

# *WOCKIA ASPERIPUNCTELLA* IN NORTH AMERICA (LEPIDOPTERA: URODIDAE: GALACTICINAE)

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**ABSTRACT.**— The European *Wockia asperipunctella* (Bruand) is present in northeastern North America. Its biology in New England is noted in relation to its European populations.

**KEY WORDS:** Asia, *Bahlrutia*, Betulaceae, Blastobasidae, Canada, Connecticut, Europe, *Galactica*, *Homadaula*, *Ilychytis*, Maine, Massachusetts, Nearctic, Neotropical, New York, North America, Salicaceae, *Urodus*, USA, *Zarcinia*.



Fig. 1. *Wockia asperipunctella* adult ♂ (Lincoln, Maine) (USNM) (ca. 8x).

Fig. 2. Cocoon and pupal shell of *Wockia asperipunctella*, on birch twig (Putnam, Connecticut) (AMNH) (ca. 10x).



The Old World genus *Wockia* includes a single species from Europe, *Wockia asperipunctella* (Bruand). More recently, a tropical species from Borneo was added to the genus (Kyrki, 1986). Several older American moths from museum collections, formerly mixed in with unplaced Plutellidae, have been determined to be the European *W. asperipunctella*, now noted for the first time in North America.

Most Urodidae are in the Neotropical genus *Urodus*. The Galacticinae, including *Bahlrutia*, *Galactica*, *Wockia* and *Zarcinia* from Europe, and *Homadaula* and *Ilychytis* from east Asia, have previously been placed in Yponomeutidae (even in Glyphipterigidae of Meyrick) or Plutellidae. These genera are small (except for *Urodus*), with one to three known species each. Following my review of all genera included by Meyrick or others in "Glyphipterigidae", *Homadaula* was transferred to Plutellidae, then later to Urodidae (Heppner, 1982, 1991, 1992). Galacticinae had been placed in Plutellidae by Friese (1966), with Kyrki (1988, 1990)

later noting the other genera as being related to *Homadaula* and in the family Galactiidae. These genera were all later placed as the subfamily Galacticinae of Urodidae (Heppner, 1992, 1996).

The illustrations herein of an adult *Wockia* from Maine (Fig. 1) and a cocoon from Connecticut (Fig. 2) are as typical as specimens from Europe. Adults are small (17-18mm wingspan) nondescript, grayish moths with maculation in shades of gray, appearing similar to some Blastobasidae species. The genitalia in both sexes of the New England specimens show no significant differences from European specimens (see Kyrki, 1988, for genitalia figures); only the process of the valva in the male is slightly longer than European specimens, but probably well within the range of variation for the species.

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In Europe, *W. asperipunctella* is distributed from Scandinavia to France, Italy, and the Balkans (Kyrki, 1988; Spuler, 1910). Adults are active from May to early July in northern Europe, but have two generations in southern European locals (April to early June and July to early September). Larvae in Europe have hostplant records in Salicaceae: *Populus tremula* and *P. nigra*, and *Salix elaeagnos* (Chrétien, 1905; Kyrki, 1986). Larvae feed as leaf skeletonizers. As illustrated herein, the cocoon is a filigreed network attached to a twig (Fig. 2), very much in appearance like the cocoon of *Urodus* (Busck, 1910; Frost, 1972). In Europe, the pupa overwinters and emerges the following spring. For a more complete summary of the biology and morphology of the species, see the paper by Kyrki (1988).

The known New England specimens have the following data (additional specimens have been discovered in Canada by J. F. Landry (pers. comm.), which he will report on in a later paper):

## CONNECTICUT

Putnam, Windham Co., 30 Jul 1969, A. B. Klots (AMNH)

♀ ex [bigtooth aspen] *Populus grandidentata* (Salicaceae)

## MAINE

Lincoln [Penobscot Co.], 27 Jul [year?] [A. E. Brower Coll.], ♂ (USNM)

Lincoln [Penobscot Co.], 1 Aug [year?] [A. E. Brower Coll.], ♂ (USNM)

## MASSACHUSETTS?

"306" (unknown locality [Amherst?]), "1889 Walsingham, nov. gen. nr *Acrolepia*", Fernald Coll., ♂ (USNM 77682, Busck 1934)

## NEW YORK

Cranberry Lake [Lawrence Co.], 8 Aug 1924, E. A. Hartley (USNM)  
♂ ex yellow birch [*Betula alleghaniensis*] (Betulaceae)

McLean Bogs Reserve, Tompkins Co., 28 May 1959, R. W. Hodges  
♀ (JBH slide 1744) (USNM).

