

ANNOTATED CHECKLIST OF THE PTEROPHORIDAE  
(LEPIDOPTERA) OF FLORIDA INCLUDING  
LARVAL FOOD PLANT RECORDS

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## ABSTRACT

A checklist of the Pterophoridae of Florida includes 32 species with larval host plant records for 27 species. Species changes and updated nomenclature since Kimball (1965) are noted.

## RESUMEN

Se da una lista de los Pterophoridae de la Florida que incluye 32 especies con el registro de sus plantas hospederas para 27 especies. Se incluyen los nuevos cambios de especies y de nomenclatura desde Kimball (1965).

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The following list provides an update of the plume moth fauna of Florida with known larval hosts for each species. Kimball (1965) reported 27 species in Florida but there have been several additions to synonymies and changes in generic assignments as reflected in the most recent checklist of North American Pterophoridae by Munroe (1983). Nine species are added to the Florida fauna: *Sphenarches anisodactylus* (Walker), *Trichoptilus pygmaeus* Walsingham, *Platyptilia carduidactyla* (Riley), *Stenoptilodes auriga* (Barnes & Lindsey), *Exelastis* sp., *Oidaematophorus eupatorii* (Fernald), *O. paleaceus* (Zeller), *O. glenni* Cashatt, and *Oidaematophorus* sp. C. Five names are synonymized or omitted (see Table 1 for details). The present list includes 32 species arranged according to Munroe (1983) with recent additions and generic assignments in accordance with Buszko (1979) and Prola & Racheli (1984).

Information on hosts in Florida and outside Florida is included under the heading "Larval hosts". Each host species is followed by its common name(s) and a literature citation or place of specimen depository. Where no citation is given, the moth species was either reared or collected by the authors on the host listed. Synonyms of host species are included in parentheses if they appear on specimen labels or in the references cited. Museum abbreviations are USNM, United States National Museum, Washington, D. C.; MCZ, Museum of Comparative Zoology, Cambridge, Mass.; FSCA, Florida State Collection of Arthropods, Gainesville, Fla.; CMNH, Carnegie Museum of Natural History, Pittsburgh, Pa. Specimens from other museum collections were examined in addition to many private collections (see acknowledgments). Aspects of the biology of each species are included under the heading "Notes".

Four species, *Exelastis* sp., *Oidaematophorus* sp. A, B, and C are unnamed, new to the North American fauna, and may be undescribed. Pending examination of additional material these species will be treated accordingly in future publications. Species accounts including life histories, distributions, adult and larval descriptions, and keys to Florida species are described and figured in Matthews (1989).

TABLE 1. SUMMARY OF CURRENT STATUS OF NAMES REPORTED IN KIMBALL (1965).

Kimball #	Kimball species name	Remarks
6459	<i>Trichoptilus parvulus</i>	
6460	<i>Trichoptilus defectalis</i>	Current genus is <i>Megalorhipida</i> .
6461	<i>Trichoptilus californicus</i>	
6471	<i>Platyptilia pusillidactyla</i>	Current genus is <i>Lantanophaga</i> .
6472,1	<i>Platyptilia brevipennis</i>	Species record based on early literature record. No specimens in museum collections examined. Figure in original description very close to <i>M. taprobanes</i> , probably a synonym.
6483	<i>Platyptilia brachymorpha</i>	Both <i>brachymorpha</i> Meyrick and <i>crenulata</i> B & McD. are synonyms of <i>Mariana taprobanes</i> .
6483,1	<i>Platyptilia taprobanes</i>	Current genus is <i>Mariana</i> .
6488	<i>Platyptilia carolina</i>	Current genus is <i>Stenoptilodes</i> .
6490	<i>Platyptilia edwardsii</i>	Northern species, found principally in Canada. Kimball's specimens in MCZ labelled as this species are actually <i>M. taprobanes</i> .
6503	<i>Exelastis cervinicolor</i>	
6504	<i>Marasmarcha pumilio</i>	
6505	<i>Stenoptilia rhynchosiae</i>	
6506	<i>Stenoptilia parva</i>	Current name is <i>Lioptilodes parvus</i> .
6508	<i>Stenoptilia zophodactyla</i>	The USNM specimen Kimball reported was identified as <i>S. pallistriga</i> .
6509	<i>Stenoptilia pallistriga</i>	
6516	<i>Pselnophorus belfragei</i>	
6517	<i>Adaina bipunctata</i>	
6521	<i>Adaina buscki</i>	
6522	<i>Adaina ambrosiae</i>	
6546	<i>Oidaematophorus inquinatus</i>	
6554,1	<i>Oidaematophorus</i> sp.	Included in present checklist as <i>Oidaematophorus</i> sp. A.
6563	<i>Oidaematophorus stramineus</i>	The 3 specimens listed in Kimball from Univ. Michigan collection were examined and found to be <i>O. paleaceus</i> .
6566	<i>Oidaematophorus venapunctatus</i>	Kimball's specimens were identified as <i>Oidaematophorus</i> sp. B.
6568	<i>Oidaematophorus lacteodactylus</i>	Form <i>kellicottii</i> is now separate species.
6569	<i>Oidaematophorus balanotes</i>	
6581	<i>Oidaematophorus unicolor</i>	
6588	<i>Oidaematophorus monodactylus</i>	Current name is <i>Emmelina monodactyla</i> .

