

New species and new records of Campopleginae from Bulgaria (Hymenoptera: Ichneumonidae)

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Abstract – In this paper *Echthronomas kolarovi* Vas, sp. nov. (Ichneumonidae: Campopleginae) is described from Bulgaria. Additionally, two other species of Campopleginae, *Casinaria subglabra* Thomson, 1887 and *Nemeritis graeca* Hortsman, 1975, are reported for the first time from Bulgaria. With four figures.

Key words – Balkan Peninsula, *Casinaria*, *Echthronomas*, *Nemeritis*, taxonomy, species description

This paper, as well as a new species described within, is dedicated to Janko A. Kolarov, a Bulgarian taxonomist of Ichneumonidae, for his 75th birthday.

INTRODUCTION

Recently some Bulgarian Ichneumonidae material was donated to the Hungarian Natural History Museum (HNHM, Budapest) for identification, in the frame of a collaboration between the first and second authors. Based on this material, a new species, *Echthronomas kolarovi* Vas, sp. nov. (Ichneumonidae: Campopleginae) is described from Bulgaria in this paper. *Echthronomas* Förster, 1869 is a small genus with 13 valid species known (including the presently described one); 7 of them occur in the Palaearctic region, 5 in the Oriental region, and one in the Nearctic region (YU *et al.* 2016). The Western Palaearctic species were revised by HORSTMANN (1987), the Oriental species by GUPTA

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(1980). Almost all European species of the genus are considered rather rare (HORSTMANN 1987); this may explain why this new species has not been discovered before, as the Bulgarian Ichneumonidae fauna is relatively well known, most of all owing to the taxonomical and faunistical works of J. A. Kolarov (see e.g., KOLAROV 2019). Additionally, two other species of Campopleginae, *Casinaria subglabra* Thomson, 1887 and *Nemeritis graeca* Hortsman, 1975, are reported for the first time from Bulgaria.

Ichneumonidae taxonomy and nomenclature follow YU & HORSTMANN (1997) and YU *et al.* (2016); complete nomenclatural history and list of synonym taxa are not repeated here, since they were given in detail in these references. Morphological terminology follows GAULD (1991) and GAULD *et al.* (1997); however, in the cases of wing veins the corresponding terminology of TOWNES (1969) is also indicated. Identifications were made by the first author, based on CUSHMAN (1924), TOWNES (1970), HORSTMANN (1975), GUPTA (1980), KASPARYAN & DBAR (1985), HORSTMANN (1987, 1994), SHENG & GE (1994), VARGA (2014), DI GIOVANNI & RIEDEL (2017), RIEDEL (2018), VAS (2018), and on checking the necessary type material.

RESULTS

Taxonomy

Subfamily: Campopleginae Förster, 1869

Genus: *Echthronomas* Förster, 1869

Type species: *Casinaria ochrostoma* Holmgren, 1860

Diagnosis: TOWNES (1970), GUPTA (1980), HORSTMANN (1987), VARGA (2014)

Echthronomas kolarovi Vas, sp. nov.

(Figs 1–4)

Type material – Holotype: female, Bulgaria, Stara Planina Mts., E Skraneva village, 42°57'36.4"N, 23°49'37.9"E, 510m, 2019.07.0–31., leg. I. Todorov, Malaise trap in oak forest, specimen card-mounted, Id. No. HNHM-HYM 155115. The holotype is deposited in HNHM.

Diagnosis – The new species can be reliably identified by the following character states in combination: antenna with 38 flagellomeres, preapical flagellomeres quadrate; gena in dorsal view 0.35× as long as eye width, strongly, linearly narrowed behind eyes; propodeum granulate without punctures, propodeal carinae absent; fore wing with petiolate areolet; second tergite

1.4× as long as its apical width; scapus and pedicellus ventrally yellow; metasoma black with middle tergites predominantly yellow; hind coxa orange, apically and ventrally extensively blackish; femur orange, apically narrowly darkened; tibia ivory except basal 0.1 and apical 0.4 blackish.



Figures 1–4. *Echthronomas kolarovi* Vas, sp. nov., holotype: 1 = lateral habitus; 2 = metasoma, dorsal view; 3 = head, frontal view; 4 = head, dorsal view

Description – Female (Figs 1–4). Body length ca. 8 mm, fore wing length ca. 6 mm.

