

**PERISTENUS MALATUS (HYMENOPTERA: BRACONIDAE, EUPHORINAE)
A NEW SPECIES, PARASITIC ON BLEPHARIDOPTERUS ANGULATUS
(FALLÉN) (HETEROPTERA: MIRIDAE) IN BRITAIN**

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Résumé

Peristenus malatus, une nouvelle espèce de braconide provenant d'Écosse est décrite ici. Celle-ci est un parasite du miride *Blepharidopterus angulatus* (Fallén) qui se reproduit sur *Tilia*.

Abstract

Peristenus malatus new species, a braconid parasite of the orthotyline plant bug *Blepharidopterus angulatus* (Fallén) breeding on *Tilia* in Scotland is described.

The known European hosts of *Peristenus* Foerster and its allied genus *Leiothorax* Nees (*sensu* Muesebeck, 1958; Loan, 1974) are chiefly plant bugs (Leston, 1959, 1961; Richards, 1967; Waloff, 1967; Loan and Bilewickz-Pawinska, 1973) but there are also records from bark lice (Broadhead and Wapshere, 1966; Richards, 1967; New, 1970). A name is provided in this paper for a euphorine braconid parasite reared from the orthotyline mirid *Blepharidopterus angulatus* (Fallén) by D. M. Glen in Scotland. It is, most likely, the species referred to by Leston (1959, 1961) and Southwood and Leston (1959) who recorded braconid larvae from *B. angulatus* breeding on various deciduous trees including *Tilia*. Glen (in press) has studied the bioecology of the association. The description of this new species brings to seven the number of identified braconid species parasitic on plant bugs in Europe. There must be many others as Leston (1961) found 51 species of plant bugs parasitized by braconid larvae in Britain.

The types of this new species of *Peristenus* are in the British Museum (Nat. Hist.), London, and the Canadian National Collection, Ottawa.

***Peristenus malatus* new species**

(Figs.s. 1-6 of female paratype specimen)

Holotype: ♀, Scotland, near Glasgow, ex *Blepharidopterus angulatus* breeding on lime [*Tilia* × *vulgaris* Wayne], Row and Ennan, 1970, D. M. Glen. Type in the British Museum (Nat. Hist.), London.

Paratypes: 1♀, 2♂, data as holotype, female specimen fragmented for scanning electron micrographs and retained for the Canadian National Collection.

Holotype female: Length about 2.4 mm. Black. Scape, pedicel, legs rufous with coxa 3 fuscous; flagellar articles 1-8 light reddish dusky, 9-17 dusky (Fig. 5). Head narrowed posteriorly so that cheeks not as swollen as eyes; frons (Fig. 1) with fine, sparse hair but impunctate and median carina defined and sharp; face thickly hairy, with hair also present on lower cheeks behind bases

