

DESCRIPTION OF A NEW SPECIES OF *DIPARA* WALKER
(HYMENOPTERA: PTEROMALIDAE) FROM HUNGARY

LÁSZLÓ, Z.

*Department of Zoology, Hungarian Natural History Museum, Baross u. 13, H-1088 Budapest, Hungary; E-mail: laszlozoltan@zoo.zoo.nhmus.hu and
Department of Ecology, University of Debrecen, H-4010 Debrecen, P.O. Box 71, Hungary;
E-mail: feherlofia@puma.unideb.hu*

A new species of the genus *Dipara* WALKER, 1833, *Dipara alata* sp. n., from Hungary is described. Diagnosis, synonymy and a short review of valid *Dipara* species are given.

Key words: Hymenoptera, Pteromalidae, *Dipara*, new species, Hungary

INTRODUCTION

The genus *Dipara* WALKER, 1833 belongs to the subfamily Diparinae (Hymenoptera: Pteromalidae) and exhibits strong sexual dimorphism. Currently 15 species are known from North America, Europe, Asia, Africa, and Indo-Australia (NOYES 2003). Only one species, *Dipara petiolata* WALKER, 1833, is known from the Western Palaearctic. The females of the genus *Dipara* usually are brachypterous, rarely macropterous, whereas males of all species are fully winged. At least one species, *Dipara hyalinipennis* (GIRAULT, 1915), is known with both fully winged and brachypterous females species (BOUČEK 1988). The single Western Palaearctic species has brachypterous females. Fully winged species were described from the Indo-Australian region (GIRAULT 1915, GIRAULT 1927, YOSHIMOTO & ISHII 1965, NARENDRAN & SURESHAN 2001) (Table 1). Until now only one species is known from Europe, whereas 3–4 species have been reported from other regions (BOUČEK 1988).

The genus *Dipara* is characterised by 3-teethed mandibles, 13-jointed antennae that are inserted clearly on or above the anterior margin of eyes, antennal formula 11173, notaulices complete, scutellum with frenum.

The type species of *Dipara* is *D. petiolata* WALKER, 1833. The type specimen of *D. petiolata* is a male and the species was described from the United Kingdom). Females of that species were known under such names as *Tricoryphus fasciatus* THOMSON, 1876 (described from Sweden, Skåne province, Torekov) and *Hispanolelaps coxalis* MERCET, 1927 (described from Spain, Madrid province, La Pedriza de Manzanares). Those species were synonymised with *D. petiolata* by DOMENICHINI (1953), after personal communication with S. NOVITZKY (footnote

on p. 80 in DOMENICHINI 1953). ASHMEAD (1901) described *Apterolelaps nigriceps* from the United States of America, Hawaii. *Apterolaelaps nigroscutum* GIRAULT, 1916 (isotypic with *A. nigriceps* ASHMEAD, 1901 (GAHAN & FAGAN 1923)) was described also from the USA, Virginia. *Apterolelaps* ASHMEAD, 1901 was synonymised by DELUCCHI (1958) with *Tricoryphus* FÖRSTER, 1856, but HEDQVIST (1969) stated that “The formula of antenna is 11073=12 joints, in *Dipara* WALK. 13 joints. Is best to held this genus separate until we have more specimens”. YOSHIMOTO (1977), after the revision of the type of *A. nigriceps* ASHMEAD, 1901, agreed with HEDQVIST. HEYDON and BOUČEK (1992) transferred *Apterolelaps nigriceps* ASHMEAD, 1901 to *Dipara*. YOSHIMOTO (1977) described the species *D. pedunculata* (from the United States of America, Kentucky, Hopkinsville) which was synonymised by HEYDON and BOUČEK (1992) with *D. canadensis* HEDQVIST, 1969. *Epilelaps hyalinipennis* (GIRAULT, 1915) and *Epilelaps ponderosa* (GIRAULT, 1915) were described from Australia, Queensland, Cairns (*Epilelaps* = *Dipara* (BOUČEK, 1988)). *Dipara rufescens* MASI, 1917 was described from the Seychelles Islands (Mahé, Silhouette and Félicité Islands). GIRAULT (1927) described *Pseudiparella emersoni* (*Pseudiparella* = *Dipara* (BOUČEK, 1988)) from Australia, Tasmania which is probably only a form of *D. hyalinipennis* (GIRAULT, 1915) (BOUČEK 1988). The next species were described

Table 1. Distribution of brachypterous and macropterous species of the genus *Dipara* WALKER, 1833