Head: Antenna with 38 flagellomeres; first flagellomere ca. 4× as long as its apical width; preapical flagellomeres quadrate. Head with moderately short, whitish hairs, transverse, matt, finely granulate with weak, indistinct punctures. Ocular-ocular distance 0.6× as long as ocellus diameter, distance between lateral ocelli 1.3× as long as ocellus diameter. Inner eye orbits slightly indented opposite toruli, parallel. Gena very short, in dorsal view ca. 0.35× as long as eye width, very strongly, linearly narrowed behind eyes. Occipital carina complete, reaching hypostomal carina distinctly before base of mandible; hypostomal carina slightly elevated. Frons flat, distinctly impressed above toruli, median longitudinal carina obsolescent, indistinct. Face and clypeus slightly convex in profile. Clypeus very weakly separated from face, its apical margin convex, sharp. Malar space 0.5× as long as basal width of mandible. Mandible short, lower margin with wide

flange from base towards teeth, flange gradually narrowed before teeth; upper mandibular tooth slightly longer than lower tooth.

Mesosoma: Mesosoma matt with short, dense, greyish hairs. Pronotum granulate, with transverse and diagonal wrinkles on ventral half, epomia distinct. Mesoscutum granulate with weak, superficial traces of punctures anteriorly, $1.1\times$ as long as wide, convex in profile; notaulus not developed. Scuto-scutellar groove wide and deep. Scutellum granulate, convex in profile, without lateral carinae. Mesopleuron granulate, anterior to speculum and along anterior margin weakly reticulate-rugose, ventrally with barely discernible traces of punctures; speculum finely granulate, matt. Epicnemial carina moderately strong, pleural part bent to anterior margin of mesopleuron reaching it below its middle height, transversal part (i.e., the part at the level of sternaulus running through the epicnemium to the ventral edge of pronotum) not developed, ventral part (i.e., behind fore coxae) not elevated. Sternaulus indistinct. Posterior transverse carina of mesosternum complete, distinctly elevated, medially widely excised. Metanotum granulate, $0.5\times$ as long as scutellum. Metapleuron granulate with barely discernible traces of punctures, without juxtacoxal carina; submetapleural carina complete, elevated. Pleural carina of propodeum complete; propodeal spiracle oval, separated from pleural carina by $0.4\times$ its length, connected to pleural carina by a distinct ridge. Propodeum convex in profile, entirely granulate without punctures, posterior half medially slightly impressed. Propodeal carinae absent, except vestigial traces of lateral sections of posterior transverse carina. Fore wing with rectangular, petiolate areolet, *3rs-m* present, second recurrent vein (*2m-cu*) very close to distal corner of areolet; distal abscissa of *Rs* straight; nervulus (*cu-a*) postfurcal by about its width, vertical; postnervulus (abscissa of *Cu1* between *1m-cu* and *Cu1a* + *Cu1b*) intercepted slightly above its middle by *Cu1a*; lower external angle of second discal cell acute. Hind wing with nervellus (*cu-a* + abscissa of *Cu1* between *M* and *cu-a*) strongly reclivous, not broken, not intercepted by discoidella (*Cu1*); discoidella spectral, proximally not connected to nervellus. Coxae finely coriaceous with barely discernible traces of punctures. Hind coxa conspicuously large. Hind femur conspicuously stout, $4.5\times$ as long as high. Inner spur of hind tibia ca. $0.9\times$ as long as first tarsomere of hind tarsus. Hind basitarsus with a midventral row of closely spaced, short hairs. Tarsal claws little longer than arolium, basal two-third pectinate.

Metasoma: Metasoma compressed, finely coriaceous to shagreened, with barely discernible traces of punctures, and with dense, short, greyish hairs. First tergite ca. $2.8\times$ as long as width of its apical margin; glymma small, deep; dorsomedian carinae of first tergite obsolete. Second tergite $1.4\times$ as long as its apical width; thyridium oval, its distance from basal margin of tergite little shorter than its length. Third tergite quadrate. Posterior margins of apical tergites not excised. Ovipositor sheath as long as apical depth of metasoma; ovipositor straight.

