

## Full Length Research Paper

# Exploring *Camptothlipsis* Enderlein (*Braconidae*: *Agathidinae*) in Saudi Arabia: Description of a New Species and Distribution Records

Hamed Ali Ghramh

Department of Biology, Faculty of Sciences, King Khalid University, P. O. Box, 9004, Abha-61413, Kingdom of Saudi Arabia. E-mail: [hamidkku@gmail.com](mailto:hamidkku@gmail.com). Tel: +966-548368168.

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This paper gives a detailed description of *Camptothlipsis arabica* sp. nov., (Hym., Braconidae, Agathidinae) is described in Saudi Arabia. The diagnostic morphological characters of the new species are outlined and they are compared with those of the related species. This paper is the first report given of the genus *Camptothlipsis* Enderlein in Saudi Arabia.

**Key words:** *Camptothlipsis*, Braconidae, new species, new record, Saudi Arabia.

## INTRODUCTION

The genus *Camptothlipsis* Enderlein is characterized by vein r-m of fore wing absent which results in second submarginal cell absent; first metasomal tergite and often also metapleuron granulate and dull, tergite distinctly convex medially and dorsal carinae absent; precoxal sulcus about 0.6 times as long as mesopleuron and sculptured or superficially impressed and smooth (van Achterberg and Long, 2010). The recent taxonomic history of the genus has been rather unstable largely due to differing opinions on the status and definition of several related genera. Simbolotti and van Achterberg (1992) synonymised *Camptothlipsis* with *Bassus*, as did Sharkey et al. (2006). Sharkey et al. (2009) reinstated it as a valid genus, only to have it synonymised with *Baeognatha* by Stevens et al. (2010). Most recently, Achterberg and Long (2010) have removed it from synonymy and recognized it as a valid taxon.

*Camptothlipsis* is known from Ethiopian, Holarctic and Oriental regions. So far 19 species has been described

(Stevans et al., 2011; van Achterberg and Long, 2010; Sharkey et al., 2009; Yu et al., 2005). Here, the genus is recorded for the first time from Saudi Arabia resulting into the description of a new species.

## MATERIALS AND METHODS

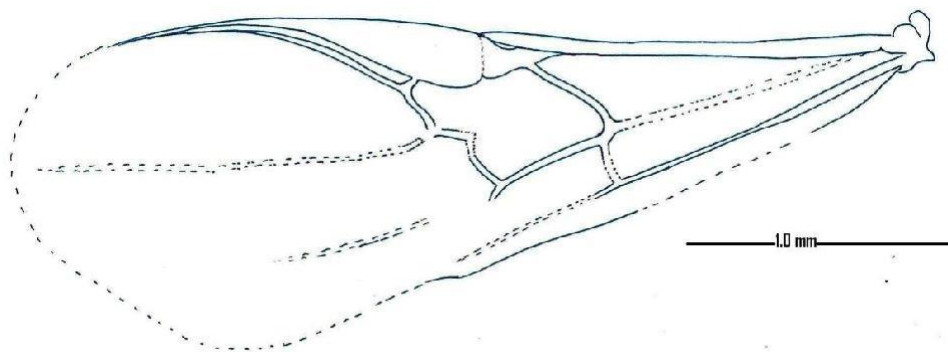
Specimens were collected by malaise traps from different regions of Khamis Mushait, Saudi Arabia. The samplings were conducted between 2010 and 2011 in the Asir Province. The collected specimens were killed with ethyl acetate and mounted on triangular labels. In addition to the mentioned collecting methods, some preserved specimens in the collections of King Khalid University were checked and used in this paper. The types of new species are deposited in Department of Zoology, King Khalid University, Abha, KSA and King Saud Museum of Arthropods (KSMA) and King Khalid University, Biology Department Museum, Abha, KSA (KKUMA).

The external morphology was observed under a stereoscopic microscope Nikon SMZ1200 and metric characters were measured with an ocular micrometer. To observe the detailed characters of the wings, these fore and hind wings were detached from the body, cleared and placed in Canada Balsam, and observed under a compound light microscope. The morphological terms used follow the pattern used by Achterberg (1993). Classification, nomenclature and distributional data of Braconidae suggested by Yu et al. (2006) have been followed. Absolute measurements are used for body length in mm.

