

***Bracon polaris* Hellén, redescription of a little known species (Hymenoptera, Braconidae)**

Jeno Papp

Papp, J. 2000: *Bracon polaris* Hellén, redescription of a little known species (Hymenoptera, Braconidae). — Entomol. Fennica 11: 125–128.

Redescription of *Bracon polaris* Hellén, 1959 assigned in the subgenus *Lucobracon* (Fahringer) Tobias. Its taxonomic position and related two species (*Bracon erraticus* Wesmael and *B. flagellaris* Thomson) are presented. With 15 original figures.

Department of Zoology, Hungarian Natural History Museum, pf. 137, H-1431
Jeno Papp, Budapest, Hungary

Received 12 February 1999, accepted 1 February 2000

***Bracon (Lucobracon) polaris* Hellén**

Bracon polaris Hellén, 1959: Not. Entom. 39: 53 ♀ ♂ (syn-type series 1 ♀ and 10 ♂), type locality: "Le. Kilpisjärvi" (Finland), female lectotype (designated by Koponen & Tobias 1989: 24) in Zoological Museum of the University of Helsinki; examined. — Shenefelt 1978: 1526 (literature up to 1959).

Bracon polaris was described on the basis of eleven specimens (one female + ten males). The single female was designated as lectotype by Koponen and Tobias (1989: 24), but the ten males were found to be in a very bad condition inappropriate for paralectotype designation. I had the possibility to examine the type series of *B. polaris* and therefore I can unambiguously confirm Koponen and Tobias' statement (l.c.).

In his time Hellén's original description (1959) more or less satisfied the taxonomic requirements. Considering the present-day requirements, however, there are several external morphological features which need to be known for the distinction of the European (or western Palearctic) *Bracon* species but lacking in the original description.

The present paper gives a detailed redescription of *Bracon polaris* completed with six original line-drawn figures. It is quite evident that the distribution of this species is not restricted to a single locality in Finland, but covers a fairly much larger area. The aim of my paper is to assign the precise taxonomic position as well as to promote the recognition of the distribution of *Bracon polaris*, a species almost obliterated in the braconid literature.

Considering the size of the oral cavity, the dorsal form of the head, the venation of the fore wing (second submarginal cell) and the form of the hind femur the species is classified in the subgenus *Lucobracon* (Fahringer, 1927) Tobias, 1957 within the genus *Bracon* Fabricius, 1804.

Hellén (1957) registered 37 *Bracon* species in Finland, which is about 29% of the European species number known in his time. I am convinced that the true number of the *Bracon* species present in the Finnish fauna is at least twice as high as listed by Hellén. This estimation is based on the species diversity of *Bracon* registered in St. Petersburg region adjacent to SE Finland (Tobias 1986).

Abbreviations applied in the redescription: Eyes — *OOL* = shortest distance between hind ocellus and compound eye. — *POL* = shortest distance between hind two ocelli.

Alar venation — *cu1* = first section of the cubital vein, *cuqu1* = first transverse cubital vein; *d* = discal vein; *n. bas.* basal vein; *n. rec.* = recurrent vein; *r1*, *r2* and *r3* = first, second and third sections of the radial vein; *CU2* = second cubital cell; *D1* = first discal cell.

