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LARVAL HOSTPLANTS OF GEOMETRIDAE (LEPIDOPTERA) COLLECTED BY DALE H. HABECK IN FLORIDA

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Abstract.—Adult specimens of Geometridae from the Dale H. Habeck Lepidoptera collection were databased in Excel 97 for inclusion in the Florida Museum of Natural History collection databases. A synopsis of data from 58 reared Florida species is presented. Larval hosts are listed from 97 genera representing 45 angiosperm plant families. First known hosts for 11 Geometridae species and previously unknown hosts for 31 species are reported. Records of special interest are discussed including suspected and confirmed cases of lichenivory as well as herbivory of an invasive tree species.

Key Words: Asteraceae, caterpillar, Fabaceae, food plants, larvae, lichenivory, lot numbers, rearing

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The Dale H. Habeck collection of more than 11,000 specimens of reared adult Lepidoptera was donated to the McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History (MGCL, FLMNH) in 2010. This collection includes more than 13,000 vials containing preserved larvae and pupae from Florida and neighboring states that were collected over the course of more than 33 years. Collecting efforts by Habeck and his research or student associates centered on surveys of the insect fauna associated with various terrestrial and aquatic plants. These surveys were often related to biological control projects, but also included general collecting and material for teaching a course on immature insects at the University of Florida.

Prior to integration and curation into the main holdings of the McGuire Center, label data from adult specimens in the Habeck collection are being databased for retrieval of life history information including hosts, reference to associated preserved immature stages, and 35mm photographic transparencies. Numerous vouchers of reared Lepidoptera were deposited in the Florida State Collection of Arthropods (FSCA) prior to the 2010 donation to MGCL. The associated larval host records were compiled and published by Heppner (2003) and occur sporadically in specific research papers authored or co-authored by Habeck (Florida Entomological Society 2010). Recent publications by taxonomic specialists included records of material from Habeck's collection (e.g., Davis

et al. 2011, Hodges 1999, Matthews and Lott 2005). As the first of a series of collaborative efforts by various authors on different families, this paper provides some background information on the Habeck collection and presents a synopsis of records for the reared adult Geometridae.

Materials and Methods

Along with accession labels (MGCL No. 2010-28), each pinned adult specimen was labeled with a unique database number within a block of numbers assigned from the primary MGCL database. Data were recorded in Excel 97 in the following primary fields: Catalog (MGCL database number), Rearing number, Family, Genus, Species, Author, Determiner/Year, Country, State, County, Locality, Day, Month, Year, Pre-Pupa, Pupation, Emergence (dates, text abbreviations pp., p., em.), PC (pupa case), LS (larval skin), Host/Habitat, Collector, and Notes. The columns PC and LS were checked to indicate the presence of exuviae on the same pin with the adult, usually contained within gelatin capsules.

Most rearing lot numbers from the Habeck collection are preceded by an "A"—for example, A-5137b. This was Habeck's arbitrary system starting with A-1 in January 1967 and ending with A-7507 in July 1999. Additional number series were started for special projects (preceded for example by "B" and "T"). The "A numbers" were the ongoing designation for general rearing lots from Habeck's lab. There was no significance to the selection of "A" or "B" for the numbers although "T" was used for a series of collections on thistle.

Generally, a single "A number" was assigned for all insects collected on a given plant species at one location and date. For example, all insects collected on *Eupatorium capillifolium* (Lam.) Small (Asteraceae) on a certain date from a single location bear the same "A number" but with the numbers subdivided with lowercase letters to separate different insect species or morphotypes at the time the specimens were set up for rearing. The A numbers were used on occasion for adults collected at lights, in this case for the purpose of isolating females (egg vouchers) in containers to obtain eggs. The resulting offspring were thus given the same lot number.

A few localities are standardized for consistency in the text and database. Edgecliff Subdivision is one such example, referring to numerous collections at Habeck's former Alachua County Florida residence (29.558053°, -82.338942°) at the south edge of Paynes Prairie, where over the years and with different assistants, some specimen labels may reference Paynes Prairie or Hwy 441 while others were just labeled "Edgecliff." Some other recurring localities in the Habeck collection include the Archer Road Lab (29.633980°, -82.355361°) and vicinity along SW 28th Avenue, UF Honey Plant (29.627144°, -82.356261°), and Bivens Arm (29.628199°, -82.353290°). Walk-in light traps were located at the latter two localities and the nearby Archer Road Lab was not only a collecting site but the location of Habeck's office, greenhouse, and labs before the Entomology and Nematology Department moved to the current main campus location.

To avoid confusion with natural hosts, plants are not listed for individual records where specimens were reared from ova of females collected at lights. Often a "salad" of different herb or tree leaves or a pinto bean based artificial diet were used when the host was unknown or unavailable. Hosts listed as previously unrecorded from Florida and/or the Nearctic Region are based on comparisons

with Heppner (2003), Robinson et al. (2002, 2012), Tietz (1972), and Wagner et al. (2002) unless otherwise cited for specific taxa. We list the scientific names for hosts in the text below whereas in our database we have entered and retained the names, common or scientific, as they appear on the specimen labels. Common names of plants are cited verbatim in the text for ambiguous cases where a common name has been used for more than one Florida species.

