

Holotype—♂, Baddeck, N. S. (bred at Ottawa, March 1, 1937, from larvae on *Ligusticum scoticum*); No. 4549 in the Canadian National Collection, Ottawa.

Allotype—♀, same data (bred, April 19, 1939).

Paratypes—5 ♂, 13 ♀, all from Baddeck larvae on *Ligusticum*, bred at various dates, March–June 1937 and 1939.

A NEW MEALYBUG PARASITE (HYMENOPTERA: SCELIONIDAE)

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The purpose of this paper is to provide a name for an undescribed species of the platygasterine genus *Allotropia* which has been encountered in Canada as a parasite of the mealybug *Phenacoccus aceris* (Sign.). Brief notes are also given on the single previously known Nearctic species of *Allotropia* and on another species which was erroneously described in that genus.

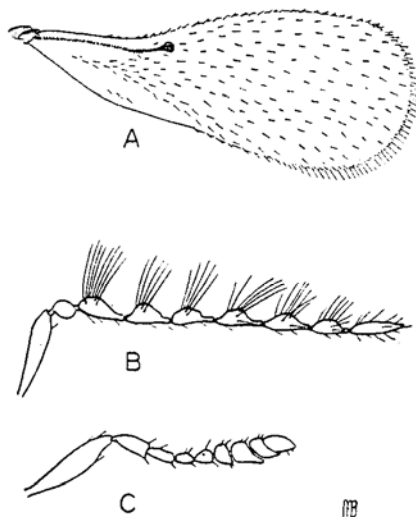


Fig. 1.—*Allotropia utilis* A, anterior wing of male; B, male antenna; C, female antenna. Drawn by Mary F. Benson.

Allotropia utilis new species

(Fig. 1)

Closely resembling the following species, but distinguished from them by its more shining mesoscutum and scutellum, indistinctness of occipital carina, transversely rugulose sculpture of occiput, distinct bend of subcosta well before apical knob, broader anterior wing, and usually relatively narrower abdomen; also, in the male, by the much shorter marginal cilia of anterior wing and darker antennae and legs.

Female.—Length 0.9 mm. Head strongly transverse, slightly wider than thorax; vertex minutely punctate; occiput finely transversely rugulose, shining; occipital carina indistinct; face delicately reticulate, faintly transversely lined; ocellus less than half its diameter from eye; malar space more than half as long as scape, antennae as shown in Fig. 1, C.

Thorax broader than high; mesoscutum very weakly punctate, shining; scutellum much broader than long, without distinct punctures, faintly reticulate.

laterally, shining; sulcus at base of scutellum finely foveolate; side of pronotum delicately longitudinally lineolate below; mesopleuron polished; metapleuron and propodeum thickly covered with pubescence. Anterior wing much broader than abdomen; subcosta distinctly bent toward anterior margin some distance before terminal knob.

Abdomen at least as long as thorax but usually definitely narrower, acute at apex, smooth; first tergite with a transverse foveolate line at base; second much longer than broad, with two or three weak longitudinal foveolae medially at base and a shallow impression each side of these.

Black; antenna dark brown, with base and apex of scape, pedicel, and first three flagellar segments brownish yellow; legs piceous to black, trochanters, more or less of anterior tibia, bases of middle and hind tibiae, and most of fore and middle tarsi paler; wings hyaline, subcosta dark brown.

Male.—Like the female except for the markedly different antennae (Fig. 1, B) and the less acute abdominal apex; the antennae piceous to black, with the attenuated parts of flagellar segments pale.

Type locality.—Berwick, Nova Scotia, Canada.

Host.—*Phenacoccus aceris* (Sign.).

Type.—U. S. National Museum No. 53068.

Described from 27 females and 49 males all reared from the above host by F. C. Gilliatt, as follows: Type, allotype, and 26 paratypes from the type locality, June 28, 1934; 28 paratypes, also from the type locality, reared in July 1936 and July 1937; and 20 paratypes from Annapolis Royal, Nova Scotia, November 28, 1933.

