

Sensory bristle-fields of the petiolar segment in some Hymenoptera

by

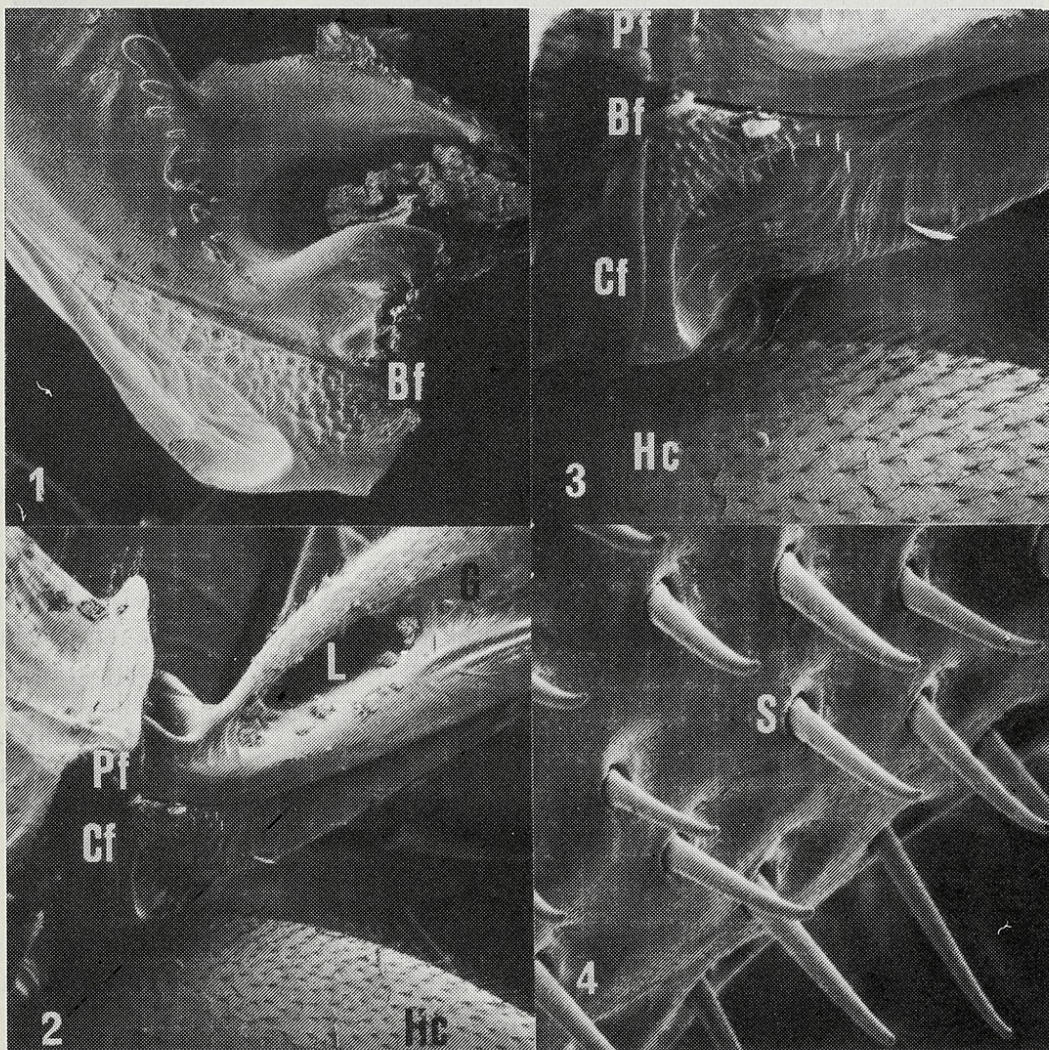
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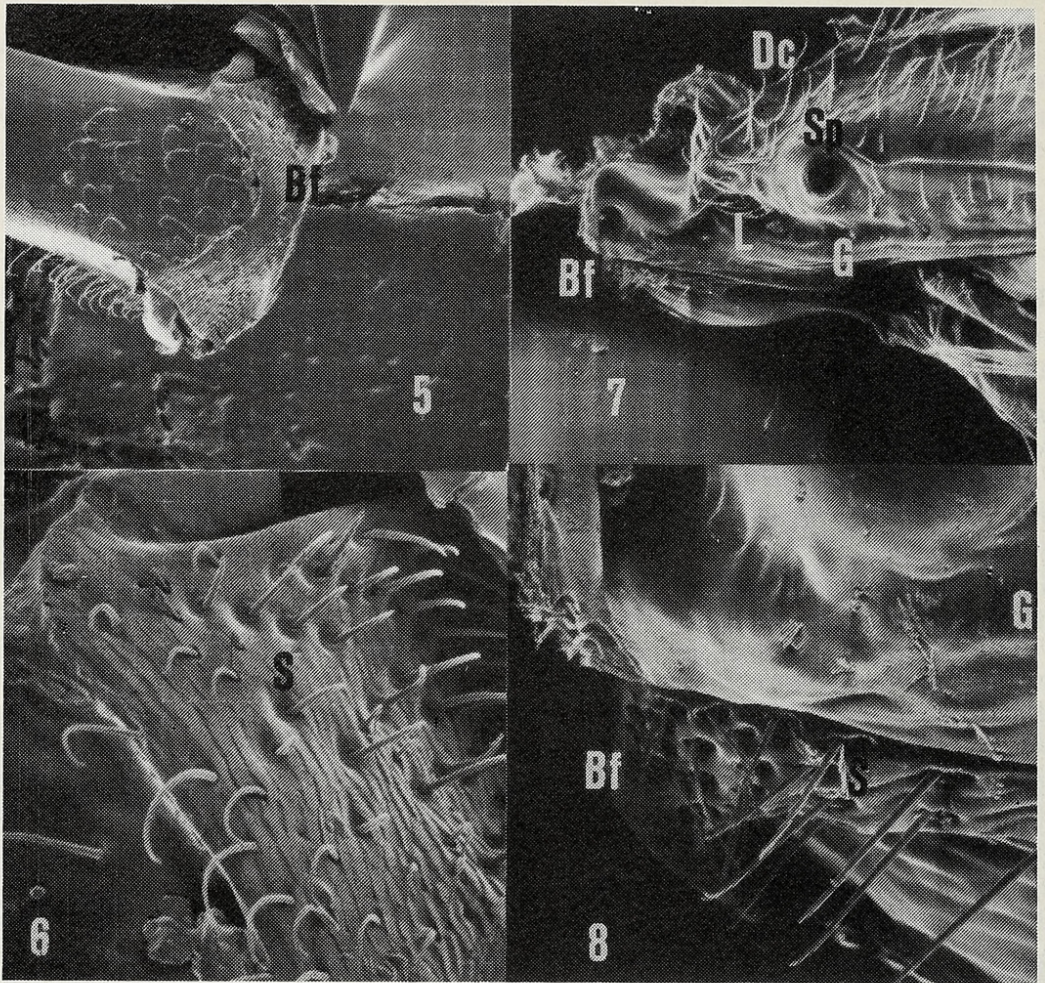
ABSTRACT. — Sensory bristle-fields at the base of the metasoma are examined in some species of the Ichneumonidae, Sphecidae, and Vespidae. Their bristle-fields are illustrated and their function is shortly discussed.