Although *Wockia asperipunctella* is a surprising addition to the North American moth fauna, its American habitat is similar to that found in parts of Europe. Collection records from New England above are from late May to early August, indicating two generations per year. The American populations evidently have been present in the New World for nearly 110 years and possibly much longer. Fernald seems to have taken the first specimen in North America before 1889 (probably near Amherst, Massachusetts, where he lived, but possibly collected in Maine where he lived before moving to Amherst in 1886): this specimen was labelled as "nov. gen. nr. *Acrolepia*" by Walsingham, dated 1889 (apparently sent to Walsingham for determination). Although, Walsingham was in London, he was possibly not familiar with *Wockia* and did not recognize the American specimens as the same species as found in Europe (*Wockia* is not known to occur in Britain). Since the collection records for North America are meager, a small population density may be indicated. In particular, A. E. Brower collected in Maine for nearly 85 years and found only the two specimens noted above. Also, *Wockia* may not readily come to lights. *Homadaula* is active diurnally, so *Wockia* may at least be crepuscular in adult activity (Kyrki (1988) does not mention adult behavior). In addition to being overlooked, or at low density in the field, the species has also languished among unidentified moths in museum collections.

Now that the specimens from New England are identified, collections should be more thoroughly searched, particularly among unknown Blastobasidae, since the moths greatly resemble

species in this family. A careful study of the adult will, however, easily confirm that it is not gelechioid (e.g., the haustellum is not scaled basally). Hostplants can also be searched for the characteristic cocoons in late autumn to discover more populations. Since the most recent collection was in 1969, it seems the species is still extant in North America and may even be spreading into areas wherever the hostplants are to be found.

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## LITERATURE CITED

- Busck, A.**  
1910. New moths of the genus *Trichostibas*. *Proc. U. S. Natl. Mus.* (Washington), 38:527-530, pl. 35.
- Chrétien, P.**  
1905. Le genre *Artenacia* et les genres des Hyponomeutinae. *Naturaliste* (Paris), (2) 433:65-67.
- Friese, G.**  
1966. Ergebnisse der Albanien-Expedition 1961 des Deutschen Entomologischen Institutes. 52. Beitrag. Lepidoptera: Plutellidae. *Beitr. Ent.* (Berlin), 16:447-459.
- Frost, S. W.**  
1972. Notes on *Urodus parvula* (Herny Edwards) (Yponomeutidae). *J. Lepid. Soc.* (Los Angeles), 26:173-177.
- Heppner, J. B.**  
1982. A world catalog of genera associated with the Glyphipterigidae auctorum (Lepidoptera). *J. New York Ent. Soc.*, 89:220-294 (1981).  
1991. *Faunal Regions and the Diversity of Lepidoptera*. In *Tropical Lepidoptera*, 2 (Suppl. 1). Gainesville: Assoc. Trop. Lepid. 85pp.  
1992. Introduction. In J. B. Heppner and H. Inoue (eds.), *Lepidoptera of Taiwan. Volume 1. Part 2: Checklist*. Gainesville: Assoc. Trop. Lepid. 276pp.  
1996. *Keys to Families of Lepidoptera*. In *Tropical Lepidoptera*, 4 (Suppl. 3). Gainesville: Assoc. Trop. Lepid. 28pp (1993).
- Kyrki, J.**  
1984. The Yponomeutoidea: a reassessment of the superfamily and its suprageneric groups (Lepidoptera). *Ent. Scand.* (Copenhagen), 15:71-84.  
1986. *Wockia balikpapanella* sp. n. from Borneo (Lepidoptera, Yponomeutidae auct.). *Ann. Ent. Fenn.* (Helsinki), 52:42-43.  
1988. The systematic position of *Wockia* Heinemann, 1870, and related genera (Lepidoptera: Ditrysia: Yponomeutoidea auct.). *Nota Lepid.* (Zurich), 11:45-69.  
1990. Tentative reclassification of Holarctic Yponomeutoidea (Lepidoptera). *Nota Lepid.* (Zurich), 13:28-42.
- Landry, J. F.**  
in prep. [Additional North American records of *Wockia* (Urodidae)].
- Spuler, A.**  
1908-10. *Die Schmetterlinge Europas*. Stuttgart: E. Schweizerbart. 3 v, 155 pl.