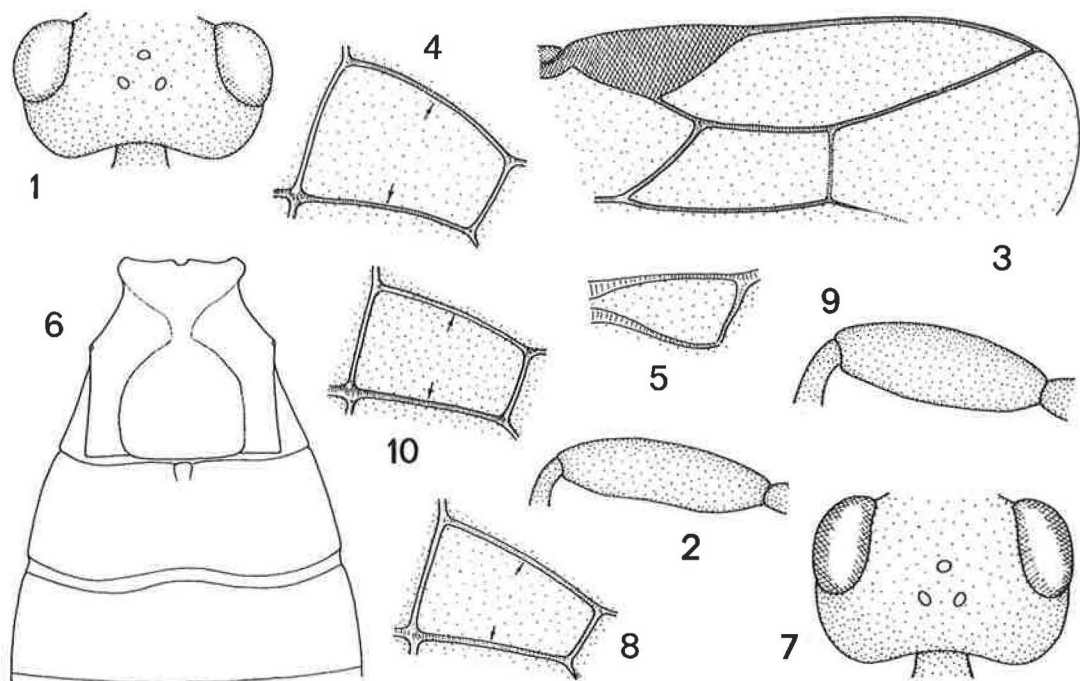
Redescription of the female holotype of Bracon polaris. Antenna as long as body and with 35 antennomeres. Flagellum distally attenuating, first flagellomere 1.6 times and penultimate flagellomere 1.5 times as long as broad. — Head in dorsal view (Fig. 1) transverse, 1.8 times as broad as long, eye nearly twice as long as temple, temple receded, occiput excavated. Ocelli small and almost round, *OOL* twice as long as *POL*. Eye in lateral view 1.45 times as high as wide and 1.6 times as wide as temple, latter slightly broadening ventrally. Malar space about as long as basal width of mandible. Horizontal width of oral cavity 1.5 times as long as shortest distance between eye and margin of cavity. Face shagreened, medi-

ally smooth and shiny. Head polished.

Mesosoma in lateral view 1.5 times as long as high. Notaulix faintly distinct on declivous anterior part of mesonotum. Mesosoma polished. — Hind femur 3.5 times as long as broad and with rather parallel sides (Fig. 2). Hind basitarsus as long as tarsomeres 2–3 and half of fourth tarsomeres combined.

Fore wing somewhat longer than body. Pterostigma (Fig. 3) 2.6 times as long as wide, issuing radial vein from its middle; *r1* one-third shorter than width of pterostigma, *CU2* of usual length, *r2* 1.3 times as long as *cuqu1*, *r3* straight, 1.7 times as long as *r2* and approaching tip of wing. *D1* relatively high, *d* one-fifth longer than *n. bas.* and 1.6 times as long as *n. rec.* (Fig. 4). — Hind wing: submediellan cell as in Fig. 5.

Metasoma about as long as mesosoma. First tergite (Fig. 6) as long medially as broad behind, beyond pair of spiracles weakly broadening, margin of scutum crenulate, scutum behind trans-



Figs. 1–10. — Figs. 1–6. *Bracon (Lucobracon) polaris* Hellén: 1 = head in dorsal view; 2 = hind femur; 3 = distal part of right fore wing; 4 = first discal cell; 5 = submediellan cell of hind wing; 6 = tergites 1–6. — Figs. 7–9. *Bracon (Lucobracon) flagellaris* Thomson: 7 = head in dorsal view; 8 = first discal cell; 9 = hind femur. — Fig. 10. *Bracon (Lucobracon) erraticus* Wesmael: first discal cell.

versely rugose (cf. Fig. 15). Second tergite somewhat longer than third tergite, second tergite three times as broad behind as long medially; suture between tergites 2–3 faintly bisinuate, second tergite rather longitudinally rugulose (cf. Fig. 15) and medially around small polished field with rugae. Further tergites smooth and shiny. Ovipositor sheath long, somewhat longer than hind tibia + tarsus combined.