There is little doubt that more species will be discovered in the state. Many larvae feed only on very young foliage or flowers, so the seasonal occurrence of several plume moths is closely correlated with the flowering phenologies of their hosts. Because some

of the hosts flower for only short periods and are restricted to specific habitats, they can be easily missed by the general collector. New species may also become established as the result of agricultural importations. For example, *Amblyptilia pica* (Wlsm.) has been intercepted at Florida ports on cultivated *Geranium* (FSCA records, see also Valley et al., 1981). Much collecting still needs to be done in the Florida Keys, northern Florida, and especially in the Florida panhandle where typically northern species may be found as relict populations of the Appalachian fauna.

## SUBFAMILY PLATYPTILIINAE

Genus *Sphenarches* Meyrick1. *S. anisodactylus* (Walker)

Larval hosts: Florida, *Thalia geniculata* L. (alligator flag) [Marantaceae]; outside Florida *Dolichos lablab* L. (lablab), *Cajanus cajan* (L.) Huth (pigeon pea) [both Fabaceae], *Caperonia* sp. [Euphorbiaceae] (USNM), *Lagenaria leucantha* Rosby var. *clavata* and *gourda* [Cucurbitaceae] (Yano 1963).

Notes: The life history of this species in Florida is described by Cassani et al. (1990). Larvae feed primarily on the flowers of the hosts.

Genus *Trichoptilus* Walsingham2. *T. parvulus* Barnes & Lindsey

Larval hosts: Florida, *Drosera brevifolia* Pursh (dwarf sundew), *D. intermedia* Hagne (spoon-leaved sundew), *D. filiformis* Raf. (dew threads) [Droseraceae]; outside Florida, *Drosera filiformis* Raf. var. *tracyi* Diels (thread-leaved sundew) (USNM).

Notes: Larvae feed on glandular trichomes, leaves, and flowers of the host. Larval behavior is described by Eisner & Shepherd (1965). Larvae in Florida are heavily infected by a species of *Cotesia* (Braconidae).

3. *T. californicus* (Walsingham)

Larval hosts: Florida, unknown; outside Florida, *Isocoma veneta* (HBK.) Greene, *Grindelia* sp. [both Asteraceae] (Lange 1939).

Notes: Life history in California is described by Lange (1939).

4. *T. pygmaeus* Walsingham

Larval hosts: Florida, *Chrysopsis scabrella* Torr. & Gray (rough-leaf golden aster) [Asteraceae]; outside Florida, *Arctostaphylos columbiana* Piper [Ericaceae] (USNM).

Notes: Larvae feed on young leaves and the bracts of unopened flowers of *Chrysopsis*.

Genus *Megalorhipida* Amsel5. *M. defectalis* (Walker)

Larval hosts: Florida, *Boerhavia diffusa* L. (red spiderling), *Okenia hypogaea* Schlecht. & Cham. (burrowing four-o'clock) [both Nyctaginaceae]; outside Florida, *Acacia neovernicosa* Isely (C. *vernica* Standl.) [Fabaceae] (USNM), *Boerhavia diffusa* L. (B. *coccinea* Mill) [Nyctaginaceae] (Zimmerman 1958), *Amaranthus* sp [Amaranthaceae] (Wolcott 1936).

Notes: On *Boerhavia*, larvae feed on flower buds and bore into the fruits. Larvae on *Okenia* feed only on leaves. In Florida, *O. hypogaea* is an endangered species restricted to a few locations on the southeast coast of Florida (Ward 1979).