Plant family names are those accepted by The Angiosperm Phylogeny Group (APG III 2009) and updated by Stevens (2012). Synonyms, common names, and distributional information are available in the USDA PLANTS National Database (USDA PLANTS 2012). Standardized plant author abbreviations are from Brummitt and Powell (1992) and the International Plant Names Index (IPNI 2012). Plant author names are included at first mention in the text comments and in table 1. Plant author names are not listed in the treatment of label data. Scientific names of plants are listed as they appear on specimen labels in each "reared adults" section. The current plant name is noted in comments if the data label name is a synonym.

Specimens in the collection bear determination labels from various workers. However, all adult Geometridae examined and referenced herein were newly identified or their previous determinations confirmed and updated by C. V. Covell, Jr. The systematic arrangement of the synopsis below follows the numbering system of Hodges (1983), with a few species out of numerical sequence because of changes in Ferguson (2008). Moth common names follow those in Covell (1984), and no new names are coined here for species lacking them. Additional data abbreviations include: nr = "near", BL = "black light", BLT = "black light trap" and MVL = Mercury vapor lamp. A "Comments" section is added only in cases of newly recorded host records, or to provide other useful information.

Results

The Geometridae in the Habeck collection resulted in database records for 850 adult specimens. Of these records, 507 individuals representing 57 species are either reared from larvae or represent adult female egg vouchers. A synopsis of these records and comments on new host records are provided below. Larval hosts representing 97 genera and 45 angiosperm plant families are included in the list. The families Asteraceae (30) and Fabaceae (10) are the most diverse in terms of the number of host species represented in these records.

Synopsis of Reared Geometridae

Subfamily OENOCHROMINAE

6260 *Almodes terraria* Guenée

Reared adults.—MONROE: No Name Key, 11-IV-1984, p. 17-IV-1984, em. 29-IV-1984, D. H. Habeck & D. Weisman, A-3369a, *Coccoloba diversifolia* (Polygonaceae), LS, PC, MGCL No. 100884; same data, LS, PC, MGCL No.100886.

Comments.—This is the first known published larval host record for this species.

Subfamily ENNOMINAE

7009 *Nematocampa resistaria* (Herrich-Schäffer) – horned spanworm

Reared adults.—ALACHUA: Edgecliff subdivision, 23-IV-1983, D. H. Habeck, *Nyssa sylvatica*, LS, PC, MGCL No. 100539; Gainesville, 6-IV-1988, F. D. Bennett, A-4364, *Quercus* sp., LS, PC,

Table 1. Synoptic list of host plants and associated Geometridae from the Habeck Collection and literature records mentioned in the text.

host plant family	plant genus/species	Geometridae species
Altingiaceae	*Liquidambar styraciflua* L.	*Eutrapela clemataria*
		Hypagyrtis unipunctata
		Iridopsis defectaria
		Melanolophia canadaria
		Nemoria saturiba
Amaranthaceae	*Amaranthus* L.	*Disclisioprocta stellata*
Anacardiaceae	*Mangifera indica* L.	*Synchlora xysteraria*
	Rhus copallinum L.	*Dichorda iridaria*
		Eupithecia miserulata
		Pleuroprucha insulsaria
	Rhus typhina L.	*Dichorda iridaria*
	Toxicodendron radicans (L.) Kuntze	*Dichorda iridaria*
		Eutrapela clemataria
		Iridopsis defectaria
	Schinus terebinthifolius Raddi	*Chloropteryx paularia*
		Pleuroprucha asthenaria
		Pleuroprucha insulsaria
		Synchlora xysteraria
Apiaceae	undetermined	*Eupithecia miserulata*
	Cicuta maculata L.	*Chlorochlamys chloroleucaria*
Aquifoliaceae	*Ilex americana* Lam.	*Ilexia intractata*
	Ilex opaca Aiton	*Ilexia intractata*
	Ilex vomitoria Aiton	*Ilexia intractata*
Araliaceae	*Aralia* L.	*Iridopsis defectaria*
Arecaceae	*Serenoa repens* (Bartram) Small	*Pleuroprucha asthenaria*
Asteraceae	*Ageratum* L.	*Eupithecia miserulata*
	Ambrosia L.	*Eupithecia miserulata*
		Synchlora frondaria
	Ambrosia artemisiifolia L.	*Leptostales pannaria*
	Ampelaster carolinianus (Walter) G.L. Nesom	*Eupithecia miserulata*
		Synchlora frondaria
	Baccharis L.	*Anavitrinella pampinaria*
		Eusarca fundaria
		Iridopsis defectaria
	Baccharis halimifolia L.	*Eusarca fundaria*
	Balduina Nutt	*Synchlora frondaria*
	Bidens L.	*Scopula aemulata*
	Bidens alba (L.) DC.	*Eupithecia miserulata*
	Bidens laevis (L.) Britton, Sterns & Poggenb.	*Synchlora frondaria*
	Bidens mitis (Michx.) Sherff	*Eupithecia miserulata*
	Carphephorus Cass.	*Chlorochlamys chloroleucaria*
		Eupithecia miserulata
	Carphephorus corymbosus (Nutt.) Torr. & A. Gray	*Eupithecia miserulata*
	Carphephorus odoratissimus (J.F. Gmel.) Herbert	*Synchlora frondaria*
	Carphephorus paniculatus (J.F. Gmel.) Herbert	*Eupithecia miserulata*
	Chrysopsis scabrella Torr. & A. Gray	*Chlorochlamys chloroleucaria*
		Synchlora frondaria
	Cirsium nuttallii DC.	*Synchlora frondaria*
	Conyza canadensis (L.) Cronquist	*Eupithecia miserulata*