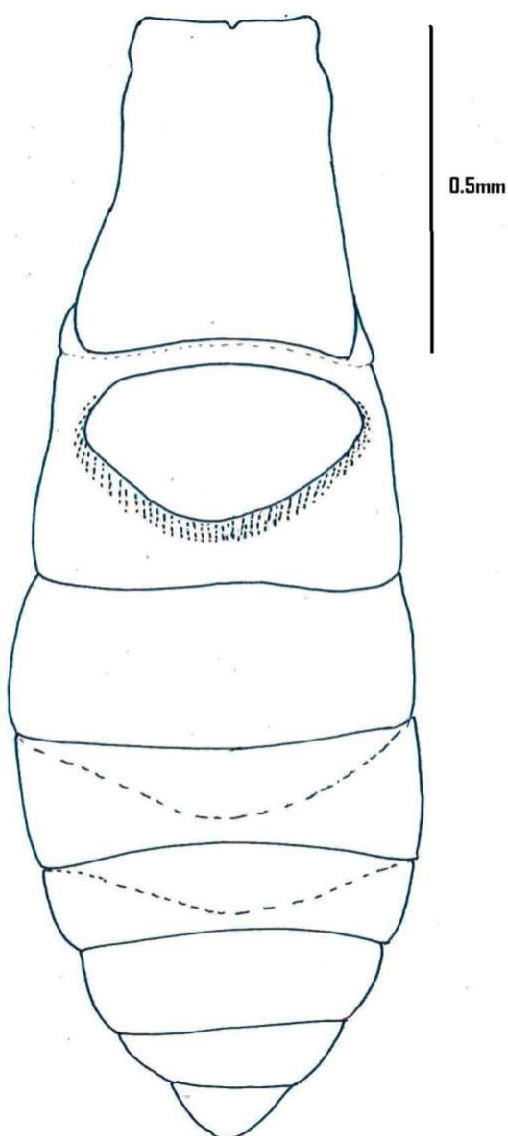
## Description (*Camptothlipsis arabica* sp. nov.,)

**Female:** Holotype, ♀, length of body 3.7 mm, of fore wing 3.1 mm.

**Abbreviations:** C, Costa; SC, subcosta; R, radius; r, transverse radial vein; SR1, first sectio radii; 2-SR, second sectio radii; 3-SR, third sectio radii; M, media; r-m, transverse radio-medial vein; M+CU, medio-cubital vein; POL, postocellar line; OD, maximum diameter of ocelli; OOL, oculo-ocular line; KSMA, King Saud University Museum of Arthropods, Riyadh; KKUMA, King Khalid University, Biology Department Museum, Abha, KSA.



**Figure 1.** *Camptothlipsis arabica* sp. nov., (Holotype, female). Female fore wing.



**Figure 2.** *Camptothlipsis arabica* sp. nov., (Holotype, female). Female metasoma dorsal view.

**Colour:** Yellowish-brown; antenna, hind tibia apically, metapleuron ventrally, propodeum, first tergite and ovipositor sheath dark brown; first tergite laterally, hind tarsi and remainder of legs brownish-yellow; wing venation pale brown, but pterostigma brown (except small pale brown patch basally); wing membrane subhyaline.

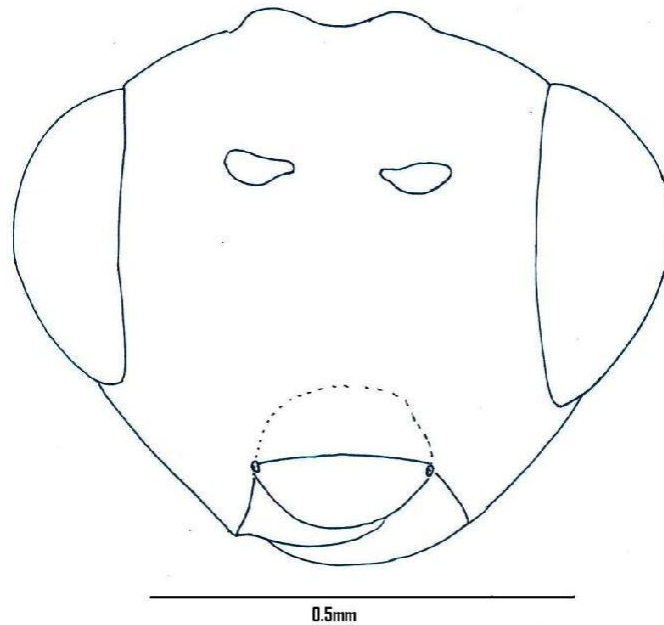
**Head:** Antennal segments are 29; the length of third segment is 1.1 times the fourth segment; the length of the third, fourth, and penultimate segments is 3.4, 3.0, and 1.7 times their width, respectively; the length of the apical antennal segment is 1.2 times as long as the penultimate segment; maxillary palp is 0.6 times height of head; malar space is 3.3 times as long as basal width of mandible (Figure 1); in dorsal view the length of eye is 2.5 times temple; the temple is roundly narrowed posteriorly (Figure 2); the ocelli are in a rather high triangle, POL:AOL:OOL = 6:3:8; face is somewhat smooth and shiny and its width is 1.1 times height of face and clypeus combined; frons is smooth and shiny without any distinct punctation; vertex and temple are nearly smooth.