Species	region	brachypterous	macropterous
<i>D. petiolata</i> WALKER, 1833	Palaeartic	+	–
<i>D. belokobylskii</i> DZHANOKMEN, 1993	Palaeartic	+	–
<i>D. alata</i> sp. n	Palaeartic	–	+
<i>D. nigriceps</i> (ASHMEAD, 1901)	Nearctic	+	–
<i>D. canadensis</i> HEDQVIST, 1969	Nearctic	+	–
<i>D. nigrita</i> HEDQVIST, 1969	Ethiopian	+	–
<i>D. nigrofasciata</i> HEDQVIST, 1969	Ethiopian	+	–
<i>D. rufescens</i> MASI, 1917	Ethiopian	+	–
<i>D. turneri</i> HEDQVIST, 1969	Ethiopian	+	–
<i>D. emersoni</i> (GIRAULT, 1927)	Indo-Australian	+	–
<i>D. hyalinipennis</i> (GIRAULT, 1915)	Indo-Australian	+	+
<i>D. keralensis</i> NARENDRAN et SURESHAN, 2001	Indo-Australian	+	–
<i>D. miniae</i> NARENDRAN et SURESHAN, 2001	Indo-Australian	–	+
<i>D. mohanae</i> NARENDRAN et SURESHAN, 2001	Indo-Australian	+	–
<i>D. palauensis</i> YOSHIMOTO et ISHII, 1965	Indo-Australian	–	+
<i>D. ponderosa</i> (GIRAULT, 1915)	Indo-Australian	–	+

from the Indo-Australian region: *Dipara palauensis* YOSHIMOTO et ISHII, 1965 (Micronesia, Palau Island); *D. keralensis* NARENDRAN et SURESHAN, 2001 (India, Kerala, Calicut); *D. miniae* NARENDRAN et SURESHAN, 2001 (India, Kerala, Chindaki) and *D. mohanae* NARENDRAN et SURESHAN, 2001 (Kerala, India, Thiruvannur, Kozhikode). *Dipara belokobylskii* DZHANOKMEN, 1993 was described from the Far East of Russia (Khabarovsk district). HEDQVIST (1969) described three African species of *Dipara*: *D. turneri* (from South Africa, Eastern Cape, Port St. Johns), *D. nigrofasciata* (from Madagascar, Mandraka), and *D. nigrita* (from Democratic Rep. of the Congo, Mont Kabobo). The Nearctic species *D. canadensis* HEDQVIST, 1969 was described from Canada, Ontario, Gitanau Park.

***Dipara alata* sp. n.**

(Figs 1–5)

Description – Female: *Colour* – Body yellowish to light brown, with dark areas. Scape yellow, dorsal part of pedicel and all funicle segments black. Clava black, with third segment partially yellowish. Area around ocelli, the crest of the protuberance between antennal toruli, and eyes black. Hind margin of pronotum, hind margins of middle lobes of mesoscutum, apex of scutellum and metanotum dark brown to black. Area around proximal part of median carina of the propodeum and area around spiracles dark brown to black. Proximal and distal parts of the first metasomal tergite, dorsal bands of tergites 2–6, distal part of the last tergite and the whole ovipositor shields dark brown to black. Fore- and midcoxae reddish, hind ones whitish. Rest of legs yellowish-reddish, except black apical tarsal segments. Wings with two fuscous clouds, one below middle of marginal vein, second below postmarginal vein, through the stigma.

Head – Head (Figs 1–3) as broad as thorax (74:68). Head twice as broad as long (74:33), finely reticulate. Eye ovate, with fine whitish hair cover. Length of malar space more than half of eye length (18:28). Antennae inserted on a level of ventral margin of eyes (Fig. 3). Apex of scape reaching ventral edge of front ocellus. Annellus very small. Antennal formula 11173 (Fig. 4), length of antennal segments 35:15:0.5:11:9:9:8:8:8:8:10:7:7. Protuberance (callus) between toruli prominent, tapering towards vertex. Scrobes deep with transversal rugosity. Vertex narrowing in antero-posterior direction. Ocelli forming an obtuse angle. POL:OOL=13:12. Vertex with three pairs of setae, one pair behind posterior ocelli and two pairs near eyes. Ventral edge of clypeus straight (Fig. 3).

Mesosoma – Wings fully developed (Fig. 1). Pronotum narrower than thorax (46:64), convex, with 6 setae on the distal margin, in a 3-3 combination (Fig. 1). Notaulices complete. Distal part of the mid lobe of mesoscutum with two strong setae. Frenum well defined with longitudinal striae. Four setae located antero-medially to frenum and two stronger setae located on lateral margins. Median carina reaching back as far as two thirds of propodeum (Fig. 5). Plicae present, a longitudinally carinate median carina present between plicae. Forewing veins (Fig. 1) with altogether 28 setae, from which 5 setae on the submarginal, 8 on the marginal vein and 15 on the outer margins of marginal and postmarginal veins. Basal cell and speculum bare. Basal fold with 5 setae. Stigma well defined, rectangular with developed uncus, with width larger than height (8:2), middle area above apex hyaline. Ratios of veins: marginal 58; postmarginal 35; stigmal 17. Fore and hind wings with well defined marginal fringe.