Table 1. Continued.

host plant family	plant genus/species	Geometridae species
		Synchlora frondaria
	Coreopsis L.	*Tornos scolopacinarius*
	Coreopsis leavenworthii Torr. & A. Gray	*Synchlora frondaria*
	Eupatorium capillifolium (Lam.) Small	*Chlorochlamys chloroleucaria*
		Eupithecia miserulata
		Pleuroprucha insulsaria
		Synchlora frondaria
		Tornos scolopacinarius
	Eupatorium compositifolium Walter	*Tornos scolopacinarius*
	Eupatorium perfoliatum L.	*Chlorochlamys chloroleucaria*
	Garberia heterophylla (Bartram) Merr. & F. Harper	*Eupithecia miserulata*
	Helianthus annuus L.	*Pleuroprucha insulsaria*
	Heterotheca subaxillaris (Lam.) Britton & Rusby	*Chlorochlamys chloroleucaria*
		Eupithecia miserulata
		Pleuroprucha insulsaria
		Synchlora frondaria
	Palafoxia feayi A. Gray	*Chlorochlamys chloroleucaria*
		Eupithecia miserulata
		Pleuroprucha insulsaria
		Synchlora frondaria
	Phoebanthus tenuifolius (Torr. & A. Gray) S.F. Blake	*Synchlora frondaria*
	Pityopsis Nutt.	*Eupithecia miserulata*
	Pluchea Cass.	*Xanthotype rufaria*
	Pluchea rosea Godfrey	*Synchlora frondaria*
	Solidago altissima L.	*Chlorochlamys chloroleucaria*
		Eupithecia miserulata
		Synchlora frondaria
	Solidago fistulosa Mill.	*Eupithecia miserulata*
	Solidago gigantea Aiton	*Pleuroprucha insulsaria*
	Solidago odora Aiton	*Chlorochlamys chloroleucaria*
	Symphyotrichum Nees	*Eupithecia miserulata*
		Synchlora frondaria
		Tornos scolopacinarius
	Symphyotrichum elliotii (Torr. & A. Gray) G.L. Nesom	*Eupithecia miserulata*
	Symphyotrichum pilosum (Willd.) G.L. Nesom	*Chlorochlamys chloroleucaria*
		Eupithecia miserulata
	Taraxacum F.H. Wigg.	*Scopula aemulata*
	Taraxacum officinale F.H. Wigg	*Synchlora xysteraria*
	Vernonia Schreb.	*Eupithecia miserulata*
		Pleuroprucha insulsaria
		Synchlora frondaria
	Vernonia gigantea (Walter) Trel.	*Anavitrinella pampinaria*
Betulaceae	*Betula* L.	*Nemoria bistriaria*
Bignoniaceae	*Campsis radicans* (L.) Seem. ex Bureau	*Dyspteris abortivaria*
Brassicaceae	*Lepidium* L.	*Chlorochlamys chloroleucaria*
Cistaceae	*Helianthemum nashii* Britton	*Anavitrinella pampinaria*
Convolvulaceae	*Ipomoea batatas* (L.) Lam.	*Patalene olyzonaria*
Cornaceae	*Cornus* L.	*Eupithecia miserulata*
	Cornus foemina Mill.	*Eupithecia miserulata*
		Hypagyrtis unipunctata

Table 1. Continued.

