

NOTES ON THE PLASTER BAGWORM, *Phereoeca Uterella*, IN FLORIDA (LEPIDOPTERA: TINEIDAE)

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ABSTRACT.— Some biological notes are given on the plaster bagworm, *Phereoeca uterella* (Walsingham) (formerly known as *Tineola walsinghami* Busck and *Phereoeca dubitatrix* Meyrick), from Florida. Larvae mainly are detritus feeders, making distinctive larval cases that are often found attached to house walls.

KEY WORDS: Africa, Australia, biology, Brazil, California, Canary Islands, Caribbean, Congo, India, Malaysia, Neotropical, North America, Panama, *Phereoeca*, *Praecedes*, St. Thomas, South America, Sri Lanka, *Tinea*, *Tineola*, Uganda, USA, Virgin Islands, West Indies.

The plaster bagworm, *Phereoeca uterella* (Walsingham) (formerly known as *Phereoeca dubitatrix* (Meyrick) and more often as *Tineola walsinghami* Busck), is a curious detritus feeder, commonly found in dry niches in the southeastern United States and the nearby Caribbean islands. In Florida, it occurs throughout the state (Heppner, 2003). The species found in Florida was first described from St. Thomas, in the Virgin Islands, by Walsingham (1897), although his original series of specimens was mixed with examples from Brazil and later lectotype designations fixed the type locality using one of the specimens from Brazil. Later, Meyrick (1932) and Busck (1934) redescribed the same species from other St. Thomas specimens, thus the reason the species has been called *Tineola walsinghami* in most papers on the species until very recently. Walsingham (1914) reported the species from Mexico, where he found it common in houses, but this and similar reports for South America may in fact represent other species of *Phereoeca*, notably *P. allutella* (Rebel) which is originally from the Canary Islands (Aiello, 1979), or undescribed species (Davis, pers. comm.).

Davis (1984) found that *P. walsinghami* was a synonym of the senior name, *P. dubitatrix*, but recent studies by Robinson and Nielsen (1993) have further synonymized both these names under *P. uterella* (Walsingham). Robinson and Nielsen (1993) clarified the status of the type series of *P. uterella* and noted that Zimmerman (1978) already inadvertently designated a lectotype for the species by noting a female syntype from Brazil as "holotype." Walsingham's (1897) original series was mixed, with specimens representing still undescribed species of *Phereoeca*, plus even a specimen of another genus (*Praecedes*).

In their Australian work, Robinson and Nielsen (1993) noted all the species of *Phereoeca*, leaving only one species in the New World with 6 names as synonyms, including 2 names from Asia and 2 from Africa (see Appendix). Besides *P. uterella*, there remains one valid species in Africa (see Gozmány and Vári, 1973), occurring also in Australia, one in India (Hinton and Bradley, 1956), and *Phereoeca allutella* (Rebel) from the Canary Islands (introduced into Latin America and tropical regions of Africa). In American literature, Kea (1933) was thought to have misidentified the plaster bagworm, using the name *Tineola uterella*, but it now turns out that he had the species name correct. See the Appendix for the complete nomenclatural list for the species and its current synonymy. The African plaster bagworm, *Phereoeca praecox* Gozmány & Vári, has recently been found in California (Gulmahamad, 1999).

The species in Florida and the southeastern USA, *P. uterella*, is often found on the walls of garages and similar dry situations in urban areas (Hetrick, 1957; Kea, 1933; Mallis, 1964). Adults are not commonly found and may not be much attracted to lights, thus collections of adults

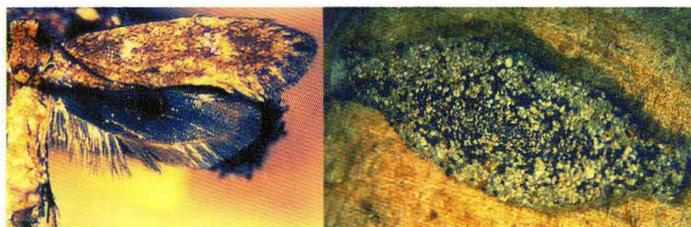


Fig. 1-2. *Phereoeca uterella*, adult female and larval case (by J. Villanueva).

are generally only near their immediate larval sites or through rearings. This is typical for other virtually domesticated moths, for example the true clothes moth, *Tinea pellionella* Linnaeus. Adults of the plaster bagworm are brownish gray with few darker markings (Fig. 1). Presumably, all *Phereoeca* have a similar biology and larval case form; this is supported by a detailed study of the biology of *Phereoeca allutella*, called the bathroom moth, by Aiello (1979) in Panama.

