.

*Kostjukovius arkharensis* sp.n.

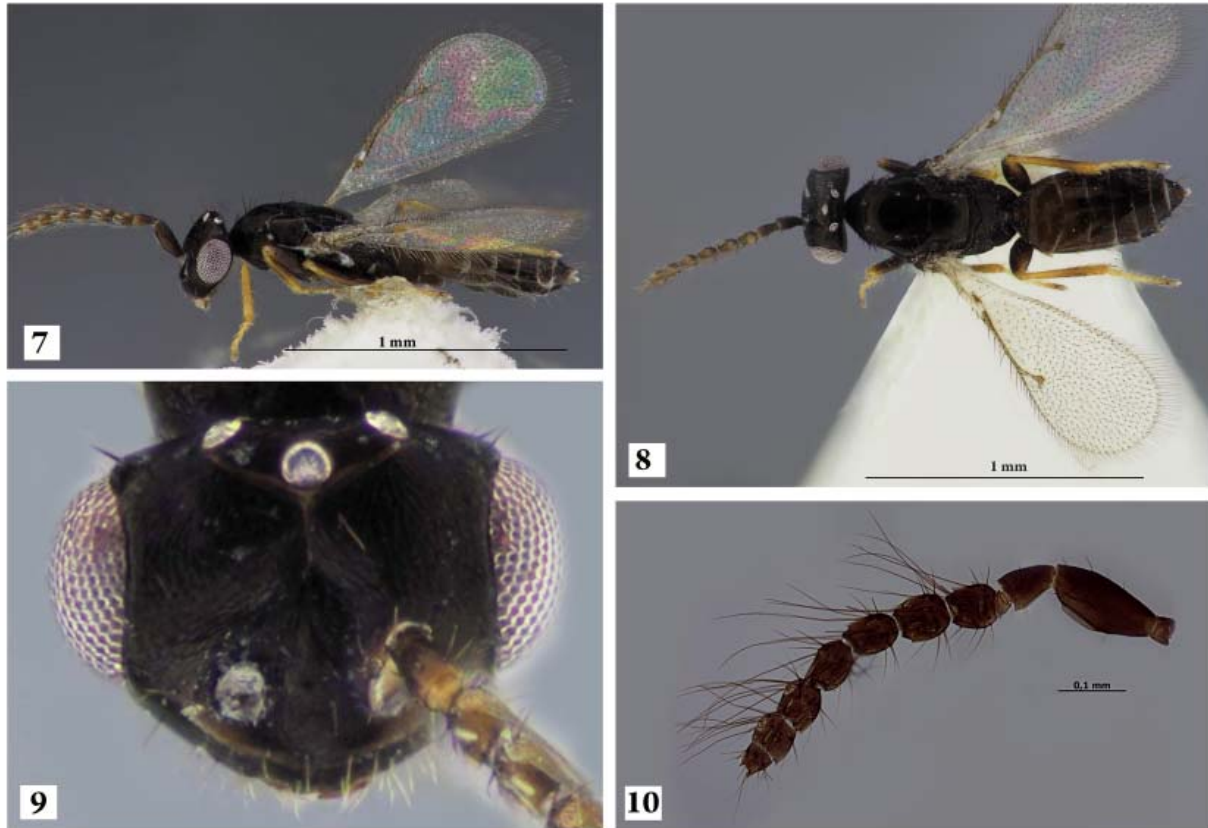
Figs 1–5, 7–10.

MATERIAL: Holotype ♀ (ZISP): Russia, Amur Province: Arkhara Vill., forest, 17.VIII.2022, V.G. Chemyreva. Paratype 1 ♂ (ZISP), Amur Province: 3 km E Uril Vill., Tarmanchukan River, 3–4.VIII.2022, V.G. Chemyreva.



Figs 1–6. *Kostjukovius*, ♀: 1–5 *K. arkharensis* sp.n., 6 — *K. platycephalae*: 1–3, 6 — habitus (1 — lateral view; 2, 6 — dorsal view; 3 — dorso-lateral view); 4 — head (frontal view); 5 — mesosoma (dorsal view).

Рис. 1–6. *Kostjukovius*, ♀: 1–5 *K. arkharensis* sp.n., 6 — *K. platycephalae*: 1–3, 6 — габитус (1 — вид сбоку; 2, 6 — вид сверху; 3 — вид сверху-сбоку); 4 — голова (вид спереди); 5 — мезосома (вид сверху).



**Figs 7–10.** *Kostjukovius arkharensis* sp.n., ♂, 7–8, habitus (7 — lateral view; 8 — dorsal view); 9 — head (frontal view); 10 — antenna.  
**Рис. 7–10.** *Kostjukovius arkharensis* sp.n., ♂, 7–8, габитус (7 — вид сбоку; 8 — вид сверху); 9 — голова (вид спереди); 10 — антенна.

**DESCRIPTION.** Female (holotype) (Figs 1–5). Body length 1.53 mm. Head 1.05 times as broad as mesoscutum, 2.90 times as broad as long (in dorsal view), 1.18 times as broad as high (in frontal view); temples about 0.14 length of eyes; POL 1.43 OOL, OOL 1.75 OD. Eyes 1.86 times as long as broad (dorsal view). Frons with median longitudinal line, frontofacial sutures are widely separated dorsally with the outer arms not extending lateral to the lateral ocellus. Malar space 0.60 height of eye, malar sulcus straight. Mouth 1.36 malar space. Antennal toruli situated slightly below ventral edge of eyes. Antenna with scape 0.83 height of eye, 3 times as long as broad; pedicel 1.75 times as long as broad and 1.40 times as long as F1; F1–F3 = 1.19, 0.96, 0.82 times as long as broad, respectively; clava 1.90 times as long as broad, with C1 0.66 times as long as broad, C2 as long as C1, C3 0.75 length of C2. Pedicellus and flagellum with a few outstanding strong setae.

