

A Genus and Species of Aphidiid new to Sweden  
from Linné's garden at Hammarby.  
(Hym. *Aphidiidae*.)

By

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On August 11th., 1948, during the VIIIth. International Congress of Entomology at Stockholm, a most enjoyable pilgrimage was made to the house and gardens of Carl von Linné at Hammarby. A very considerable number of the numerous visitors to the Congress took advantage of the excursion and for a short time the garden of the Master was thronged with eager disciples diligently searching the lawns, shrubberies and flower-beds for entomological souvenirs of their visit. Tubes, match-boxes and other containers were soon stocked with trophies from among the many insects of that favoured place. Not to be among the hindmost I had brought a supply of specimen tubes and returned with a variety of insects from a fine large female *Tettigonia viridissima* Linnaeus, 1758, down to a number of parasitized Pentatomid eggs which subsequently yielded a series of sturdy little Scelionids. Among these treasures were three small, round, black, parasitized aphids (*Tetraneura ulmifoliae* Baker) which had been found at the roots of grass, in the runs of *Lasius niger* (Linnaeus, 1758), by Mr. H. L. G. Stroyan. The adult parasites had emerged by the time I returned to England, two being already dead because of the condensed moisture in the tube. The third was still alive and in good condition. It was at once obvious that the specimens were Aphidiids of a genus entirely unknown to me and quite unlike anything in the available literature. Not unnaturally it was concluded that they represented a new genus but a careful examination of the literature eventually brought to light the description of the remarkable genus *Myrmecobosca*.

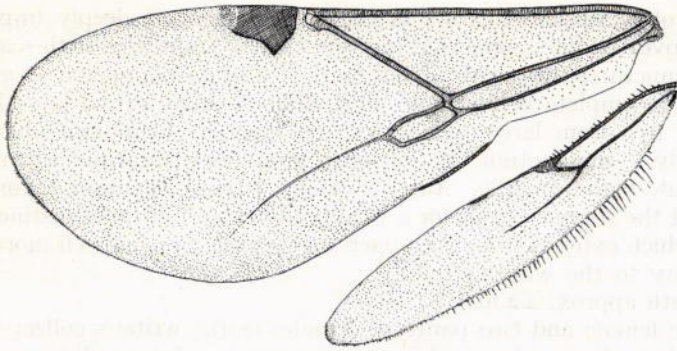
Maneval described *Myrmecobosca mandibularis* as a genus and species new to science in 1940 from a single female taken with the ant *Lasius niger* (L.), at Taulhac-près-Le Puy in France, on the 16th. May 1939. His account of the insect is most interesting and he concluded that it is a specially adapted myrmecophile. Several features of Maneval's insect are so remarkable as to attract our attention at once. For instance

the excellent drawing of the adult shows both pairs of wings abruptly, obliquely, truncated just beyond the stigmal region giving the insect a most extraordinary and unnatural appearance. The author concluded that the truncation was not the result of an accident as both sides showed almost perfect symmetry but suggested rather that it was probably due to having been nibbled by the ants. This is almost certainly the correct explanation. The three bred specimens upon which this note is based have the wings entire and the area absent in Maneval's specimen is entirely without venation (see fig. 1). Consequently this portion would be capable of being neatly and cleanly nibbled off by the ants. Another curious feature is the recurved abdomen, the end of which is permanently bent under, requiring the posterior knees to be carried high in order to elevate the abdomen sufficiently from the ground. In normal specimens the wings extend beyond the abdomen and thus present their veinless distal portions as a vulnerable area to attack by ants. Maneval witnessed (and figured) the feeding of *Myrmecobosca* by an ant and in the attitude of receiving nourishment the former was supported in a more or less vertical position by the truncate wing-tips and the curved aspect of the abdomen. He suggested therefore that the condition of the wings and the abdomen may be adaptations in regard to this method of nutrition. He further cites the conformation of the head and particularly the prominent mandibles of *Myrmecobosca* as being adapted to the same function.