Metasoma – Petiole almost as wide as long (17:15), with longitudinal carinulae. Ratio of the length and width of the metasoma 213:63. Metasoma (Figs 1, 2) with an elongate conical shape. Ratio of the length of metasomal tergites 57:15:12:12:13:18:59. Length of ovipositor shields 24.

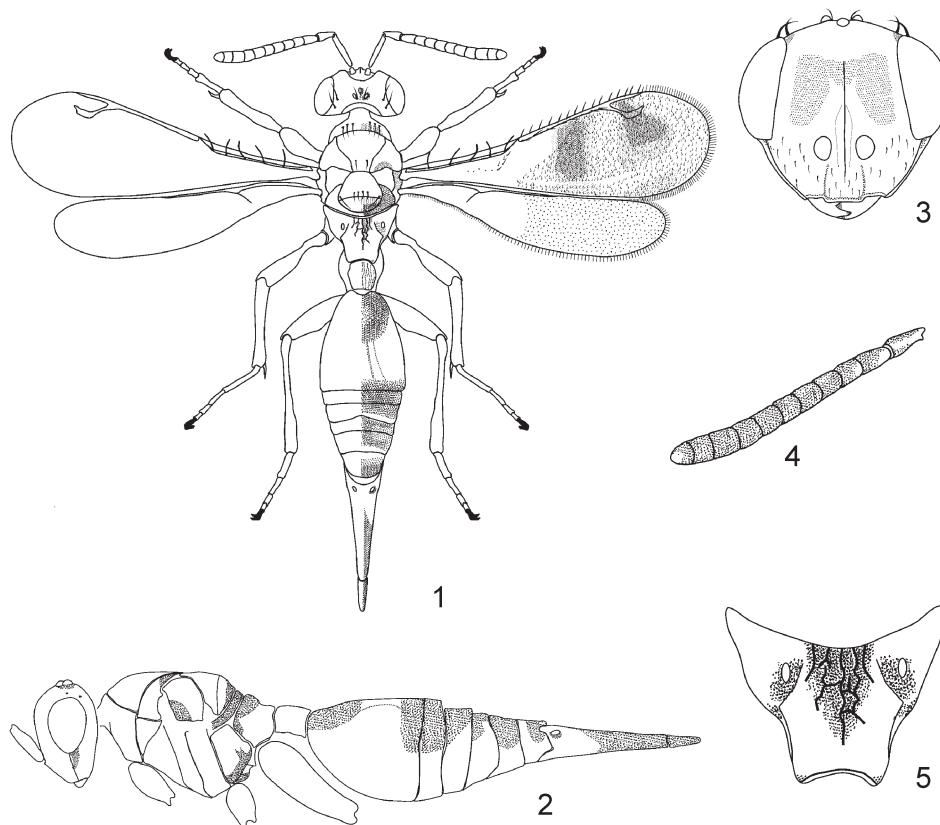
Male – Unknown.

Host – Unknown.

Habitat – Collected in oak forest disturbed by human interference.

Material examined – Holotype female: Hungary, Hajdú-Bihar County, Nagyerdő forest, Debrecen, N47° 33', E21° 37', 109 m, leg. LÁSZLÓ, Z., 07.08.2004, deposited in the Hungarian Natural History Museum (HNHM), Budapest, Hungary. The specimen was collected by sweeping.

Etymology – The species is named after the fully winged female, the first macropterous species of *Dipara* in the Western Palaearctic.



Figs 1-5. *Dipara alata*, female: 1 = dorsal view, 2 = lateral view, 3 = head, frontal view, 4 = antenna, 5 = propodeum