Allotropa ashmeadi, new name

Iphetrachelus americanus Ashmead, Bull. U. S. Nat. Mus. 45: 250, pl. 11, fig. 1, 1893 (not *Allotropa americana* Ashmead, 1887).

This species was described from a single male specimen, but Ashmead's illustration is inaccurate in showing well defined notaulices, which are entirely lacking in the type.

Face a little smoother medially than in *utilis*; occiput granular and dull and occipital carina usually distinct; mesoscutum and scutellum more closely sculptured and rather dull; anterior wing of female not or barely wider than abdomen, which is about as broad as thorax; marginal cilia of anterior wing in male conspicuously longer than in *utilis*, especially on anterior margin, and male antennae and legs brownish yellow.

In addition to the type, which is from Arlington, Va., and is without host data, the U. S. National Museum has a series of 27 specimens reared from an uncertainly identified species of mealybug at New Orleans, La., in June and July 1924, under Quaintance Nos. 26702 and 26703, of the Bureau of Entomology and Plant Quarantine.

Acerota americana (Ashmead), new combination

Allotropa americana Ashmead, Canad. Ent. 19: 125, 1887; Bull. U. S. Nat. Mus. 45: 250, 1893.

Monocrita melanostropha Ashmead, Canad. Ent. 19: 126, 1887. New synonymy.

Acerota caryae Ashmead, Canad. Ent. 19: 128, 1887; Bull. U. S. Nat. Mus. 45: 262, 1893. New synonymy.

Acerota melanostropha (Ashmead), Bull. U. S. Nat. Mus. 45: 262, 1893.

The original description of *americana* recorded the type as a male but, as was indicated in Ashmead's redescription of the species in 1893, it is actually a female. Because of the position of the antennae in this specimen it is not readily determined whether they are 9- or 10-segmented, and Ashmead's error in counting the segments led him to place the species in *Allotropa*. The antennae are definitely 10-segmented, and in every essential the type of *americana* appears to agree with the types of *melanostropha* and *caryae*. That *caryae* is

identical with *melanostropha* was recognized by R. M. Fouts some years ago although the synonymy was not published. Fouts had placed a label with the type series of *caryae* reading "This sp. = *melanostropha*." His failure to observe that *Allotropa americana* Ashmead is the same species was presumably due to the location of the type of *americana* in a different part of the collection. In my opinion there can be no doubt that all three names apply to a single species, although there may still be some question that this form is properly placed generically. However, until the limits of various genera in this section of the Platygasterinae are more satisfactorily defined it seems advisable to leave the species in *Acerota*.

All known specimens of *Acerota americana* are from Jacksonville, Fla.

The types of *americana*, *melanostropha*, and *caryae* are all in the United States National Museum.

THE LIFE HISTORY OF ALLOTROPA UTILIS MUES., A HYMENOPTER OUS PARASITE OF THE ORCHARD MEALY BUG IN NOVA SCOTIA

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Soon after the discovery of the mealy bug *Phenacoccus aceris* Sig. in the orchards of Nova Scotia in 1932, a parasite of much importance was found attacking this pest. This is a small hymenopterous species described in this issue by Dr. C. F. W. Muesebeck as a new species, *Allotropa utilis* Mues.

Considerable time has been devoted to the study of *A. utilis* so that its life-history and habits under Nova Scotia conditions are now fairly well known. As shown in figure 1, hatching of the mealy bug eggs begins only a few days earlier than the emergence of the adult parasites; furthermore, the numbers of both the newly-emerged nymphs and of the parasites reach their maxima at approximately the same time in the orchard. Thus at any one time, the numbers of the parasite are approximately proportionate to those of the host. It should be noted, however, that out of 500 adult parasites studied in 1937, there were 428 males and 72 females, the latter being only 14.4% of the total.

