

about three fourths of an inch below the surface as if it had been pared with a knife and it could be rolled up in patches like a mat. Habits of this nature have not hitherto been associated with the genus **Aphodius**, the members of which are nearly all scavengers, living on animal ordure, but this species appears to be an exception. Applications of carbon bisulphide emulsion in water had very little effect on the larvae and a reliable method of control has not yet been devised. The reason for the insect occurring in such destructive numbers is probably due to the fact that the sod of the greens in question provided the only suitable breeding ground for the beetles during the dry seasons. The surrounding country is denuded of bush and the almost barren soil supports only stunted berberis and salal and a few weeds. Such grassy spots as there are would become too dry for the larvae and the beetles would tend to concentrate upon the well-watered greens. This, at present, is the only explanation that seems to offer for the unusual destructiveness of this species.

Although not an insect, the symphylid, **Scutigera immaculata** Newport, comes within our scope. This symphylid is about one third of an inch in length when full grown and pure white in colour. They move with great rapidity and are abundant in old fields and gardens where they normally live on decaying vegetable matter, but in spring are liable to be destructive to seedling plants of various kinds. Within the last few years many complaints have been received of damage to seedling mangels, the fields having to be re-seeded in many cases. The species occurs from British Columbia to California. No practical control, other than rotation of crops, has so far been suggested.

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### AN INTERESTING MYZOCALLIS

(Hemiptera, Aphididae)

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In December, 1926, specimens of what I took to be **Myzocallis alnifoliae** Fitch were sent to Dr. W. M. Davidson at Vienna, Virginia. They were part of two collections, one from native alder **Alnus oregona** Nutt, and the other from wild strawberry, **Fragaria glauca** Wats, growing in close proximity at Agassiz.

As an alternate host for a member of the Callipterini is very unusual, especially in the case of such widely separated plants botanically as alder and strawberry, I wished to obtain confirmation of my determination

that the two aphids were of the same species. They were determined as conspecific by Dr. Davidson, but he pointed out to me that they did not agree entirely with **alnifoliae** Fitch, more especially in the arrangement of the sensoria on segment III. of the antenna and in the form of that segment, and considered that my specimens probably represented a new species.

Fortunately I refrained from rushing into print and with the publication of Volume 2 of Theobald's "Aphididae of Great Britain" I have been able to compare the species from alder and strawberry collected at Agassiz with the description and figures of **alni** De Geer (which also seems to be known as **alni** Fab), and these agree perfectly, with the exception that the dusky knee spot on the hind tibia is not mentioned.

The chief distinguishing features between **alni** and **alnifoliae** are that the latter is non-tuberculate, and the sensoria on segment III. of the antenna of the alate female are distributed in a row on the basal  $2/3$ , while **alni** is tuberculate on the abdomen, and the sensoria on segment III. are bunched on the enlarged basal  $1/3$ .

**Myzocallis alni** De Geer would appear to be a native here. It is widely spread and abundant annually in the lower Fraser Valley and causes much disfigurement each year on the alders.

The most interesting point, however, in connection with this species, is the habit of feeding on host plants so botanically distinct as alder and strawberry, an unusual proceeding for a member of the Callipterini. To obtain some data on this habit, in 1926 I potted some plants of the native strawberry and some young alders, and in 1927 endeavored to transfer to strawberry at various times during the summer individuals from alder both potted and from the field. I found it impossible, however, to maintain this aphid on strawberry for more than a day or two at a time, though when alder and strawberry plants were placed close together in the insectary, the lice would often leave the alder and go voluntarily to the strawberry but even then would not remain there for any length of time though they would feed readily.

In the field this aphid, both adult and nymph is found quite freely on strawberry when these plants are growing near alders, but not otherwise and it is interesting to note that Theobald has found in England that thyme, **Thymus Serpyllum** L and a species of **Epilobium**, when growing under alders are often infested with this species. I have examined other herbs growing under alders including **Solidago**, **Cnicus**, **Lathyrus** and various grasses but have not found any infestation on these plants.

Whether this habit of casual migration is the vestige of a regular double host habit, or the first step in the acquisition of this habit is

difficult to say, but the writer inclines strongly to the latter supposition from the position of this genus in aphid phylogeny.

The apterous oviparous females are produced on alder in the late fall, where the males are also found and several eggs are laid by each female in the axils of the leaf buds. The eggs when first laid are pea green in colour, later turning a shiny black. It was noticed that the oviparous females have two quite prominent wax pore areas on the ventral side of the abdomen just opposite the cornicles. From these areas thin filaments of wax, white and quite crisp, are extruded, and after egg laying, the females rub this wax on the still moist egg giving a frosted appearance to the otherwise shiny black surface. This may be a form of camouflage as the buds of the alder are slightly hoary also, and the eggs so covered, are possibly less easily seen by such birds as tits in their winter egg hunting excursions.