**Mesosoma:** The length of mesosoma is 1.5 times its height; pronotal trough is largely smooth and shiny; the area near lateral carina of mesoscutum is weakly crenulate; lateral lobes of mesoscutum are flat posteriorly, sparsely and finely punctuated; middle lobe of mesoscutum is almost smooth and shiny; notauli are complete and finely crenulated, united far in front of scutellar sulcus and medio-posterior groove which is medium-sized; scutellar sulcus is narrow with five carinae; scutellum is smooth and shiny; precoxal sulcus is absent anteriorly and the remainder is finely crenulated; the mesopleuron below the precoxal sulcus has sparse, fine punctures; the mesopleuron above the precoxal sulcus is smooth and shiny; the metapleuron and propodeum are distinctly granulated, without distinct rugosity medially.

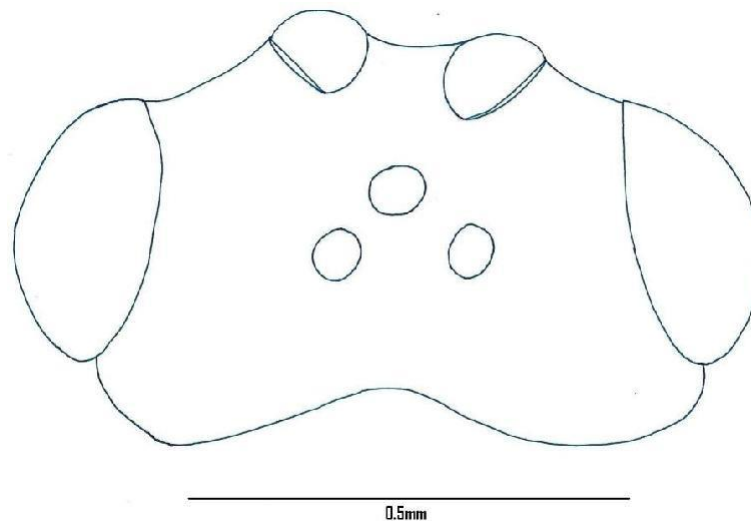
**Wings:** Fore wing: marginal cell narrow (Figure 3); vein SR1 straight;  $r: 3\text{-SR}+\text{SR1} = 3:48$ ; subbasal cell evenly setose. Hind wing: vein M+CU 0.8 times as long as vein 1-M.

**Legs:** The length of hind femur, tibia, and basitarsus are 5, 6.1, and 9.5 times their width, respectively; hind femur (as remainder of legs) has short setae; the length of the outer and inner spur of middle tibia is 0.5 and 0.7 times middle basitarsus respectively; the outer side of the middle tibia has a cluster of 7 pegs of which 2 are at the apex; the length of the outer and inner spur of hind tibia is 0.3 and 0.5 times hind basitarsus respectively; and the tarsal claw has lobe.

**Metasoma:** The length of the first tergite is 1.4 times its apical width (Figure 4); the first and second tergites are granulated; the second tergite has a distinctly impressed transverse groove; the remainder



**Figure 3.** *Camptothlipsis arabica* sp. nov., (Holotype, female). Female head frontal view.



**Figure 4.** *Camptothlipsis arabica* sp. nov., (Holotype, female). Female head dorsal view.

of metasoma is smooth; the ovipositor sheath is 0.9 times as long as the fore wing.