Larvae of the plaster bagworm are not known to be of any major economic concern, other than being unsightly as they cling onto walls of houses. There have been persistent remarks that larvae have been found feeding on woolens and furs (e.g., Hartnack, 1939; Hinton and Bradley, 1956; Hetrick, 1957; Mallis, 1964, 1990), but may mostly refer to misidentified true clothes moths, not the plaster bagworm. Such is also the conclusion of Robinson and Nielsen (1993), since one damage report of "plaster bagworm" from India (Fletcher, 1914) has been confirmed to be a misidentified Indian species of true clothes moth in the genus *Tinea*. However, in rare instances some plaster bagworm larvae may feed on fibers. For example, a recent case was found in Florida where plaster bagworm larvae were feeding on cotton window shades: the cases of the larvae in this example were all nearly white in color, just like the cotton window shades. The species now introduced to California, *P. allutella*, has been found feeding on debris, like *P. uterella*, but also possibly feeding on a woolen rug (Gulmahamad, 1999). This example had a large number of larval cases reported, so feeding on non-typical food, such as woolens, is possible under high density conditions.

The larvae of *P. uterella* make silken cases, sometimes covered with sand grains or other fine debris, forming a somewhat dumbbell-shaped, flattened case, but wider laterally in the middle like the flat seeds of pumpkins. Coloration is mostly gray but can vary depending on the debris attached to the silk (Fig. 2), or to feeding material (note above the example about the white cases from larval feeding on cotton window shades). The larval case also serves later for the pupal cocoon.

The common name, plaster bagworm, stems from the erroneous idea that the larvae eat plaster, or that they cling to plaster. Larval feeding is mainly on various detritus, such as spider webs and webbing of

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primitive insects; this and associated debris is the most likely feeding for the species. They are often quite common and perhaps when in household situations they may on occasion also feed on natural fibers of clothing. In nature they are commonly found in crevases on the bark of large trees or logs, feeding on webbings of Psocoptera and spiders, and other debris (Hetrick, 1957). The urban habitat, however, has not been a hindrance to the biology of the species and it seems to have become semi-domesticated to human environments. Hetrick (1957) also noted larval feeding on old cases left over from a previous generation.

Hetrick (1957) noted a number of feeding and behavioral characteristics of the larvae of plaster bagworms in Florida:

"the case is the same on both ends. Slit-like openings occur at each end of the case and it is not possible to say that one end is anterior and the other posterior. A larva within a case can quickly reverse its direction and feeding is done from either end."

Hetrick also noted humidity as a factor in its distribution.

Recent notes were made available by Bill Bargren (in litt.), about discovering plaster bagworm larvae feeding on dry cat food: he noted that they feed actively on a Purina brand cat food and as many as 6 larvae would sometimes form a circle around one of the food pellets. Bargren mentions that larvae around a cat food pellet will sometimes keep their case there for two or more days.

Plaster bagworms feed mainly on debris associated with spider webs, but are also opportunistic feeders, particularly in instances of high larval density. They will also cannibalize other larval cases to reingest the case materials.

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APPENDIX: Taxonomy of *Pheroeca uterella*

The nomenclature and taxonomic status of each name below follows the treatment of Robinson and Nielsen (1993). In checking the text and illustrations given in Gozmány and Varí (1973), it seems the African names may refer to valid species distinct from *P. uterella*, as Gozmány and Varí treated them, but Robinson and Nielsen (1993) consider the variations within the parameters of one species. Perhaps further study will yet alter the total synonymy of the plaster bagworm, but at least the current name, *P. uterella*, seems correct for the Florida species.

Pheroeca uterella (Walsingham, 1897) (*Tineola*) (type-species of the genus *Pheroeca*). Type-locality: Pará [Belém, Brazil] *pachyspila* (Meyrick, 1905) (*Tinea*). TL: Peradeniya, Sri Lanka *oblitescens* (Meyrick, 1924) (*Tineola*). TL: Kuala Lumpur, Malaysia *barysticta* (Meyrick, 1927) (*Tinea*). TL: Kampala, Uganda *dubitatrix* (Meyrick, 1932) (*Tinea*). TL: St. Thomas, Virgin Is. *walsinghami* (Busck, [1934]) (*Tineola*). TL: St. Thomas, Virgin Is. *postulata* Gozmány, 1967. TL: Eala, Congo