The obvious relationship to other members of the Aphidiidae led Maneval to suggest that *Myrmecobosca* is probably a parasite of a greenfly, perhaps one of the radicolous species protected by the ant host, but he stated that it was not impossible that the insect might develop directly on the larvae of the ant. The rearing of three specimens from the root-feeding aphid *Tetraneura ulmifoliae* Baker, proves his first suggestion to be the correct one. Thus these greenflies which are spared so many of the vicissitudes of ordinary aphid life because of the protection of their ant hosts are not free from attack by members of the same family of Parasitica (Aphidiidae) which play so prominent a part in the control of the non-myrmecophilous species. It appears to be necessary, however, that the parasite must itself be an acceptable guest to the ants.

The larvae of *Myrmecobosca* pupate within the indurated skin of the aphid and the adult emerges through a circular aperture towards the rear of the host, in precisely the same manner as do many species of *Aphidius*. The specimens observed left the circular 'lid' attached to the rest of the skin by means of a small 'hinge'.

The present specimens agree well with Maneval's careful description except in a few particulars. For example he does not mention the very obvious sculpture of the mesonotum and the large spiracular tubercles of the petiole. Also the present series have 17-jointed antennae, instead of 16 (a character, however, which is often variable in the Aphidiidae). In



addition there are traces of parapsidal furrows and a distinct median metanotal groove which appear to be absent in the French species. Nor is the presence of an anal vein indicated in either the figure or the description of *M. mandibularis*. It would appear, therefore, that the Swedish insects represent an undescribed species of *Myrmecobosca*, closely allied to, but distinct from *M. mandibularis*. I wish to dedicate this new species to the imperishable memory of the great Swedish naturalist, Carl von Linné, the greatest figure in systematic biology, in whose garden at Hammarby the original material was collected.

***Myrmecobosca* Maneval, 1940.**

*Bull. Soc. linn. Lyon*, 9, 1940: 9 (Genotype: *M. mandibularis* Maneval, 1940).

The genus is easily distinguished from all the known members of the family by a combination of several characters such as the large triangular stigma which is widely separated from the basal nervure, by the presence of a pseudostigma of the posterior wings, the prominent mandibles and characters of the head, and by the entire absence of veins in the anterior wings beyond the stigmal region (except for the weakly indicated anal in one species).

***Myrmecobosca linnei* n. sp. (Fig. 1.)**

This species is so similar to *M. mandibularis* Maneval, as to render an extended formal description redundant. The following short diagnosis is limited, principally, to those characters in which the present appears to differ from Maneval's species.

Female. Antennae 17-jointed; segment one as long as anterior metatarsus; second short, a little longer than broad; third and fifth subequal in length, both a little shorter than fourth segment. Mesonotum with

traces of parapsidal furrows in the form of a short deeply impressed basal fovea; surface somewhat uneven, clearly sculptured with scattered large punctures; disc with a well marked median depression or groove, widely incomplete behind, and an ill-defined broad raised lateral band almost free from larger punctures and bristles. Scutellum punctured similarly to mesonotum. Petiole with prominent spiracular tubercle on each side before middle. Anterior wings without venation beyond the level of the stigma except for a weakly indicated but quite distinct anal vein which extends from the upper angle of the brachial cell more than half way to the wing margin.

Length approx. 2.2 mm.

Type female and two paratype females in the writer's collection.

Sweden: Hammarby, in Linné's garden, reared from *Tetraneura ulmifoliae* Baker, taken on the roots of grass in the runs of *Lasius niger* (L.) on Aug. 11th. 1948 (H. L. G. STROYAN), emerged 14th. Aug.

In conclusion I wish to express my indebtedness to Mr. H. L. G. Stroyan of Cambridge for handing me the parasitized aphids and for identifying the host. To him belongs the credit for this interesting discovery and for the addition of *Myrmecobosca* to the Swedish fauna.