**Variation:** Length of body is about 2.9 to 3.4 mm, while the length of the fore wing is about 2.4 to 3.2 mm; the antenna of both sexes is 28 to 29; POL:OD:OOL = 5-6:4:8-10 (female); venation (including pterostigma) is pale to dark brown; the first tergite is yellowish-brown to largely dark brown.

**Male:** Unknown.

**Distribution:** Asir Region, Khamis Mushait, Saudi Arabia.

**Host:** Unknown

#### **Material examined**

**Holotype:** Female (on card), 11.vii.2010, Asir region, Khamis Mushyat, Saudi Arabia, coll. Hamed, (Malaise trap) [KKUMA].

**Paratypes:** Two females (on card) with same data as holotype [KKUMA, one paratype deposited in KSMA].

**Etymology:** The species name is derived from its type locality.

## DISCUSSION

According to Achterberg and Long, (2010) *Camptothlipsis hanoiensis* is different from its nearest species from Vietnam in the following way: the length of eye is 2.5 times temple dorsally in the species from Vietnam, while the length of eye is 4.0 times temple dorsally in *C. hanoiensis*; face is somewhat smooth and shiny with its width being 1.1 times height of face and clypeus combined in the species from Vietnam, while face is sparsely and finely punctated with its width being 1.3 times height of face and clypeus combined in *C. hanoiensis*; the middle lobe of mesoscutum is almost smooth and shiny in the species from Vietnam, while the middle lobe of mesoscutum has dense punctures anteriorly, and is sparsely punctated posteriorly in *C. hanoiensis*; the scutellum is smooth and shiny in the species from Vietnam, while the scutellum is sparsely and finely punctuated in *C. hanoiensis*; precoxal sulcus is absent anteriorly and the remainder is finely crenulated in the species from Vietnam, just as it is in *C. hanoiensis*; the second tergite has a distinctly impressed transverse groove in the species from Vietnam, while the second tergite has a superficial transverse groove basally in *C. hanoiensis*.

The new species has few similarities with *Camptothlipsis gossypiella* (Gupta and Bhat, 1974) from India because their propodia are finely rugose basally; the *C. dravida* (Gupta and Bhat, 1974) from India is very similar to the new species because its propodeum is granulated; its first tergite is 1.3 to 1.4 times as long as the width apically and the transverse groove of the second tergite is distinctly developed, but the length of the malar space is 2.5 times the basal width of mandible; the frons is very finely punctuated, while the metapleuron is weakly granulated.

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## REFERENCES

- Achterberg CV (1993). Illustrated key to the subfamilies of the Braconidae (Hymenoptera: Ichneumonoidea). Zool. Verh. Leiden 288: 1-189.
- Achterberg, CV, Long KD (2010) Revision of the Agathidinae (Hymenoptera, Braconidae) of Vietnam, with the description of forty-two new species and three new genera. ZooKeys, 54, 1–184.
- Gupta VK, Bhat S (1974). The oriental species of *Earinus* and *Camptothlipsis* (Hymenoptera: Braconidae). Oriental Insects, 8(2):219–232.
- Sharkey MJ, Laurence NM, Quicke DLJ, Sharanowski B & Murray D. (2006) Revision of the Agathidinae (Hymenoptera: Braconidae) with comparisons of static and dynamic alignments. Cladistics, 22, 546–567.
- Sharkey MJ, Yu DS, van Noort S, Seltmann K & Penev L. (2009) Revision of the Oriental genera of Agathidinae (Hymenoptera, Braconidae) with an emphasis on Thailand including interactive keys to genera published in three different formats. ZooKeys, 21, 19–54.
- Simbolotti G & van Achterberg CV. (1992) Revision of the west Palaearctic species of the genus *Bassus* Fabricius (Hymenoptera: Braconidae). Zool. Verh. Leiden, 281, 1-80.
- Stevens NB, Austin AD & Jennings JT. (2010) Synopsis of Australian agathidine wasps (Hymenoptera: Braconidae: Agathidinae). Zootaxa, 2480, 1–26.
- Yu, DS., Achterberg, Cvan & Horstmann, K (2006). World Ichneumonoidea 2005. Taxonomy, biology, morphology and distribution [Braconidae]. Taxapad 2006 (Scientific names for information management) Interactive electronical catalogue on DVD/CD-ROM. Vancouver.