



A NEW AND IMPORTANT SPECIES OF LEAFHOPPER INJURING APPLE IN OHIO

By D. M. DeLONG, Columbus, O.

ABSTRACT

A new species of leafhopper, *Empoa malini*, has been found causing decided losses on apple in central Ohio. It has been the most abundant species on apple during the past two years. It closely resembles *E. rosae* with which it has apparently been confused. The color is more yellow than *E. rosae* but the easiest method of distinguishing them is by the terminal processes on the pedagus.

For the past two years leafhoppers have been affecting the apple in central Ohio in injurious numbers. The great majority of these insects reared from and collected on apple belong to a species which has apparently never been described. Although the biologic study has not been completed it seems best to publish a note regarding the economic importance of this species and its description. It closely resembles and belongs to the same genus as *Empoa rosae* (Linn) with which it has apparently been confused for a long time.

It is however, slightly smaller and more yellow or yellowish green than *E. rosae* which is usually white or pale yellow in color. From general field observations the life history is apparently similar to *rosae*. During the past season these insects have been so abundant in commercial orchards near Columbus that in addition to the feeding injury on the leaves fruit has been spotted by the secretion of a material similar to honey dew. This secretion on the fruit has caused a commercial loss due to a reduction in the market value of the apples. The problem is therefore an important economic one in this vicinity and an attempt is being made to gain as much knowledge as possible regarding the biology and control.

TECHNICAL DESCRIPTION

Empoa (Typhlocyba) malini n. sp.

Resembling *E. rosae* in form and general appearance, but slightly smaller, more yellowish in color and with distinct genitalia. Length 2.75-3.0 mm.

Vertex roundly produced, a little more than half as long at middle as basal

width between eyes. Pronotum broader than head especially at humeral angles. Wing venation as in *E. rosae*.

Color. Somewhat variable, pale to bright yellow, often tinged with green. No dark markings.

Genitalia: Female last ventral segment rather long and produced to form a blunt angular apex. Male valve transverse, rounded at sides. Plates as long as valve and two preceding segments. Plates long, tapering to narrow attenuated tips which are upturned.

INTERNAL GENITALIA. The species can be separated from allied species only by the character of the internal structures. The tip of the oedagus in *E. rosae* bears four spine like processes which extend forward from a common origin. In *E. malini* there are five processes, two arise a little back of the terminus and extend upward (and slightly backward). The three at the tip arise at about the same point. The one arising dorsally extends forward and ventrally while the pair that arise ventrally

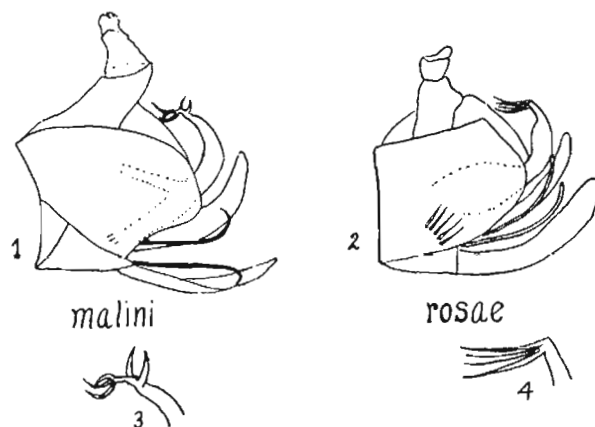


Fig. 23.—1, *Empoasca malini*, n. sp., terminal portion of abdomen of male; 2, *Empoasca rosae* (Linn) terminal portion of abdomen of male; 3, Tip of oedagus of *E. malini* (enlarged); 4, Tip of oedagus of *E. rosae* (enlarged).

extend forward and slightly dorsally. This is the best character for separation and is not really an internal structure as it can be seen as a rule if the elytra are lifted up. The genital chamber is usually open sufficiently to expose these structures. The styles are just dorsal to the plates and in the case of *E. malini* they curve outward very strongly at the apices. A large number of specimens of each species has been examined and these characters are apparently constant.

Described from a large series of specimens reared from apple at Columbus, Ohio, during July, August, and September, 1924 and 1925. Also a series of specimens collected during the summer of 1925 on apple by Prof. J. S. Houser, who has kindly sent me specimens for identification. The male is designated as the type. Type in author's collection.