Diagnosis – The new species resembles *Dipara hyalinipennis* (GIRAULT, 1915) and *D. miniae* NARENDRAN et SURESHAN, 2001 by fully winged female and longitudinally striate area behind the frenum. *Dipara alata* sp. n. differs from *D. hyalinipennis* by the median carina which reaches as far back as two thirds of the propodeum, fore wings with two dark infuscations, and petiole almost as wide as long (in *D. hyalinipennis* median carina short, wings without infuscations and petiole clearly longer than its width). *Dipara alata* sp. n. differs from *D. miniae* by the presence of median carina on the propodeum, having incomplete sublateral carina, petiole almost as wide as long, and by the mesoscutum with a pair of strong bristles beyond the middle of the scutum (in *D. miniae* propodeum without median carina, with complete sublateral carina, petiole longer than its width and the pair of strong bristles nearer to the middle of mesoscutum). It is known that in *D. hyalinipennis* females the wing size varies, and thus there is a possibility that *D. alata* could be only a fully winged form of *D. petiolata*. However, differences between *D. petiolata* and *D. alata* underline the species status of *D. alata*. The entire habitus of *D. alata* resembles more that of the Indo-Australian species than that of *D. petiolata*. Also, the propodeum of *D. alata* differs in having median and sublateral carina, whereas in *D. petiolata* the propodeum is punctured and the median and/or sublateral carina are absent.

*

Acknowledgements – I would thank Dr. GEORGE MELIKA for his encouragement and the valuable comments on the manuscript.

REFERENCES

- ASHMEAD, W. H. (1901) Hymenoptera Parasitica. *Fauna Hawaii*. **1**: 277–364.
- BOUČEK, Z. (1988) *Australasian Chalcidoidea (Hymenoptera)*. C.A.B. International. Wallingford, U. K. 832 pp.
- DELUCCHI, V. (1958) Sinonimie nei pteromalidi e descrizione di un nuovo genere (Hymenoptera: Chalcidoidea). *Boll. Zool. Agrar. Bachic.* **1**: 51–60.
- DOMENICHINI, G. (1953) Studio sulla morfologia dell'addome degli Hymenoptera Chalcidoidea. *Boll. Zool. Agrar. Bachic.* **19**: 183–298.
- DZHANOKMEN, K. A. (1993) New pteromalids (Hymenoptera, Chalcidoidea, Pteromalidae) from Asia. *Proc. Zool. Inst. Russ. Acad. Sci.* **251**: 101–106.
- FÖRSTER, A. (1856) *Hymenopterologische Studien. 2. Chalcidiae und Proctotrupii*. Aachen. 152 pp.
- GAHAN, A. B. & FAGAN, M. M. (1923) The type species of the genera of Chalcidoidea or chalcid-flies. *Bull. US. Nat. Mus.* **124**: 1–173.
- GIRAULT, A. A. (1915) Australian Hymenoptera Chalcidoidea VI. (Suppl.). *Mem. Queensl. Mus.* **3**: 313–346.

- GIRAULT, A. A. (1916) A new genus of lelapine chalcid flies from the United States. *Can. Entomol.* **48**: 263–264
- GIRAULT, A. A. (1927) Notes on and descriptions of chalcid wasps (Chalcididae) in the South Australian Museum. *Rec. S. Austr. Mus.* **3**: 309–338.
- HEDQVIST, K. J. (1969) New genera and species of Diparini, with notes on the tribe (Hym., Chalcidoidea, Pteromalidae). *Entomol. Tidskr.* **90**: 174–202.
- HEYDON, S. L. & BOUČEK, A. (1992) Taxonomic changes in Nearctic Pteromalidae, with the description of some new taxa (Hymenoptera: Chalcidoidea). *Proc. Entomol. Soc. Wash.* **94**: 471–489.
- MASI, L. (1917) Chalcididae of the Seychelles islands. (With an appendix by J. J. Kieffer) *Novit. Zool.* **24**: 121–330.
- MERCET, R. G. (1927) Nota sobre *Lelapinos* (Hym. Chalc.). *Eos. Rev. Esp. Entomol.* **3**: 49–63.
- NARENDHAN, T. C. & SURESHAN, P. M. (2001) Descriptions of three new species of *Dipara* Walker (Hymenoptera: Pteromalidae) from India. *Zoos Print J.* **16**: 451–456.
- NOYES, J. S. (2003): Universal Chalcidoidea database. World Wide Web electronic publication. <http://www.nhm.ac.uk/entomology/chalcidoids/index.html> [Accessed 15.05.2005]
- THOMSON, C. G. (1876) *Skandinaviens Hymenoptera 4*. Lund. 259 pp.
- WALKER, F. (1833) Monographia Chalciditum. *Entomol. Mag.* **1**: 367–384, 455–466.
- YOSHIMOTO, C. M. & ISHII, T. (1965) Insects of Micronesia: Hymenoptera Chalcidoidea: Eulophidae, Encyrtidae (part), Pteromalidae. *Insects Micrones.* **19**: 109–178.
- YOSHIMOTO, C. M. (1977) Revision of the Diparinae (Pteromalidae: Chalcidoidea) from America north of Mexico. *Can. Entomol.* **109**: 1035–1056.

Revised version received September 23, 2005, accepted October 3, 2005, published October 31, 2005