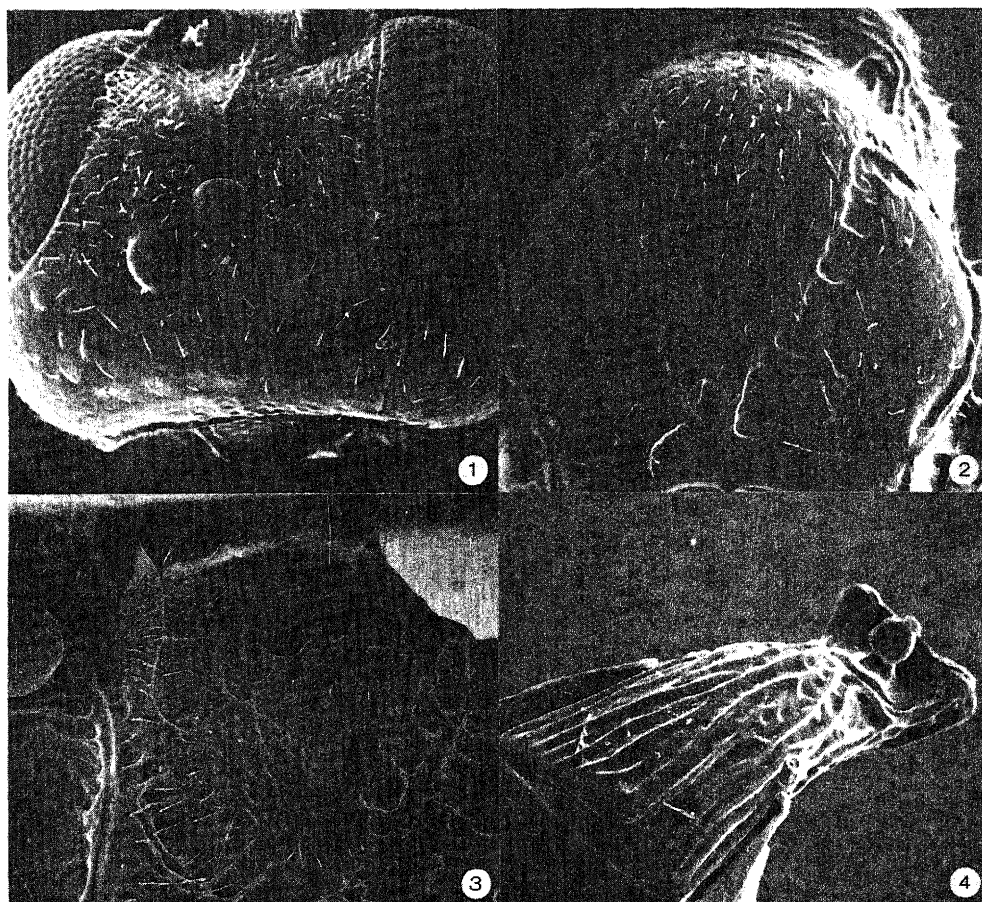
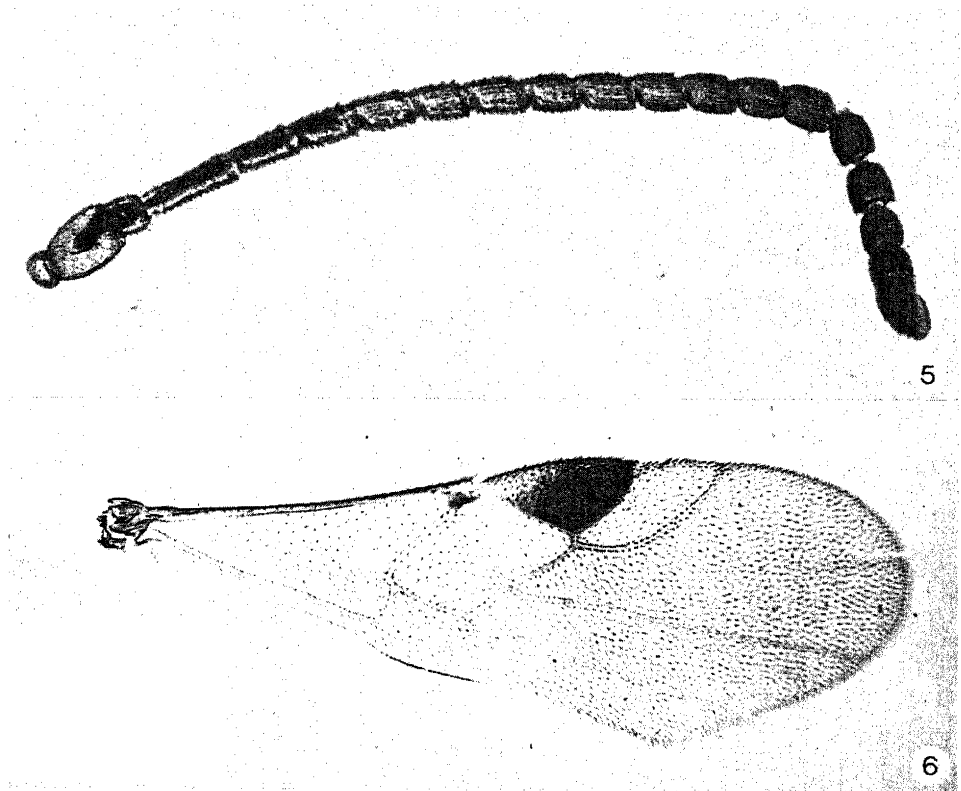


Figure 1-4. *Peristenus malatus*, body sculpture of female: 1, frons; 2 mesonotum; 3, mesepisternum; 4, tergite 1 dorsal view. Scanning electron micrographs 1, 160X; 2-3, 135-140X; 4, 230X.