Antenna black. Head and mesosoma black, metasoma reddish yellow. Labrum (oral cavity), mandible and inner orbit of eyes reddish yellow, palpi brown. First tergite entirely, second tergite medially and metasoma apically black. Coxae black, first trochanter dark brown to brownish, femora and tibiae reddish yellow, distal end of hind tibia and all tarsi brownish. Wings weakly fumous, pterostigma brown, veins opaque brownish.

Taxonomic remark. There are further ten paralectotypic specimens (deposited in the Zoological Museum, Helsinki) which served for the original description (Koponen & Tobias 1989: 24, Hellén 1959), however, the metasoma of all specimens are missing. In view of this damage the specimens in question are unsuitable for redescription.

Host. Unknown.

Distribution. Finland.

Within the subgenus *Lucobracon* (Fahringer,

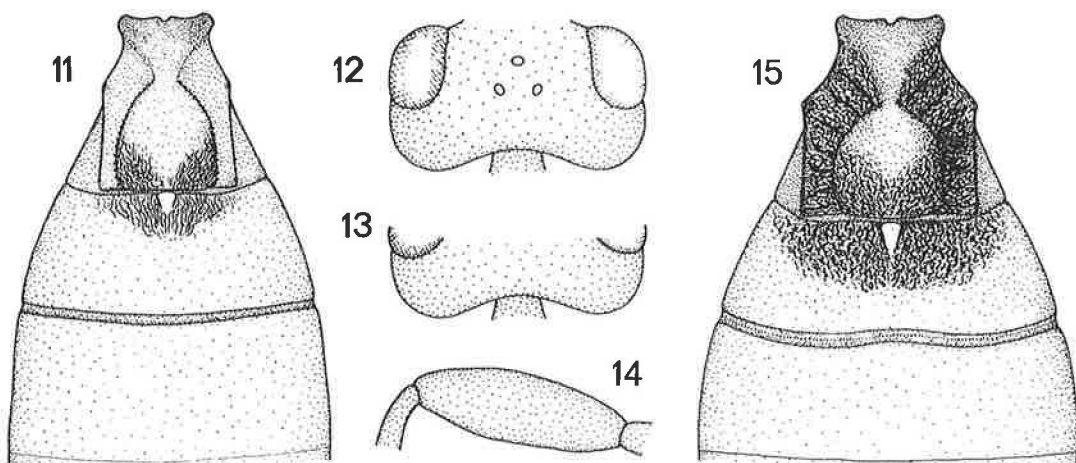
1927) Tobias, 1957 *Bracon polaris* Hellén is nearest to *B. erraticus* Wesmael, 1838 (Palearctic Region) and *B. flagellaris*, Thomson 1894, their specific distinction is presented subsequently:

1 (4) Temple in dorsal view (Figs 1, 7) more or less receded. First discal cell with less parallel *cul* and *d* veins (Fig. 4, see arrows). Hind femur reddish yellow.

2 (3) Head in dorsal view (Fig. 1) transverse, 1.8 times as broad as long, temple more receded. Antenna with 35 antennomeres, flagellum attenuating, penultimate flagellomere 1.5 times as long as broad. First tergite subquadrate, as long medially as broad behind, beyond pair of spiracles weakly broadening; second tergite more transverse, three times as broad behind as long medially and somewhat longer than third tergite (Fig. 6). Hind femur 3.5 times as long as broad and with rather parallel sides (Fig. 2). Coxae 2–3 black. E: 3.5–4 mm