host plant family	plant genus/species	Geometridae species
	Nyssa sylvatica Marsh.	*Nematocampa resistaria*
Cupressaceae	undetermined	*Macaria aequiferaria*
	Cupressus sempervirens L.	*Digrammia continuata*
	Juniperus L.	*Patalene olyzonaria*
	Juniperus virginiana L.	*Glena plumosaria*
	Taxodium Rich.	*Synchlora frondaria*
	Taxodium distichum (L.) Rich.	*Iridopsis pergracilis*
Cyperaceae	*Rhynchospora corniculata* (Lam.) A. Gray	*Synchlora frondaria*
Ebenaceae	*Diospyros* L.	*Exelis pyrolaria*
		Iridopsis defectaria
Empetraceae	*Ceratiola ericoides* Michx.	*Anavitrinella pampinaria*
		Glenoides texanaria
		Nemoria bistriaria
Ericaceae	*Azalea* L.	*Melanolophia canadaria*
	Lyonia ferruginea (Walter) Nutt.	*Patalene olyzonaria*
	Pyrola L.	*Exelis pyrolaria*
	Vaccinium arboreum Marshall	*Hypagyrtis unipunctata*
	Vaccinium stramineum L.	*Iridopsis humaria*
Euphorbiaceae	*Breynia nivosa* (W.Bull) Small	*Melanchroia chephise*
Fabaceae	*Amorpha fruticosa* L.	*Pleuroprucha insulsaria*
	Chamaecrista fasciculata (Michx.) Greene	*Pleuroprucha insulsaria*
	Dalea pinnata (J.F. Gmel.) Barneby	*Hypomecis umbrosaria*
		Iridopsis humaria
	Mimosa L.	*Pleuroprucha insulsaria*
	Rhynchosia minima (L.) DC.	*Iridopsis defectaria*
	Sesbania Scop.	*Anavitrinella pampinaria*
		Iridopsis defectaria
	Sesbania herbacea (Mill.) McVaugh	*Iridopsis humaria*
	Sesbania vesicaria (Jacq.) Elliott	*Iridopsis defectaria*
	Trifolium L.	*Scopula aemulata*
	Vigna luteola (Jacq.) Benth.	*Eupithecia miserulata*
	Vigna unguiculata (L.)	*Leptostales pannaria*
Fagaceae	*Quercus* L.	*Anavitrinella pampinaria*
		Glenoides texanaria
		Iridopsis defectaria
		Lambdina pultaria
		Nematocampa resistaria
		Protoboarmia porcelaria
	Quercus laevis Walter	*Cleora sublunaria*
		Hypagyrtis unipunctata
		Hypomecis umbrosaria
		Nemoria lixaria
		Phigalia titea
	Quercus laurifolia Michx.	*Ectropis crepuscularia*
		Protoboarmia porcelaria
	Quercus margarettae (Ashe) Small	*Hypomecis umbrosaria*
	Quercus nigra L.	*Hypagyrtis unipunctata*
		Iridopsis defectaria
		Phigalia strigataria
	Quercus rubra L.	*Nemoria lixaria*

Table 1. Continued.

host plant family	plant genus/species	Geometridae species
	Quercus shumardii Buckley	*Eupithecia miserulata*
	Quercus virginiana Mill.	*Phigalia titea*
Hypericaceae	*Hypericum fasciculatum* Lam.	*Nemoria bistriaria*
Juglandaceae	*Carya* Nutt.	*Cleora sublunaria*
	Carya glabra (Mill.) Sweet	*Ennomos subsignaria*
		Hypagyrtis unipunctata
	Juglans L.	*Nemoria bistriaria*
Lamiaceae	*Monarda* L.	*Synchlora frondaria*
	Monarda punctata L.	*Synchlora frondaria*
	Teucrium canadense L.	*Synchlora frondaria*
Lauraceae	*Persea americana* Mill.	*Epimecis detexta*
Magnoliaceae	*Magnolia virginiana* L.	*Melanolophia canadaria*
Malvaceae	*Tilia* L.	*Iridopsis defectaria*
Malpighiaceae	*Byrsonima lucida* (Mill.) DC.	*Pleuroprucha insulsaria*
Melastomataceae	*Rhexia virginica* L.	*Xanthotype rufaria*
Myricaceae	*Comptonia peregrina* (L.) J.M. Coult.	*Cyclophora myrtaria*
	Myrica cerifera L.	*Anavitrinella pampinaria*
		Cyclophora myrtaria
		Hypagyrtis unipunctata
		Phrudocentra centrifugaria
		Protoboarmia porcelaria
Myrsinaceae	*Myrsine cubana* A. DC.	*Phrygionis auriferaria*
Nyctaginaceae	*Boerhavia* L.	*Disclisioprocta stellata*
	Boerhavia erecta L.	*Disclisioprocta stellata*
	Mirabilis L.	*Disclisioprocta stellata*
	Pisonia aculeata L.	*Disclisioprocta stellata*
Oleaceae	*Fraxinus* L.	*Eutrapela clemataria*
Onagraceae	*Epilobium* L.	*Eulithis gracilineata*
	Oenothera speciosa Nutt.	*Eupithecia miserulata*
Phytolaccaceae	*Phytolacca americana* L.	*Disclisioprocta stellata*
Polygonaceae	*Coccoloba diversifolia* Jacq.	*Almodes terraria*
	Eriogonum tomentosum Michx.	*Chlorochlamys chloroleucaria*
	Polygonum punctatum Elliott	*Synchlora frondaria*
	Rumex L.	*Orthonama obstipata*
	Rumex hastatulus Baldw.	*Chlorochlamys chloroleucaria*
Ranunculaceae	*Clematis virginiana* L.	*Pleuroprucha insulsaria*
Rosaceae	*Crataegus* L.	*Eulithis gracilineata*
		Glenoides texanaria
	Crataegus flava Aiton	*Eumacaria madopata*
	Crataegus oxycantha L.	*Speranza coortaria*
	Crateagus uniflora Münchh	*Hypagyrtis unipunctata*
	Malus pumila Mill.	*Speranza coortaria*
	Prunus L.	*Eumacaria madopata*
	Prunus serotina Ehrh.	*Dyspteris abortivaria*
	Rubus L.	*Eupithecia miserulata*
		Iridopsis defectaria
Salicaceae	*Salix* L.	*Iridopsis defectaria*
		Oxydia vesulia
	Salix babylonica L.	*Digrammia gnophosaria*
	Salix caroliniana Michx.	*Digrammia gnophosaria*

