

BRIEF NOTE

HERBIVORY ON MAY APPLE *PODOPHYLLUM PELTATUM*
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Research recently has been focused on the relationships of plants and their associated phytophagous insect fauna. One aspect of this research involves plant production of secondary compounds as an evolutionary defense against insect herbivory (Sondheimer and Simeone 1970). In turn, some phytophagous insects have coevolved mechanisms to metabolize or detoxify these compounds (Krieger *et al* 1971).

Podophyllum peltatum, the may apple or mandrake, is known to produce toxic secondary compounds that inhibit herbivory on its actively growing leaves, stems, or rhizomes. Specifically, podophyllotoxin, a potent anti-mitotic compound, has been isolated from *P. peltatum* and used medically for some time as an anti-cancer agent (Meijer 1974). Although there are insects that feed upon the dying leaves and fruits (which are non-toxic), there are few, if any reports of phytophagous insects on the leaves, stems, or rhizomes (R. Rust, personal communication).

In April and May of 1977, 11 larvae were collected from live may apple plants at Hazelwood Preserve and Mt. Airy Forest in Hamilton County, Ohio. These lepidoptera larvae were reared in the laboratory on live may apple plants. All of the larvae readily skeletonized the leaves and a few fed upon the petiole and stem. Ten of the 11 larvae spun protective webs between rolled leaves. All pupated and emerged as normal adults. Seven of these proved to be *Clepsia melaleucana*

(Walker) while 3 were *Choristoneura rosaceana* (Harris). Both are of the family Tortricidae (Tortricinae: Archipini). The other non-leaf roller remains unidentified. Chapman and Lienk (1971) report that *C. melaleucana* feeds upon *Trillium*, Solomon's seal (*Polygonatum*), and blue cohosh (*Caulophyllum*) and brief mention is given to may apple and woody plants as possible food plants. *C. rosaceana* is also polyphagous, with primary hosts usually members of the Rosaceae family but also non-rosaceous woody plants such as *Populus* sp., willow, white birch, and *Aesculus* sp. (Chapman and Lienk 1971).

Thus, contrary to previous evidence, this report confirms the presence of at least 3 species of insects capable of detoxifying or metabolizing the secondary compounds in may apple plants and maturing to adulthood. At least two of these species are polyphagous and therefore likely to be able to metabolize a wide variety of secondary plant compounds.

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LITERATURE CITED

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