of mandibles, as wide between eyes as eye or apex of tergite 1, or length of flagellar articles 1+2; eyes somewhat convergent on face, wider in front than behind, 1.6 times as long as wide in front; malar space pronounced and almost as wide as mandible at its base; flagellum 2.3 times as long as head width with 17 articles, 14-16 subquadrate; occipital carina broken medially behind vertex. Scutum of mesonotum (Fig. 2) with shallow, not prominent setiferous punctures and short, sparse hair; notaulices (Fig. 2) shallow, foveolate; mesepisternum (Fig. 3) finely wrinkled. Radial cell on wing margin about as long as stigma width, nervulus distinctly distad of basalis (Fig. 6);

basella of hind wing broken at about its middle, nervellus subequal to abscissae but exceeds longest marginal cilia. Propodeum sloped moderately behind, dorsal face not as long as depth of posterior face. Tibia 3, 0.8 mm long. Tergite 1 (Fig. 4) striate, 2.0 times as long as wide at its apex.

Male: The flagellum is rufous with 19 articles. Otherwise, the male closely resembles the female except for sexual differences among which are the wider face, smaller eyes, longer tergite 1, longer antennae without the distal expansion of the apical articles, and all articles of the flagellum longer than wide.



Figures 5-6. *Peristenus malatus*, female: 5, antenna; 6, front wing.

In the most recent key to European species of *Peristenus* (Loan, 1974) *malatus* runs to *nitidus* (Curtis) by the punc-

tate mesoscutum and impunctate frons. Some important differences between females of these species are as follows.

<i>P. malatus</i>	<i>P. nitidus</i>
malar space almost as wide as base of mandible or length of flagellar article 1	malar space about 0,5 times as wide as mandible basally or length of flagellar article 1
radial cell length = stigma width	radial cell 0,7 times as long as width of stigma
nervellus subequal to abscissae of basella	nervellus much shorter than abscissae of basella
distal part of flagellum dusky	flagellum entirely yellowish red
legs rufous	legs yellowish red

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References

- BROADHEAD, E. and A. J. WAPSHERE, 1966. *Mesopsocus* populations on larch in England—the distribution and dynamics of two closely related co-existing species of Psocoptera

- sharing the same food resource. — Ecol. Monogr., 36: 327-88.
- GLEN, D. M., 1977. Ecology of parasites of a predatory bug, *Belpharidopterus angulatus* (Fall.). — Ecol. Ent., 2(1) (in press).
- LESTON, D., 1959. The mirid (Hem.) hosts of Braconidae (Hym.) in Britain. — Entomologist's mon. Mag., 95: 97-100.
- LESTON, D., 1961. Observations on the mirid (Hem.) hosts of Braconidae in Britain. — Entomologist's mon. Mag., 97: 65-71.
- LOAN, C. C., 1974. The European species of *Leiophron* Nees and *Peristenus* Foerster (Hymenoptera: Braconidae, Euphorinae). — Trans. R. ent. Soc. Lond., 126(2): 207-238.
- LOAN, C. C. and T. BILEWICZ-PAWINSKA, 1973. Systematics and biology of four Polish species of *Peristenus* Foerster (Hymenoptera: Braconidae, Euphorinae). — Envir. Ent., 2: 271-288.
- MUESEBECK, C. F. W., 1958. New Neotropical wasps of the family Braconidae (Hymenoptera) in the U.S. National Museum. — Proc. U.S. natn. Mus., 107(3389): 405-461.
- NEW, T. R., 1970. The life histories of two species of *Leiophron* Nees (Hymenoptera: Braconidae) parasitic on Psocoptera in Southern England — Entomologist's Gaz., 21: 39-48.
- RICHARDS, O. W., 1967. Some British species of *Leiophron* Nees (Hymenoptera: Braconidae, Euphorinae) with descriptions of two new species. — Trans. R. ent. Soc. Lond., 119: 171-186.
- SOUTHWOOD, T. R. E., and D. LESTON, 1959. Land and water bugs of the British Isles. Frederick Warne & Co. Ltd., London & New York, 436 p.
- WALOFF, N., 1967. Biology of three species of *Leiophron* (Hymenoptera: Braconidae, Euphorinae), parasitic on Miridae on broom. — Trans. R. ent. Soc. Lond., 119: 187-213.