Table 1. Continued.

host plant family	plant genus/species	Geometridae species
Sapindaceae	*Acer* L.	*Ennomos subsignaria*
		Speranza pustularia
	Acer rubrum L.	*Iridopsis defectaria*
	Acer negundo L.	*Anavitrinella pampinaria*
		Eupithecia miserulata
		Protoboarmia porcelaria
	Litchi Sonn.	*Synchlora xysteraria*
Smilacaceae	*Smilax* L.	*Eutrapela clemataria*
Theaceae	*Gordonia lasianthus* (L.) Ellis	*Iridopsis defectaria*
Verbenaceae	*Callicarpa americana* L.	*Anavitrinella pampinaria*
	Lantana camara L.	*Leptostales crossii*
	Lantana involucrata L.	*Leptostales crossii*
Vitaceae	*Ampelopsis arborea* (L.) Koehne	*Eulithis gracilineata*
	Vitis L.	*Dyspteris abortivaria*
		Eulithis diversilineata
		Eulithis gracilineata
	Parthenocissus quinquefolia (L.) Planch.	*Dyspteris abortivaria*

MGCL No. 100538; same data, p. 6-IV-1988, em. 19-IV-1988, PC, MGCL No. 100542; same location, 9-IV-1991, P. Skelley, pupa on *Quercus*, PC, MGCL No. 100543; UF Campus, 8-IV-1991, p. 18-IV, em. 29-IV, P. Skelley, A-5868, LS, PC, MGCL No. 100537; UF Campus, Biven's Arm, 10-IV-1986, p. 29-IV-1986, J. Watts, A-3947a, *Quercus*, LS, PC, MGCL No. 100536.

Comments.—Ferguson (2008) states that *N. resistaria* "has been reported to feed on more than 60 species of trees and shrubs representing over 20 plant families." We did not find a record of *Nyssa sylvatica* Marsh. (black gum) (Cornaceae) as one of the known hosts.

6272 *Eumacaria madopata* (Guenée) – brown-bordered geometer

Reared adults.—SUWANNEE: Houston, 26-IV-1996, em. 17-V-1996, D. H. Habeck, A-7325, *Crataegus flava*, LS, PC, MGCL No. 100434.

Comments.—Listed by Heppner (2003) as *E. latiferrugata* Walker. Ferguson (2008) lists several species of *Prunus* L. (Rosaceae) as hosts, but not *Crataegus* L., which belongs to the same family.

6299 *Speranza coortaria* (Hulst) – four-spotted geometer

Reared adults.—ALACHUA: Gainesville, 20-III-1984, em. 8-IV-1984, D. H. Habeck & J. Gillmore, A-3317a, *Crataegus flava*, LS, PC, MGCL No. 100733; same data, em. 11-VI-1984; MGCL No. 100732.

Comments.—Heppner (2003) lists "*Crataegus oxycantha* L." and *Malus pumila* Mill. (Rosaceae).

6273 *Speranza pustularia* (Guenée) – lesser maple spanworm moth

Reared adults.—ALACHUA: Edgecliff subdivision, 27-III-1982, p. 6-IV-1982, em. 17-IV-1982, D. H. Habeck, A-2955e, *Acer* sp., PC, MGCL No. 100873.

6335 *Macaria aequiferaria* Walker – woody angle

Reared adults.—GLADES: Palmdale, 20-IX-1980, em. 8.X.1980, D. H. Habeck, A-2705, cypress, LS, PC, 100557.

Comments.—According to Ferguson (2008) cypress is the only known host for this species.

6362 *Digrammia continuata* (Walker) – curve-lined angle

Reared adults.—ALACHUA: UF Honey Plant, 14-V-1982, em. 20-VI-1982, J. Gillmore, A-3048, reared from BLT female, LS, PC, MGCL No. 100554; same data, p. 14-VI-1982, em. 21-VI-1982, LS, PC, MGCL No. 100555; MGCL No. 100556; same data, BLT female egg voucher, MGCL 100560.

Comments.—First instar larvae obtained from eggs were fed "false Italian cypress." This common name probably refers to *Cupressus sempervirens* L. (Cupressaceae). Though not necessarily the natural host, the two adults were successfully reared from eggs. Native Cupressaceae are likely used in Florida. Wagner et al. (2002) list cedars (*Juniperus*) as common hosts in the northeastern United States, including red and northern white cedar.

6405 *Digrammia gnophosaria* (Guenée) – hollow-spotted angle

Reared adults.—ALACHUA: Gainesville, 22-VII-1976, em. 4-VIII-1976, D. H. Habeck, A-1987, *Salix*, PC, MGCL No. 100566; same location, 19-X-1976, em. 2-X-1976, D. H. Habeck, A-2080, *Salix caroliniana*, PC, MGCL No. 100567; MARION: W of Lynne, 18-V-1981, p. 20-V-1981, em. 29-V-1981, D. H. Habeck, A-2796c, *Salix*, LS, PC, MGCL No. 101037.

Comments.—Both Heppner (2003) and Ferguson (2008) mention *Salix* L. (Salicaceae) as the foodplant, and Ferguson reared larvae from ova on *S. babylonica* L. (weeping willow). The *S. caroliniana* Michx. record is the first *Salix* specific level host listed for Florida.

