Acta Soc. Zool. Bohem. **69**: 215–218, 2005
ISSN 1211-376X

Pteroptrix bouceki sp. nov. (Hymenoptera: Chalcidoidea: Aphelinidae) from Italy

Paolo Alfonso PEDATA[1)] & Antonio Pietro GARONNA[2)]

[1)]Istituto per la Protezione delle Piante, CNR, Sez. Portici (NA), Italia; e-mail: pedata@ipp.cnr.it
[2)] Dipartimento di Entomologia e Zoologia agraria, Università di Napoli "Federico II", Portici (NA), Italia; e-mail: garonna@unina.it

Received July 2, 2004; accepted December 15, 2004
Published December 30, 2005

Abstract. *Pteroptrix bouceki* sp. nov. (Hymenoptera: Aphelinidae) from yellow sticky traps in Mediterranean pine-wood from Italy is described. On the basis of morphology of head and forewing the new species may be placed in the *P. maritima* group and appears most closely related to *P. conifuniculata* (Huang, 1992).

Taxonomy, new species, yellow sticky traps, Hymenoptera, Aphelinidae, Mediterranean pine-wood, Palaearctic region

INTRODUCTION

Pteroptrix Westwood, 1833 is a worldwide distributed genus including 62 described species, all of which are parasitoids of diaspidid scales. Several species have been successfully used in biological control programs: the introduction of *Pteroptrix smithi* (Compere, 1953) in Israel against the Florida red scale, *Chrysomphalus aonidum* (Linné, 1758), on citrus gave positive results (Steinberg et al. 1986); *Pteroptrix japonica* (Huang, 1991) was introduced in China to control *Hemiberlesia pitysophila* Takagi, 1969 on pine (Huang 1991, Viggiani & Ren 1993); *Pteroptrix orientalis* (Silvestri, 1909), after about one century from its introduction, coexists in Southern Italy on *Pseudaulacaspis pentagona* (Targioni Tozzetti, 1886) with other parasitoids (Viggiani & Garonna 1993, Pedata & Garonna 2001).

Actually the genus *Pteroptrix*, following Viggiani & Garonna (1993) also includes species formerly described in *Archenomus* Howard, 1898. The two genera had been previously separated on the basis of the number of funicular segments (2 in *Pteroptrix*, 3 in *Archenomus*). The synonymy of the two genera was proposed by the cited authors since a partial fusion of the first two funicular segments distinctively occurs in one species, *Pteroptrix conifuniculata* (Huang, 1992) and occasionally in *P. orientalis*. Thus Viggiani & Garonna (1993) considered the number of funicular segments to be at most useful, together with features of the head, mandible, forewing, male antenna and genitalia, to define subgeneric groups.

In a survey of entomophagous insects in a mixed Mediterranean coastal pine-wood we collected by yellow sticky traps several specimens of another interesting species of *Pteroptrix* with the first two funicular segments partially fused, which is herein described as new.

TAXONOMY

Pteroptrix bouceki sp. nov.
(Figs 1–8)

TYPE MATERIAL. Holotype, female (slide mounted), ITALY, Castel Volturno, V. 1995, leg. P.A. Pedata, on yellow sticky traps, Mediterranean pine-wood. Paratypes: 20 females (slide mounted), same data as holotype, 15 females (card mounted) same data as holotype. Holotype and paratypes are deposited at the Dipartimento di Entomologia e Zoologia agraria, Università di Napoli "Federico II", Portici, Italia. Some paratypes are deposited at The Natural History Museum, London, UK.

DESCRIPTION. Female. Length, 0.6–0.7 mm. Body blackish-brown; occiput and frontovertex yellow; antenna pale brown with scape dorsally and funicle notably darker; mid lobe of mesoscutum with a large blackish-brown patch extended from the anterior to the posterior margin in a broad triangular pattern, sides yellowish; side lobes of mesoscutum yellow, scutellum whitish-yellow; metanotum and propodeum centrally yellow; legs whitish with mid and hind femura (except the ends) and basal third of middle and hind tibiae distinctly darkened; fore wing palely infuscated below the entire length of marginal vein.

Head (Figs 1, 2) with a transverse sulcus on occipital surface placed well above lower eye margins and not continuous with the sulcus on the frontal side of the head, about 1.5 times as wide as frontovertex; toruli with their upper limits above the lower eye margin, separated from each other by about their own longest diameter; head with sculpture and setation as illustrated; mandible with two teeth and a broad truncation.

Antenna (Fig. 3) with scape narrow about 5 times as long as its maximum width; pedicel a little shorter than the first two partially fused funicular segment (F1–F2) (Fig. 8); F1 slightly longer than wide and a little longer than F2; third funicular segment (F3) about 1.5 times as long as broad; entire funicle a little longer than basal club segment; club slender about 3 times as long as the funicle and about 9 times as long as its maximum width; funicle devoid of linear sensilla, which are present on each club segment as follows: 2;2;3. Flagellum finely and sparsely setose.