Colour: Flagellum brown, ventrally light brown, scapus and pedicellus dorsally dark brown, ventrally yellow. Head black with extensive yellow colouration, face, clypeus, malar space, frontal orbits and mandible yellow, mandibular teeth reddish brown; palpi pale yellowish. Mesosoma black, except tegula ivory and posterior corner of pronotum with a small, yellowish spot. Metasoma black with extensive yellow colouration: first segment black, apical 0.25 yellow; second tergite basally blackish, posterior third medially, posterior two-third laterally yellow; third tergite almost entirely yellow, basally narrowly blackish; fourth tergite predominantly yellow, basally with a triangular blackish patch medially extending to middle of tergite; fifth tergite black, its laterotergite yellow; following tergites black with narrow, indistinctly paler posterior margins; ventral plica yellowish; ovipositor sheath blackish. Wings subhyaline, wing veins and pterostigma brown. Fore and middle legs, including coxae, ivory to pale yellow, except femora light orange and distalmost tarsomeres brownish. Hind leg: coxa orange, apically and ventrally extensively blackish; trochanter yellowish, dorsal side basally brownish; trochantellus yellowish; femur orange, apically narrowly darkened; tibia bicoloured, ivory except basal 0.1 and apical 0.4 blackish; tibial spurs ivory; tarsus dark brown.

Male: Unknown.

Distribution – Bulgaria.

Etymology – The new species is named to honour Janko Angelov Kolarov, a Bulgarian taxonomist of Ichneumonidae.

Remarks on identification – Due to its extensively yellow head and absent propodeal carinae, the new species is most similar to the European species *Echthronomas facialis* (Thomson, 1887). However, it can be readily distinguished from *E. facialis* by its distinctly lighter coloured legs and metasoma, and by its more elongate second tergite. By using the identification key in the latest revision of the genus (HORSMANN 1987), the new species keys out with *E. facialis* at the first half of couplet 1, however without complete match to the characters listed there. A complementary affix to the identification key in HORSMANN (1987) is given below to distinguish these species.

- 1 Second tergite almost quadrate, 1.05–1.10× as long as its apical width, third tergite transverse; propodeum with discernible punctures at least anteriorly; hind coxa entirely black; hind femur entirely black; metasoma black except posterior 0.2–0.3 of second and third tergites reddish brown to brownish yellow (cf. VARGA (2014: fig. 2b), DI GIOVANNI & RIEDEL (2017: fig. 1a)) *Echthronomas facialis* (Thomson, 1887)
- Second tergite elongate, 1.4× as long as its apical width, third tergite quadrate; propodeum without punctures; hind coxa orange, apically and ventrally blackish; hind femur orange, apically narrowly darkened; metasoma black with extensive yellow colouration, apical 0.25 of first segment yellow, posterior third medially and posterior two-third laterally of second tergite yellow, third tergite almost entirely yellow, fourth tergite predominantly yellow, basally with a triangular blackish patch medially extending to middle of tergite, laterotergite of fifth tergite yellow (Figs 1–2) *Echthronomas kolarovi* Vas, sp. nov.

Faunistics

Casinaria subglabra Thomson, 1887

Material examined – Bulgaria, W Bezden vill., 42°52'53"N, 23°05'55"E, 561m, 2016.09.11–10.09., leg. N. Karaivanov, Malaise trap, two females.

Remarks – First record for Bulgaria. This species is known from several countries of the Western Palaearctic region (RIEDEL 2018, VAS 2018).

Nemeritis graeca Hortsmann, 1975

Material examined – Bulgaria, Apriltsi, 42°50'37"N, 24°55'06"E, 557m, 2014.05.27., leg. S. Beshkov, UV light trap, one female.

Remarks – First record for Bulgaria. This species was described and known from Greece (HORSTMANN 1975). ŠEDIVÝ (1989) reported a questionable, literature-based record from "Czechoslovakia", which was later omitted by HOLÝ & ZEMAN (2018).

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Egy tudományra új fürkészdarázs-faj és új előfordulási adatok Bulgáriából (Hymenoptera: Ichneumonidae: Campopleginae)

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Összefoglalás – Jelen munkában az *Echthronomas kolarovi* Vas, sp. nov. leírását és további két fürkészdarázs-faj, a *Casinaria subglabra* Thomson, 1887 és a *Nemeritis graeca* Hortsman, 1975 első bulgáriai előfordulási adatait közlik a szerzők. Négy ábrával.

Kulcsszavak – Balkán-félsziget, fajleírás, *Casinaria*, *Echthronomas*, *Nemeritis*, taxonómia

ÁBRAMAGYARÁZATOK

1–4. ábra. *Echthronomas kolarovi* Vas, sp. nov., holotípus: 1 = habitus, oldalnézet; 2 = metasoma, felülnézet; 3 = fej, frontális nézet; 4 = fej, felülnézet

* Levelező szerző.