6439 *Hypomecis umbrosaria* (Hübner) – umber moth

Reared adults.—MARION: Belleview, 26-IV-1983, em. 7-VI-1983, D. H. Habeck & J. Gillmore, A-3197v, *Quercus laevis*, LS, PC, MGCL No. 101004; same location, 10-V-1983, em. 14-VI-1983, D. H. Habeck & J. Gillmore, A-3204, *Q. laevis*, LS, PC, MGCL No. 100999; same location, date, em. 17-VI-1983, D. H. Habeck & J. Gillmore, A-3206d, *Q. margarettae*, LS, PC, MGCL No. 101006; same location, 3-IV-1984, em. 16-V-1984, R. E. Waites & J. Gillmore, A-3340j, *Q. laevis*, LS, PC, MGCL No.100997; SR 326 just W. of Jct. 35, 11-IV-1990, p. 2-V, em. 24-V, D. H. Habeck & J. Gillmore, A-5481d, *Q. laevis*, LS, PC, MGCL No.100995; same data, p. 5-V, em. 20-V, LS, PC, MGCL No. 100375; same data, no pupation/emergence dates, LS, PC, MGCL No. 101002; same location, 18-IV-1990, p. 6-VI, em. 21-VI, J. Gillmore & M. Glenn, A-5491, *Q. laevis*, LS, PC, MGCL No. 100996; same location, 2-V-1990, p. 18-V, em. 31-V, J. Gillmore & D. Matthews, A-5528h, *Q. laevis*, LS, PC, MGCL No. 101007; same data, em. 21-VI, J. A-5528k, LS, PC, MGCL No. 101008; same data, p. 21-V, em. 4-VI, A-5528l, LS, PC, MGCL No. 100994; same data/lot number, p. 8-V, em. 21-V, LS, PC, MGCL No. 100998; same data, p. 28-V, em. 11-VI, LS, PC, MGCL No. 101003; same data, p. 17-V, em. 2-VI, LS, PC, MGCL No. 101005; same data, p. 8-V, em. 9-VII, LS, PC, MGCL No.101009; East Silver Springs Shores, 17-X-1991, em. 3-VI-1992, D. H. Habeck & J. Gillmore, A-6116, beating lichen covered oak, LS, PC, MGCL No.101001; Marion Oaks, 27-IV-1995, em. 22-V-1995, R. Goodson & J. Gillmore, A-7096a, lichens on *Quercus*, LS, PC, MGCL No.100798.

Comments.—Two species of oaks are recorded here for the first time. The specimens from Lots A-6116 and A-7096a were collected with other species beaten from lichen covered oak. Although these stick mimic larvae were not directly observed feeding on lichens, the possibility of incidental lichenivory may be of interest for further study. Wagner et al. (2002) also indicate birch (*Betula* L.) as a common host in the northeast.

6442 *Pimaphera sparsaria* (Walker)

Reared adults.—MARION: Marion Oaks, 27-IV-1995, p. 4-V-1995, em. 22-V-1995, R. Goodson & J. Gillmore, A-7096, lichens on oak, PC, MGCL No. 101030.

Comments—This constitutes the first host record for this species and a new example of lichenivory.

6443 *Glenoides texanaria* (Hulst) – Texas gray

Reared adults.—LEVY: 4 mi. W. of Chiefland, 4-II-1992, p. 17-II-1972, em. 27-II-1992, D. H. Habeck & J. Gillmore, A-6221a, lichens on *Crateagus* and *Quercus*, PC, MGCL No. 100874; same data, p. 28-II-1992, em. 9-III-1992, A-6221c, LS, PC, MGCL No. 100875; same data/lot, em. 28-II-1992, LS, PC, MGCL No. 100876; same data/lot, p. 26-II-1992, em. 6-III-1992, LS, PC, MGCL No. 100876; same data/lot, p. 25-II-1992, em. 4-III-1992, PC, MGCL No. 100878; 1 mi W. Levy Co. line, 19-I-1995, p. 9-II-1995, em. 20-II-1995, D. H. Habeck & J. Gillmore, A-7054d, lichens on *Quercus laevis*, LS, PC, MGCL No. 101026; same location/date, p. 17-II-1995, em. 27-II-1995, D. H. Habeck & J. Gillmore, A-7055a, lichens on *Ceratiola ericoides*, PC, MGCL No. 100874; 6 mi E of Cedar Key, 19-I-1995, p. 9-II-1995, em. 20-II-1995, D. H. Habeck & J. Gillmore, A-7058e, lichens on *Quercus* sp., LS, PC, MGCL No. 101026; same data, p. 24-I-1995, em. 3-II-1995, D. H. Habeck & J. Gillmore, A-7058e, lichens on *Quercus* sp., LS, PC, MGCL No. 101028; outside Manatee Springs entrance, 2-II-1995, p. 18-II-1995, em. 28-II-1995, J. Gillmore & G. McDermott, A-7061a, beating lichens, PC, MGCL No. 100363; same data, p. 27-II-1995, em. 6-III-1995, LS, PC, MGCL No. 100364; same data, p. 22-II-1995, em. 4-III-1995, LS, PC, MGCL No. 100365; MARION: Marion Oaks, 27-IV-1995, p. 5-V-1995, em. 23-V-1995, R. Goodson & J. Gillmore, A-7096, lichens on *Quercus*, PC, MGCL No. 100359; same data, no em. dates, PC, MGCL No. 100360; same data, em. 8-V-1995, PC, MGCL No. 100362; same data, p. 8-V-1995, em. 22-V-1995, LS, PC, MGCL No. 100401; same data, p. 1-V-1995, em. 13-V-1995, LS, PC, MGCL No. 101027; LEVY: 0.2 mi W. of Archer-Levy Co. line, 12-X-1995, p. 9-XI-1995, em. 13-XI-1995, D. H. Habeck & J. Gillmore, A-7227c, lichens on *C. ericoides*, LS, PC, MGCL No. 100619; near Bronson, CR 335, 12-X-1995, p. 19-X-1995, em. 31-X-1995, D. H. Habeck & J. Gillmore, A-7231a, lichens on *C. ericoides*, PC, MGCL No. 100616; same data, p. 9-XI-1995, em. 16-XI-1995, D. H. Habeck & J. Gillmore, A-7231a, lichens on *C. ericoides*, PC, MGCL No. 100617; same data, p. 14-X-1995, em. 30-X-1995, LS, PC, MGCL No. 100618.