Sculpture on mid lobe of mesoscutum as in Fig. 4, the cells broad anteriorly, becoming elongate and longitudinally orientated posteriorly; cells provided with acciculations; sculpture on side lobes and scutellum hardly discernible; scutellum about 2 times as wide as long; mid lobe of mesoscutum with 8–10 setae; scutellum with 4 setae.

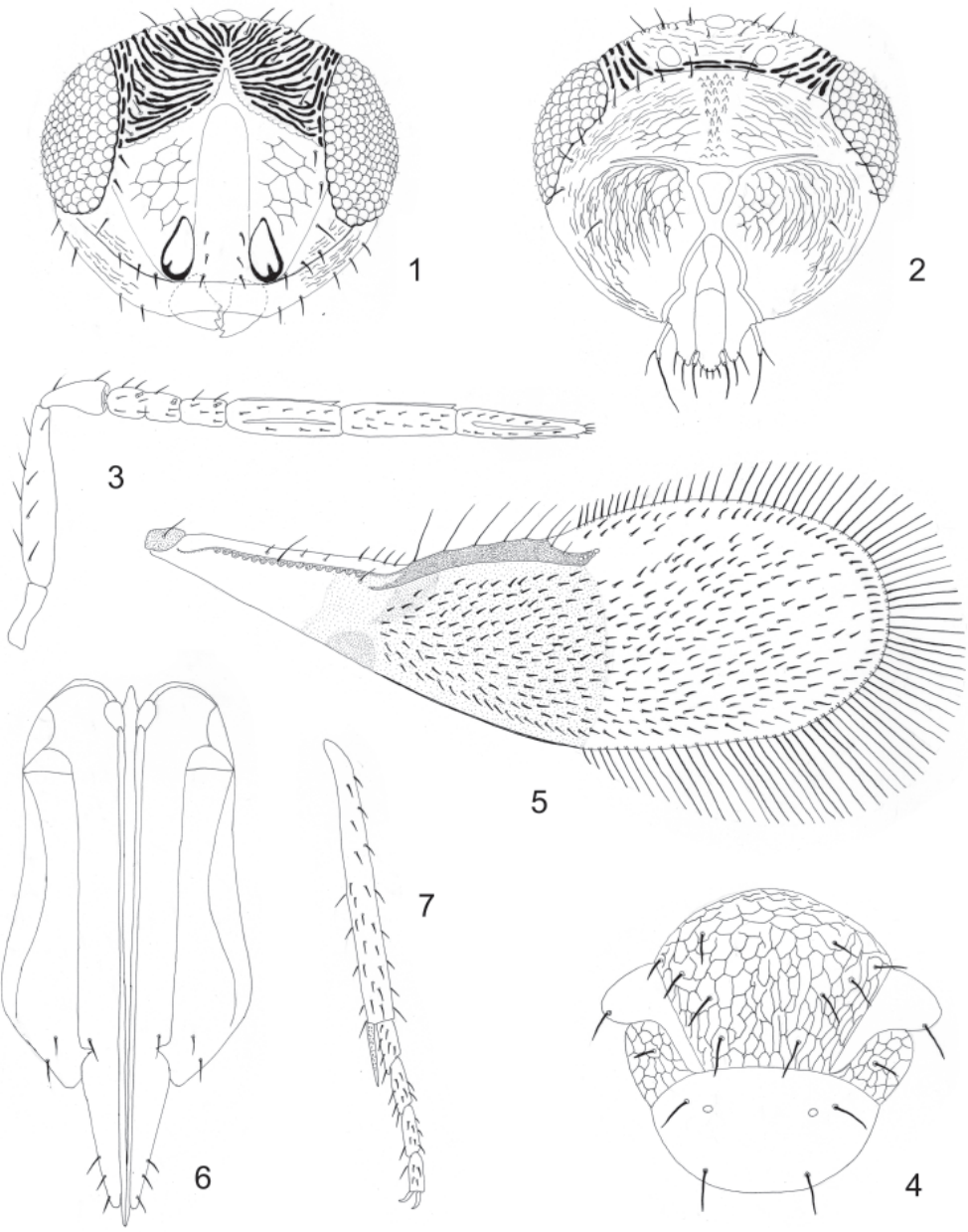
Fore wing (Fig. 5) about 3 times as long as broad; stigmal vein petiolate; marginal vein about two third the length of the costal cell, with 5–6 strong setae; apex of costal cell with a row of 3–5 setae; submarginal vein with one seta in its middle; wing disc densely setose from the level of the base of the marginal vein to the wing apex; longest marginal cilia about one half as long as the maximum width of the wing; hind wing approximately 6.6 times as long as broad, the longest marginal cilia 1.4 times as long as the width of the wing.