..... *B. (L.) polaris* Hellén, 1959

3 (2) Head in dorsal view (Fig. 7) subcubic, 1.5–1.6 times as broad as long, temple less receded. Antenna with 24–26 antennomeres, flagellum not attenuating, penultimate flagellomere 1.2–1.3 times as long as broad. First tergite 1.2–1.3 times as long as broad behind, beyond pair of spiracles parallel-sided; second tergite less transverse, 2.3–2.6 times as broad behind as long medially and a bit short-



Figs. 11–15. — Fig. 11. *Bracon (Lucobracon) flagellaris* Thomson: tergites 1–3. — Figs. 12–15. *Bracon (Lucobracon) erraticus* Wesmael: 12 = head in dorsal view; 13 = temple in dorsal view; 14 = hind femur; 15 = tergites 1–3.

er than third tergite (Fig. 11). Hind femur somewhat thick, 2.6–2.9 times as long as broad medially (Fig. 9). Coxae 2–3 yellow to brownish yellow. ♀: 3.2–3.6 mm (= *facialis* Thomson, 1892 nec Brullé, 1846; *dallatorrei* Szépligeti, 1901)

..... *B. (L.) flagellaris* Thomson, 1894

- 4 (1) Temple in dorsal view rounded (Fig. 12), rarely more rounded (Fig. 13). First discal cell with nearly parallel *cul* and *d* veins (Fig. 10, see arrows). Hind femur 2.8–3 times as long as broad medially (Fig. 14). Tergites 2–3 equal in length or, exceptionally, second tergite a bit longer than third tergite (Fig. 15) or reversed. Hind femur black. ♀ ♂: (2–)3.5–4.5 mm
- *B. (L.) erraticus* Wesmael, 1838

Ground colour of body variable:

- Tergites 2–3 more or less reddish yellow, mesosoma black *erraticus* (n nominate form)
- Head, mesosoma and metasoma black, at most second tergite laterally reddish yellow to rusty *erraticus* var. *superciliosus* (Wesmael, 1838)
- Mesosoma dorsally more or less reddish yellow, tergites reddish yellow with more or less blackish to black pattern
- *erraticus* var. *onfinis* (Szépligeti, 1901)

Acknowledgement. It is my genial duty to express my sincere gratitude to Dr. A. Albrecht (Zoological Institute and Museum, The University, Helsinki) who was kind enough to let me loan for a considerably long time-period the type series of *Bracon polaris* deposited in his institute and under his curatorship.

References

- Hellén, W. 1957: Zur Kenntnis der Braconidae: Cyclostomi Finnlands. — Not. Entom. 37: 33–52.
- Hellén, W. 1959: Eine neue Bracon-Art aus Lappland (Hym.). — Not. Entom. 39: 53.
- Fahringer, J. 1926–1928: Opuscula braconologica. Palaearktische Region. Lieferung 1–9. Verlag F. Wagner, Wien, 606 pp. + 1 Tafel.
- Koponen, M. & Tobias, V. I. 1989: Lists of the insect types in the Zoological Museum, University of Helsinki. 12. Hymenoptera: Braconidae described by Wolter Hellén. — Acta Entom. Fenn. 55: 23–25.
- Papp, J. 1969: A revision of Thomson's species of *Bracon* Fabr. (Hym. Braconidae). — Opusc. Entom. 34: 177–205.
- Shenefelt, R. D. 1978: Braconidae 10. — Hym. Cat. (n. ed.) 15: 1425–1872.
- Tobias, V. I. 1957: New subgenera and species of the genera *Bracon* F. and *Habrobracon* Ashm. (Hymenoptera, Braconidae) from the steppe and desert regions of the USSR. — Entom. Obozr. 36 (2): 476–500. (In Russian with English title and summary.)
- Tobias, V. I. 1976: Braconidae of Caucasus. — Oprod. Faune SSSR 110, 286 pp. (In Russian)
- Tobias, V. I. 1986: 27. order Hymenoptera, fam. Braconidae (first part). — Key to the Insects of the European Part of the USSR 3 (4) Hym. Brac., 501 pp. (In Russian)