Genus *Platyptilia* Hübner6. *P. carduidactyla* (Riley)

Larval hosts: Florida, unknown; (outside Florida, *Cynara scolymus* L. (artichoke), *C. cardunculus* L. (cardo), *Cirsium edule* Nutt., *C. vulgare* (Sari) Ten. (*C. lanceolatum* Scop.), *C. occidentale* (Nutt.) Jeps., *C. quercetorum* (Gray) Jeps., *C. discolor* (Muhl.) Sprengel, *C. undulatum* (Nutt.) Sprengel, *C. arvense* (L.) Scop. (Canada thistle), *C. callilepis* (Greene) Jeps. (*C. americanum* Daniels), *Centaurea melitensis* L. (Tocalote), *Silybum marianum* (L.) Gaertn. (milk thistle) [all Asteraceae] (Lange 1950).

Notes: This species is known in Florida from two specimens, one collected at the Archbold Biological Station by H. V. Weems, 25-IX-1978, the other by H. O. Hilton in Ocean City Florida, 22-X-1961.

Genus *Lantanophaga* Zimmerman7. *L. pusillidactyla* (Walker)

Larval hosts: Florida, *Lantana camara* L. (lantana) [Verbenaceae], *Caperonia* sp. [Euphorbiaceae] (Kimball 1965), also reared from the seed heads of *Lippia* (= *Phyla*) *lanceolata* Michx. (northern frogfruit) [Verbenaceae] by C. E. Stegmaier (MCZ). The latter host species was probably *Phyla nodiflora* (L.) Green (match-head) since *lanceolata* does not occur in Florida. Outside Florida, *Lantana camara* L.

Notes: Larvae feed on flowers and fruits of the hosts.

Genus *Lioptilodes* Zimmerman8. *L. parvus* (Walsingham)

Larval hosts: Florida, *Solidago odora* Ait. (sweet goldenrod) (MCZ), *Erigeron strigosus* Muhl. (daisy fleabane), *Aster subulatus* Michx. (annual marsh aster), *Aster puniceus* L. subsp. *elliottii* (Torr. & Gray) A. G. Jones (Elliott's aster) [all Asteraceae]; outside Florida, none reported.

Notes: Larvae feed inside flower heads, ova are usually deposited on flower bracts.

Genus *Mariana* Tutt9. *M. taprobanes* (Felder & Rogenhofer)

Larval hosts: Florida, C. E. Stegmaier reared this species on sweet broom, *Scoparia dulcis* L. [Scrophulariaceae] (MCZ) and collected a larva on *Mercardonia acuminata* [Scrophulariaceae] (USNM), a specimen collected by P. Perun was reared on *Hydrolea quadrivalis* Walt. [Hydrophyllaceae]; outside Florida, *Ocimum* sp. (basil) and *Plectranthus* sp. [both Lamiaceae], *Antirrhinum majus* L. (snapdragons) [Scrophulariaceae] (Zimmerman 1958), in fruits of *Limnophila heterophylla* Benth., in seeds of *Penstemon* sp., and unripe fruits of *Veronica anagallis-aquatica* L. (cited as *V. anagallis* L.), *Verbascum coromandelianum* (Vahl) O. Kuntze, (*Celisia coromandeliana* Vahl) [all Scrophulariaceae] (Lange 1950), *Russelia equistiformis* Schlecht. & Cham. (firecracker plant) [Scrophulariaceae] (USNM).

Notes: *Mariana taprobanes* was reported by Kimball (1965) from *Lippia* (= *Phyla*) *lanceolata* Michx. (northern frogfruit) but these are *Lantanophaga pusillidactyla*, based on examination of the genitalia of these specimens in the MCZ.

Genus *Stenoptilodes* Zimmerman

10. *S. carolina* (Kearfott)  
 Larval hosts: unknown.  
 Notes: This species is included with some reservation since no specimens from Florida were examined. Kimball (1965) reported two specimens from Escambia county.
11. *S. auriga* (Barnes & Lindsey)  
 Larval hosts: Florida, unknown; outside Florida: *Gerardia* sp. [Scrophulariaceae] and various species of Asteraceae (Neunzig 1987).  
 Notes: The only specimen known from Florida, a male, was collected 29-III-1980 at Torreya state park by Charlie Stevens.

Genus *Stenoptilia* Hübner

12. *S. pallistriga* Barnes & McDunnough  
 Larval hosts: unknown.
13. *S. rhyncosiae* (Dyar)  
 Larval hosts: Florida, *Rhyncosia cinerea* Nash (ashy rhyncosia) [Fabaceae]; outside Florida, none reported.  
 Notes: Larvae feed on young leaves and shoots.