Mesosoma 1.89 times as long as broad. Pronotum conical anteriorly, with subparallel lateral sides posteriorly, 0.55 (dorsal view) or 0.73 (lateral view) as long as mesoscutum. Mid lobe of mesoscutum as long as broad, median line absent; with marks from two adnotaular setae on each side; surface shiny, with fine and very delicate alutaceous sculpture. Scutellum 0.70 times as long as mesoscutum, 1.29 times as broad as long, without submedian lines, with marks from two pairs of setae in posterior part, surface shiny, like mesoscutum; posterior edge straight and raised above dorsellum. Dorsellum half as long as scutellum, 1.67 times as broad as long. Propodeum medially 1.67 times as long as dorsellum; with spiracles, separated by their diameter from hind edge of metanotum, surface

relatively dull, with fine slightly raised reticulation, median carina distinctly raised. Fore femora thickened, 2.80 times as long as broad; spur of fore tibia slightly longer than basitarsus, apical segment of tarsus about twice as long as each segment; hind femora widened, 2.50 times as long as broad. Forewing 2.50 times as long as broad; costal cell as long as M, SM with 1 dorsal seta; M 3.70 times length of ST, thickened proximally; PM absent, speculum small; parastigma separated from M by a distinct hyaline spot; cilia 1.14 length of ST. Hindwing obtuse, cilia 0.35 breadth of wing.

**Metasoma.** Gaster ovate, broadest a little behind the middle and pointed apically, 1.20 times as long as thorax, about as long as head plus thorax, 1.85 times as long as broad; surface shiny, smooth with very fine superficial alutaceous reticulation; last tergite broader than long; longest seta of each cercus 1.50 length of next longest seta, slightly curved.

**Color.** Head and mesosoma black, gaster black-brown; antenna dark brown; coxae and femora black, tibia brown, fore tibia with spur fuscous apically, tarsi yellowish, except apical segment fuscous. Wings hyaline with venation yellowish-brown.

**Male (paratype) (Figs 7–10).** Differs from female as follows. Body length 1.3 mm. Head and mesosoma with moderately long erect setae. Antenna with scape 0.90 height of eye, 2.20 times as long as broad, its dorsal surface with many rather long setae; ventral plaque 0.37 length of scape; pedicel plus flagellum 1.56 times breadth of mesoscutum; pedicel 1.57 times as long as broad and 1.17 as long as F1; F1 as long as F2, 1.2 times as long as broad, F3 as long as F4, 1.30 times

as long as broad; clava as broad as F4, 1.14 times as long as F3+F4, 2.87 times as long as broad. Fore femora not thickened, 3.50 times as long as broad.

Biology unknown.

ETYMOLOGY. The name of this species is an adjective referring to the area where the holotype was collected, near the village of Arkhara.

COMPARATIVE DIAGNOSIS. *Kostjukovius arkharensis* sp.n. is similar to *K. platycephalae* by scutellum without submedian lines and mid lobe of mesoscutum without median line (Figs 2, 3, 5, 6), clava twice as long as broad (Fig. 4), forewing 2.5 times as long as broad (Fig. 3), mid lobe of mesoscutum, and scutellum, each with two pairs of setae (Figs 5, 6) and gaster longer than thorax (but not as longer as in *K. platycephalae* [Dyurich, Kostjukov, 1978: 24]). The new species differs from *K. platycephalae* in the frontofacial sutures, which are widely separated dorsally (in *K. platycephalae* the sutures are narrowly separated [comparative material: holotype: ♀, Kishinev environs, ex. *Platycephala umbraculata* F., 30.V.1973, G. Dyurich]), scape 3 times as long as broad (2 times in *K. platycephalae*, see Dyurich, Kostjukov [1978: 24, fig. 2]), pronotum conical anteriorly, with subparallel lateral sides posteriorly (fully conical in *K. platycephalae*, see Dyurich, Kostjukov [1978: 23–24, fig. 1]), scutellum 0.7 times as long as mesoscutum (0.5 times in *K. platycephalae*, see Dyurich, Kostjukov [1978: 24, fig. 1]), and dorsellum half as long as scutellum (3 times in *K. platycephalae*, see Dyurich, Kostjukov [1978: 24, fig. 1]).

The new species is close to the other two known species, *K. grahami* and *K. keralensis*, in having the frons with frontofacial sutures widely separated dorsally, but differs from both latter species in having the outer arms of these sutures not extending lateral to the lateral ocellus (Figs 4, 9) (in *K. grahami* and *K. keralensis* the outer arms of frontofacial sutures extend

lateral to the lateral ocellus [LaSalle, 1994: 209; Narendran, 2007: 126]. *K. grahami* and *K. keralensis* also differ from *K. arkharensis* sp.n. and *K. platycephalae* in having the submedian lines on scutellum and the median line on mid lobe of mesoscutum, which are absent in both latter species.

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