As already stated (Van Achterberg, 1974) all the Braconidae studied, possess almost round sensory bristle-fields latero-ventrally situated on both sides of the petiolar (= 1st metasomal or 2nd abdominal) segment. These are easily visible in larger specimens (e.g. *Charmon extensor* (Linnaeus)) as small round elevated areas by using a binocular microscope at 80 × magnification.

Homologous structures have been found in all other Hymenoptera-Apocrita studied. The bristle-field in the Ichneumonidae is more elongate and more extended than in the Braconidae (e.g. *Ichneumon* sp. (Ichneumoninae, fig. 1); *Stenomacrus* sp., *Exochus* sp. (Orthocentrinae, figs.



Figs. 1-8, Scanning-electron-microscope photographs of the petiolar segment of some Hymenoptera. 1, *Ichneumon* sp. (Belgium, Florenville, ♂), lateral aspect (100 ×); 2, *Netelia* sp. (Wageningen, ♀), lateral aspect of basal half (50 ×); 3, same specimen, detail of base (100 ×); 4, detail of (1000 ×).



5, *Psen equestris* (F.) (kemperberg, ♀), ventral aspect of basal half (100 ×); 6, detail of 5 (500 ×); 7, *Exochus* sp. (Wijster, ♀), lateral aspect of basal half (100 ×); 8, detail of 7 (500 ×). Bf = sensory bristle-field; Cf = condylar fold; Dc = dorsal carina; G = glymma; Hc = hind coxa; L = laterope; Pf = propodeal flange; S = sensillum; Sp = spiracle.

7, 8); *Netelia* sp. (Tryphoninae, figs. 2-4). The *Netelia* sp. has a very large and deep laterope (Van Achterberg, 1974) in a distinct glymma (L and G, respectively in fig. 2).

The bristle-fields of the Aculeata are also comparable, e.g. *Vespula germanica* (F.) and *Psen equestris* (F.) (figs. 5, 6). In order to determine with which part of the body the bristle-field normally makes contact, the petiolar segment was left in situ (figs. 2, 3). By moving this segment down, the position of the bristle-fields in relation to the rest of the body could be observed. The bristles seem (at least in this species) too short to touch the inner side of the propodeal flange or the dorsal side of the hind coxa. A more likely possibility is that the bristles touch the condylar fold (Cf in figs. 2 and 3). By moving the metasoma downwards, the more extensive contact between the inner side of this fold and the sensory bristle-field informs the insect about the alteration of the position of the metasoma.

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