Genus *Exelastis* Meyrick

14. *E. cervinicolor* (Barnes & McDunnough)  
 Larval hosts: unknown.
15. *Exelastis*. sp.  
 Larval hosts: unknown.  
 Notes: This species is known from Florida by a series of specimens collected 11-III-1986 on Key Largo by Linwood C. Dow.

Genus *Marasmarcha* Meyrick

16. *M. pumilio* (Zeller)  
 Larval hosts: Florida, *Desmodium tortuosum* (S.W.) DC. *D. incanum* DC. [Fabaceae]; outside Florida, *Desmodium* sp.  
 Notes: Some larvae feed exclusively on flowers while other individuals skeletonize young leaves and shoots. Barnes & Lindsey (1921) report, with skepticism, a record for *Ambrosia artemisiifolia* L. (common ragweed) [Asteraceae] which was also cited by Kimball (1965). This host is unlikely since members of this genus are chiefly legume feeders.

SUBFAMILY PTEROPHORINAE

Genus *Pselnophorus* Wallengren

17. *P. belfragei* (Fish)  
 Larval hosts: Florida, no larvae have been field collected but several have been successfully reared from eggs on *Dichondra caroliniensis* Michx. (pony-foot) [Convolvulaceae]; outside Florida, none reported.  
 Notes: This species is the most commonly encountered plume moth in Florida.

Genus *Adaina* Tutt

18. *A. bipunctata* (Moeschler)  
Larval hosts: Florida, *Conoclinium coelestinum* (L.) DC. (ageratum or mist flower) (Stegmaier 1973), *Carphephorus paniculatus* (J. F. Gmel.) Herb. (hairy trilisa), *C. odoratissimus* (J. F. Gmel.) Herb. (vanilla plant), and *Pluchea rosea* Godfrey [all Asteraceae]; outside Florida, *Eupatorium cannabinum* L. (hemp agrimony) [Asteraceae] (Wasserthal 1970).  
Notes: Larvae feed within the composite flower heads.
19. *A. buscki* Barnes & Lindsey  
Larval hosts: Florida, *Ipomoea indica* (Burm.f.) Merr. (blue morning-glory) [Convolvulaceae]; outside Florida, unknown.  
Notes: Larvae skeletonize young leaves.
20. *A. ambrosiae* (Murtfeldt)  
Larval hosts: Florida, *Ambrosia artemisiifolia* L. (common ragweed), *Pluchea rosea* Godfrey (Godfrey's fleabane), *Melanthera nivea* (L.) Small (M. deltoidea Michx. (cat-tongue)); outside Florida, *Ambrosia acanthicarpa* Hook., *A. chamissonis* (Less.) Greene, *A. confertiflora* DC., *A. dumosa* (A. Gray) Payne, *A. eriocentra* (A. Gray) Payne, *A. cumanensis* HBK. (*A. psilostachya* DC.) (western ragweed), *Helianthus annuus* L. (annual sunflower), *Xanthium strumarium* L. (cocklebur) (Goeden & Ricker 1976), *Helianthus tuberosa* L. (Jerusalem artichoke), and *Cynara scolymus* L. (artichoke) (USNM) [all Asteraceae].  
Notes: Larvae skeletonize leaves, and when not feeding rest along the midrib of the upper leaf surface in shallow, elongated depressions which they carve into the leaves and to which they repeatedly return after feeding bouts.

Genus *Oidaematophorus* Wallengren

21. *O. eupatorii* (Fernald)  
Larval hosts: Florida, unknown; outside Florida, *Eupatorium* sp., *E. purpurascens* Sch. Bip. [Asteraceae] (Forbes 1923), *Epilobium* sp. [Onagraceae] (Dyar 1898).  
Notes: Larvae feed externally and are gregarious, feeding on and tying together the terminal shoots of the host with webbing (Barnes & Lindsey 1921). This species is known from Florida by three specimens collected 17-V-1970 at Torreya State Park by H. V. Weems (FSCA).
22. *O. inquinatus* Zeller  
Larval host: Florida, *Ambrosia artemisiifolia* L. (common ragweed) [Asteraceae], outside Florida, same species.  
Notes: Larvae feed externally on young foliage.
23. *O. paleaceus* (Zeller)  
Larval hosts: Florida, *Vernonia gigantea* (Walt.) Trel. ex Branner & Coville (ironweed) [Asteraceae]; outside Florida, *V. noveboracensis* (Barnes & Lindsey 1921) and *V. missurica* (Godfrey et al. 1987).  
Notes: Larvae feed on young foliage.
24. *O. balanotes* (Meyrick)  
Larval hosts: Florida, *Baccharis halimifolia* L. (saltbush, sea myrtle, or groundsel bush) [Asteraceae]; outside Florida, same species.  
Notes: First instar larvae are leafminers while older larvae bore into the stems and form extensive galleries in the larger branches of the host. There are records of this species on *Myrica* sp. (wax myrtle) [Myricaceae] (USNM),