Ovipositor (Fig. 6) measured from the apex of the II valvifer to the tip of gonostyli about 2 times as long as the middle tibia (Fig. 7), 3.2–3.5 times as long as gonostyli; the latter about twice the length of mid tibial spur which is a little longer than the corresponding basitarsus.

Male. Unknown.

BIOLOGY. Unknown.

COMMENTS. *Pteroptrix bouceki* sp. nov. closely resembles *Pteroptrix conifuniculata* (Huang, 1992) in most structural characters as well as in colour. However the two species differ clearly in the relative dimensions of the antennal segments, number of antennal sensilla and length of ovipositor relative to middle tibia. In *P. conifuniculata* F3 is subquadrate, the club is 5 times as long as its maximum width, 2.2 times as long as the funicle, number of sensilla on club segments as follows: 4–6; 4–5; 3 and ovipositor about 1.3 times as long as middle tibia. As *P. conifuniculata*, this new



Figs 1–7. *Pteroptrix bouceki* sp. nov., female. 1 - head, front view; 2 - head, rear view; 3 - antenna; 4 - mesonotum; 5 - fore wing; 6 - ovipositor; 7 - mid tibia.

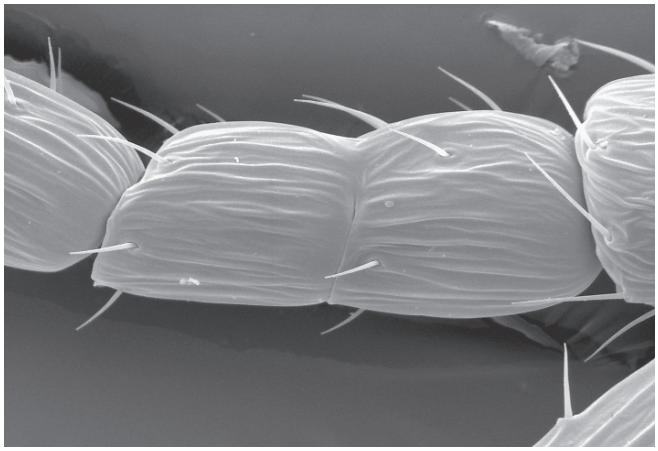


Fig. 8. *Pteroptrix bouceki* sp. nov., female. Particular at SEM showing partial fusion of first two funicular segments.

species can be placed in the *P. maritima* group Viggiani & Garonna, 1993 for the features of the transverse sulcus of the head and the petiolate stigmal vein.

The new species shows very little variations in the examined material. Smaller individuals have fewer setae (4–6) on the mid lobe of mesoscutum.

ETYMOLOGY. The species is named in honour of Dr Zdeněk Bouček in celebration of his 80th birthday and in recognition of his contribution to the study of systematics of Chalcidoidea.

REFERENCES

HUANG J. 1991: Systematic studies of Aphelinidae. I. On a new species of Archenomus Howard and Coccobius azumai Tachikawa (Hymenoptera, Aphelinidae). *Journal of Fujian Agricultural College* **20**: 281–285.

HUANG J., LIN X. & LIN C. 1992: Systematic studies of Aphelinidae. III. The species of Archenomus Howard from China (Hymenoptera, Aphelinidae). *Journal of Fujian Agricultural College* **21**: 163–171.

PEDATA P. A. & GARONNA A. P. 2001: Coexistence of two effective parasitoids of the white peach scale Pseudaulacaspis pentagona (Hemiptera: Diaspididae): the role of the host stage and temperature. *Bulletin of Entomological Research* **91**: 53–59.

STEINBERG S., PODOLER H. & ROSEN D. 1986: Biological control of the Florida red scale, Chrysomphalus aonidum, in Israel by two parasite species: current status in the coastal plain. *Phytoparasitica* **14**: 199–204.

VIGGIANI G. & GARONNA A. P. 1993: Le specie italiane del complesso Archenomus Howard, Archenomiscus Nikolskaja, Hispaniella Mercet e Pteroptrix Westwood, con nuove combinazioni generiche (Hymenoptera: Aphelinidae). *Bollettino del Laboratorio di Entomologia Agraria 'Filippo Silvestri'*, *Portici* **48**(1991): 57–88.

VIGGIANI G. & REN H. 1993: New species and records of Aphelinidae (Hymenoptera: Chalcidoidea) from China. *Bollettino del Laboratorio di Entomologia Agraria 'Filippo Silvestri'*, *Portici* **48**(1991): 219–239.