Comments.—No hosts are previously recorded for *G. texanaria* from Florida or elsewhere. Wagner et al. (2008), however, did document the congener *Glenoides lenticuligera* (Blanchard) as lichenivorous, and stated that *Glenoides* feeds on lichens. The discovery of lichens as hosts for this species is the answer to a long-standing question about its life history.

6452 *Glena plumosaria* (Packard) – dainty gray

Reared adults.—CITRUS: Crystal River, 24-II-1993, p. 10-III-1993, em. 24-III-1993, D. H. Habeck & J. Gillmore, A-6470b, cedar, LS, PC, MGCL No. 101013.

Comments.—Wagner et al. (2008) list "Atlantic white and red cedars." The record from Citrus County most likely refers to red cedar, *Juniperus virginiana* L. (Cupressaceae) since Atlantic white cedar is limited in distribution and not recorded there (USDA PLANTS 2012).

6478 *Exelis pyrolaria* Guenée – fine-lined gray

Reared adults.—ALACHUA: Behind Gainesville Airport, 5-IX-1985, p. 7-IX-1985, em. 21-IX-1985, D. H. Habeck, A-3856a, *Diospyros*, LS, PC, MGCL No. 101020; same data, no em. dates, LS, PC, MGCL No. 101021; same data, em. 30-IX-1985, LS, PC, MGCL No. 101022; same data, p. 9-IX-1985, em. 17-IX-1985, LS, PC, MGCL No. 101023; same data, em. 21-IX-1985, LS, PC, MGCL No. 101024; MARION: Near Lake Delancy, Ocala NF, 21-V-1992, em. 15-VI-1992, D. Matthews & J. Gillmore, A-6335, persimmon, LS, PC, MGCL No. 100380.

Comments.—*Pyrola* sp. (Ericaceae) as well as *Diospyros* L. (Ebenaceae) are previously known hosts (Heppner 2003).

6486 *Tornos scolopacinarius* (Guenée) – dimorphic gray

Reared adults.—ALACHUA: Edgecliff subdivision, 25-VI-1984, eggs laid 26-VI-1984, hatched 1-VII, assoc. larvae preserved, D. H. Habeck, A-3485, MVL female, MGCL No. 100611; same location, 14-V-1985, D. H. Habeck, A-3789, MVL female, MGCL No. 100779; 8-I-1989, assoc. larvae preserved, D. H. Habeck, A-4694, BLT female, MGCL No. 100787; Gainesville, 2-V-1975, D. H. Habeck, A-1501, MGCL No. 100786; same location, 1-I-1975, B. Wojcik, MGCL No. 100773; 20-II-1976, eggs 17-IV-1976, D. H. Habeck, A-1702, BLT, MGCL No.100780; 20-II-1976, eggs 21-IV-1976, D. H. Habeck, A-1702, BLT, MGCL No. 100785; 26-II-1976, D. H. Habeck, A-1730, BLT, MGCL No. 100782; 3-III-1976, assoc. larvae preserved, D. H. Habeck, A-1763, BLT female, MGCL No. 100609; 1-III-1976, assoc. larvae preserved, D. H. Habeck, A-1767, BLT female, MGCL No. 100788; 16-IV-1976, eggs 27-V-1976, D. H. Habeck, A-1870, BLT female, MGCL No. 100776; 16-IV-1976, D. H. Habeck, A-1870, BLT, MGCL No. 100777; Williston Rd., 10-X-1975, p. 16-X-1975, em. 8-XII-1975, D. H. Habeck & K. J. Tennyson, A-1613-1, *Eupatorium capillifolium*, MGCL No. 100379; Edgecliff subdivision, 25-VI-1985, em. 26-VII-1985, J. Gillmore, J. Watts, D. H. Habeck, A-3807d, *Eupatorium compositifolium*, LS, PC, MGCL No. 100378;UF Honey Plant, 21-IV-1982, J. Gillmore, A-3009, BLT female, MGCL No. 100774; same data, A-3013, BLT female, MGCL No. 100775; same data, A-3014, BLT female, MGCL No. 100783; GULF: Near Port St. Joe, 25-IV-1984, pp. 30-IV-1984, em. 14-V-1984, D. H. Habeck & D. Weisman, A-3456, *Eupatorium*, LS, PC, MGCL No. 100610; PALM BEACH: Belle Glade, 11-I-1974, D. H. Habeck, MGCL No. 100781; same data, MGCL No. 100784.