however, we feel these are most likely misidentified *Baccharis*. Both plants frequently occur in the same habitats and to an untrained eye are superficially quite similar.

25. *O. kellicottii* (Fish)  
Larval hosts: Florida, *Solidago canadensis* L. (Canada goldenrod), *S. fistulosa* Mill. (hollow goldenrod), *S. gigantea* Ait. (*S. leavenworthii* Torr. & Gray) (giant goldenrod), (Fontes 1985); outside Florida, *Solidago* sp. (USNM), *Baccharis neglecta* Britton (Palmer 1987).  
Notes: Larvae are stemborers.
26. *O. lacteodactylus* (Chambers)  
Larval hosts: Florida, unknown; outside Florida, *Solidago* sp. (USNM), *Eupatorium perfoliatum* L. (boneset) (Godfrey et al. 1987) [both Asteraceae].  
Notes: Larvae are stemborers. Kimball (1965) reported this species from *Baccharis halimifolia* L. However, numerous FSCA larval specimens labelled as *O. lacteodactylus* from *B. halimifolia* were examined and determined to be young larvae of *O. balanotes*.
27. *O. glenni* Cashatt  
Larval hosts: Florida, unknown; outside Florida *Solidago canadensis* L. (Canada goldenrod) [Asteraceae] (Cashatt 1972).  
Notes: Larvae are stemborers. This species is recorded in Florida from two specimens, one from St. Lucie county, the other from Walton county (CMNH).
28. *O. unicolor* (Barnes & McDunnough)  
Larval hosts: Florida, *Eupatorium capillifolium* (Lam.) Small (dog fennel) [Asteraceae]; outside Florida, unknown.  
Notes: Larvae are borers in the stems and roots of the host.
29. *Oidaematophorus* sp. A  
Larval hosts: Florida, *Eupatorium capillifolium* (Lem.) Small (dog fennel), and *E. compositifolium* Walt. (dog fennel) [Asteraceae]; outside Florida; unknown.  
Notes: Larvae feed externally on the host.
30. *Oidaematophorus* sp. B  
Larval hosts: Florida, *Haplopappus divaricatus* (Nutt.) A. Gray (scratch daisy) and *Conyza canadensis* (L.) Cronq. (horseweed) [both Asteraceae]; outside Florida, unknown.  
Notes: Kimball (1965) identified specimens of this species as *O. venapunctatus* which is similar in maculation. The genitalia of Kimball's specimens (MCZ) were compared with paratypes of *venapunctatus* and are distinctly different. Larvae are stemborers and are commonly attacked by a braconid wasp, *Bracon* sp.
31. *Oidaematophorus* sp. C  
Larval hosts: unknown.  
Notes: Adults of this species are similar in size and maculation to *Adaina ambrosiae*. The male genitalia are typical of *Oidaematophorus*. This species is known from specimens collected on Big Pine Key by M. Hennessey.

#### Genus *Emmelina* Tutt

32. *E. monodactyla* (Linnaeus)  
Larval hosts: Florida, unknown; outside Florida, *Calystegia sepium* (L.) R. Br. (hedge bindweed), *C. spithamea* (L.) R. Br. (low bindweed), *Convolvulus arvensis* L. (field bindweed), *C. microphyllus*, *Ipmoea batatas* (L.) Lam.

(sweet potato), *I. hispida* Parodi [all Convolvulaceae], *Hyoscyamus niger* L. (henbane), *Datura stramonium* L. (jimson weed) [both Solanaceae] (Parrella & Kok 1978), *Ipomoea purpurea* (L.) Roth (tall morning-glory) [Convolvulaceae] (Godfrey et al. 1978), *Chenopodium* sp. and *Atriplex* sp. [Chenopodiaceae] (Buszko 1979).

Notes: On Convolvulaceae hosts, early instar larvae feed on terminal shoots while older larvae tunnel into flowers and feed on the reproductive structures within.

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