AIDS TO DISTINGUISH BETWEEN FEMALES OF THE "WINTER-MOTHS", *ALSOPHILA POMETARIA* AND *OPEROPHTERA BRUCEATA* (GEOMETRIDÆ)

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The following notes may help the beginner to distinguish between the wingless females of these two species, both of which emerge from the chrysalis in the ground at the base of trees at the same time in the fall. Some of the information provided by FORBES (1948) is helpful, some confusing. The quotations below are from that author's Memoir.

1. Imago wingless, covered with bronze and white scales, white predominating; hind tibia shorter than tarsus, with a paired spur at the end of the thickened distal third; eyes brown; head with frontal concavity.. *Alsophila pometaria* Harris

2. Imago with short wing-pads; scaling bronze and white, bronze predominating; hind tibia longer than tarsus, with two paired spurs in line, distal third not thickened; eyes black, with blue-green iridescence; front of head convex ..... *Operophtera bruceata* Hulst

According to FORBES (p. 158) the female of *O. bruceata* is "luteous, with head and most of the body covered with vague fuscous blotches."; that, however, does not agree with the color character given in the key on p. 13, where the moth is to be identified as "brown". "Luteous" means golden-yellow. *A. pometaria* is stated (p. 15) to be "gray, unmarked". The general appearance is gray, but all specimens caught here are visibly brown behind the thorax; this is due to less heavy white scaling on the first abdominal segment. The scales lie close to the cuticle, and give the moth a smooth appearance. In *O. bruceata* the general appearance is brown but not distinctly so; the scales are attached at various angles, giving the moth a rough and wrinkled appearance.

The antennae of the male *A. pometaria* are stated to be "heavily serrate and fasciculate"; the female antennae are not described. The antennae of *O. bruceata* are "heavily ciliate", but it is not stated if that applies only to the male or to both sexes. "Female with head characters as in the male" might lead a beginner to assume that the antennae are the same in both sexes. In this locality the antennae of the females of both species appear under a low-power hand lens to be filiform, but under a higher power those of *O. bruceata* are distinctly serrate.

The female of *Paleacrita vernata* Peck has often been confused with the above two species. It may emerge before winter. "Fall emergences are rare, but [captures of this species and their misidentification] are partly to blame for the general confusion with the fall canker-worm." (Forbes, p. 68). The facies of the males of these three species are distinct enough, and the antennae of ♂ *P. vernata* could not be confused with those of the other two species. It would seem that the only good distinctive character is the possession by *P. vernata* of bristles overlying the scales of the body.

Out of about 250 specimens of females taken last fall from Ash, Elm, and Maple in my garden and nearby, only 5 are *O. bruceata,* one of them *in cop.* One has its wing-pads spread out. About ten males of the two species were taken. One female of *A. pometaria* has the left antenna of the

male sex, the right female. Another has two male antennae, and the right hind tibia with two pairs of spurs in line, as in *O. bruceata.* Several otherwise normal females of *A. pometaria* have a third, generally short, spur on one or both hind tibiae.

Reference

Forbes, W. T. M. 1948. Lepidoptera of New York and neighboring States, Part II. *Cornell Univ. Agric. Exp. Sta. Memoir* 274: 263 pp., 255 figs.

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REVIEW

MICROLEPIDOPTERA OF NEW GUINEA. Results of the Third Archbold Expedition (American-Netherlands Indian Expedition 1938-1939). Part I. By A. Diakonoff. *Verhandelingen der Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Natuurkunde, Tweede Reeks,* Deel XLIX, No. 1: pp. (1)—167, 1 pl., 1 map, 208 figs. Amsterdam, 1952.

The present work is the first part of a voluminous report on Microlepidoptera collected by the above-mentioned expedition in the mountainous region of Central New Guinea, the fauna and flora of which have been hitherto very little known. The completed work promises to bring a revision of all lepidopterous families usually known under the collective name Microlepidoptera with the exception of the superfamily Pyraloidea of which latter the report includes only the family Alucitidæ.

Extensive materials on Microlepidoptera collected by the expedition comprised about 1400 specimens belonging to 582 species and subspecies of 30 families of which 1 family, 67 genera, 516 species and 10 subspecies were new.

In the published part of the report the families Alucitidæ (11 spp.), Phaloniidæ (2 spp.), and a part of Tortricidæ (100 spp.) are treated; 6 genera, 94 species, and one variety are described as new. Of some species already known in one sex the other sex is described. Besides the new descriptions, the keys to the Papuan genera and species are given; in these keys not only the presently revised species but also those already known from New Guinea are included. In this way the report is of greatest importance for all students of the Papuan fauna and taxonomists.

The illustrations are very accurate and numerous. The text figures represent wing neuration, heads, and genitalia of all new species and of many little known ones. A map represents the area visited by the expedition; another map gives the distribution of the genus *Zacorisca* Meyr. Plate 1 represents *Chionothremma placida,* gen. & spec. nov., photographed on the sand in nature.

The family Tortricidæ, very rich in species in New Guinea, is considered by the author *sensu lato, i. e.,* with the inclusion of Eucosminæ as a subfamily on an equal level with Tortricinæ. This may be noted as a new systematical view of the author who in his former publications was a strong adherent of the separation of Eucosmidæ as an independent family. "The relation of these two tortricoid groups," the author writes now about Tortricinæ and Eucosminæ, "is indeed very close and there are no 'absolute' characters available for their separation", and further: "for a more natural classification the two groups have to be united as one family." For an exact explanation of the systematical views of the author it might be added that the family Tortricidæ did not include (as the author explained) Ceracidæ, Schœnotenidæ, and Melanalophidæ, none of which was reviewed in the publication under consideration.

As for the remaining parts of the work, we shall have an opportunity to abstract them as soon as they are published.

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