All attempts to obtain oviposition under controlled conditions in the insectary proved unsuccessful, and it was not until the summer of 1937 that this act was observed. On July 23, the adult parasites were ovipositing freely in an orchard near Annapolis Royal, N. S. They were not easily disturbed in their persistent search over the leaves for the host. Their movements were rather slow, the antennae being used in a somewhat methodical manner to search among the pubescence of the leaves. The antennae are apparently the only sensitive organs used by the parasite for this purpose, touching the host with a leg or some other part of the body resulting in no positive response. Upon making contact with the host, the parasite first gave a cursory examination of the dorsal surface with the antennae, then quickly reversing its position, the abdomen was lowered and the ovipositor almost instantly thrust into the nymph. A few seconds were sufficient for the whole operation. Oviposition usually occurred on the dorsal surface near the middle of the abdominal segment. In some instances, however, the first touch of the parasite caused the nymphs to quickly lift the abdomen to the vertical position, the ovipositor then being frequently thrust into the ventral surface of the abdomen. The host was distinctly sensitive to this disturbance but quite unable to offer any effective resistance. It almost at once began to wander aimlessly over the leaf but in a few moments settled down to a fresh feeding position.

There appeared to be some discrimination in host selection. Often the parasite, after exploring most of the dorsal surface of the host, moved away to search again without the slightest attempt at oviposition. Just what prompted

*Deceased April 28, 1938.

PLATE 23

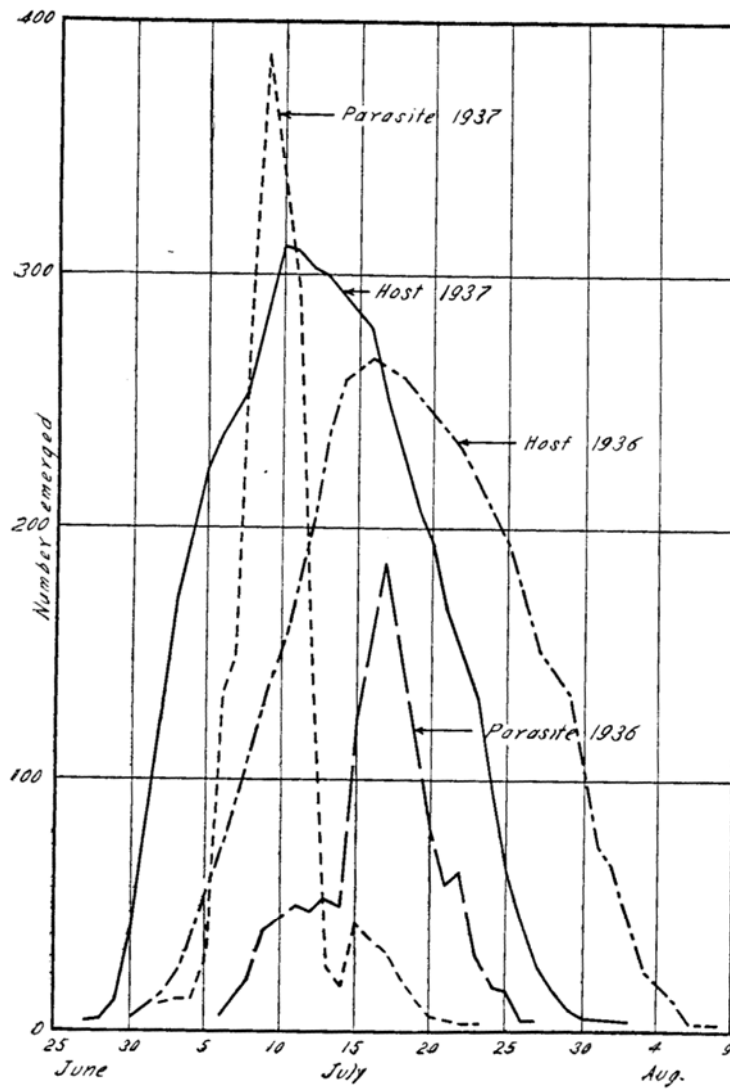


Figure 1.—Graph showing time of emergence of host (young nymphs) and parasite (adults) in 1936 and 1937, Annapolis Royal, N. S.