Comments.—This species has been recorded from other Asteraceae including *Symphyotrichum* Nees (= *Aster* L.) and *Coreopsis* L. (Heppner 2003). No published records for *Eupatorium* L. were found. Three individuals were reared from field collected samples but the remaining database records, all Alachua

County, refer to adults reared from ova of females collected at lights or the female egg vouchers. Associated larvae were preserved from at least four of the latter rearing lots.

6571 *Iridopsis pergracilis* (Hulst) – cypress looper moth

Reared adults.—COLLIER: Naples, 8-VIII-1980, em 21-VIII-1980, C. J. Schell, A-2659, *Taxodium*, LS, PC, MGCL No. 100982; same data, em. 20-VIII-1980, LS, PC, MGCL No. 100984; p. 20-VIII-1980, em. 26-VIII-1980, LS, PC, MGCL No. 100446; em. 25-VIII-1980, LS, PC, MGCL No. 100983; em. 29-VIII-1980, LS, PC, MGCL No. 100447; em. 1-IX-1980, LS, PC, MGCL No. 100993; GLADES: Palmdale, 24-IX-1980, em. 3-X-1980, D. H. Habeck, A-2705, *Taxodium*, LS, PC, MGCL No. 100990; same data, em. 6-X-1980, LS, PC, MGCL No. 100989; em. 8-X-1980, LS, PC, MGCL No. 100981; em. 30-IX-1980, LS, PC, MGCL No. 100988; Palmdale, Fisheating Creek, X-1980, D. H. Habeck, on *Taxodium* foliage, 58 individuals, most with LS, PC; MARION: Along Oklawaha R. nr SR 40, 22-IV-1976, em. 6-V-1976, D. H. Habeck, A-1896, LS, PC, MGCL No. 100985; OKALOOSA: Riverside, 14- IX-1996, D. H. Habeck & C. Lewis, A-7445, BLT, MGCL No. 100975.

Comments.—With the exception of a specimen collected "at light" from Okaloosa County, all records are from the known larval host, *Taxodium distichum* (L.) Rich. (Cupressaceae).

6584 *Iridopsis humaria* (Guenée) – small purplish gray

Reared adults.—ALACHUA: River Styx, 6-XI-1975, em. 6-XI-1976, D. H. Habeck, A-2898, *Sesbania exaltata*, PC, MGCL No.100319; Gainesville, 23-VI-1973, P. A. T., *Myrica cerifera*, PC, LS, MGCL No. 101033; MARION: East Silver Springs Shores, 17-X-1991, p. 23-X, em. 27-XII, D. H. Habeck & J. Gillmore, A-6099, *Dalea pinnata*, PC, LS, MGCL No. 101031; East Silver Springs Shores, 17-X-1991, p. 23-X-1991, em. 28-II-1992, D. H. Habeck & J. Gillmore, A-6099, *D. pinnata,* LS, PC, MGCL No. 101032; near Silver Springs, 10-IV-1996, p. 17-IV-1996, em. 29-IV-1996, D. H. Habeck, A-7323b, *Vaccinium stramineum*, LS, PC, MGCL No. 100721.

Comments.—Only *Dalea pinnata* (Fabaceae) is a previously published host-plant (Robinson et al. 2002). *Sesbania exaltata* (Raf.) Rydb. ex A.W. Hill is a junior synonym of *Sesbania herbacea* (Mill.) McVaugh (Fabaceae) (USDA PLANTS 2012). Wagner et al. (2002) list a number of tree and herbaceous hosts.

6586 *Iridopsis defectaria* (Guenée) – willow looper; brown-shaded gray

Reared adults.—ALACHUA: Archer, 19-V-1981, p. 21-V, em. 2-IV, J. F. Butler & P. Lawyer, ex. Gopher tortoise burrow, LS, PC, MGCL No. 100808; behind Gainesville Airport, 30- IX-1979, p. 6-X-1979, em. 19-X-1979, D. H. Habeck, A-2484, *Sesbania* sp., LS, PC, MGCL No. 101012; same location, 4-V-1983, em. 20-V-1983, D. H. Habeck, A-3203, *Baccharis*, LS, PC, MGCL No. 100991; same data, em. 1-VI-1983, LS, PC, MGCL No. 100992; Edgecliff subdivision, 27-III-1982, p. 5-V-1982, em. 17-V-1982, D. H. Habeck, A-2957, *Rubus* sp., LS, PC, MGCL No. 100814; same location, 13-III-1986, p. 7-IV-1986, em. 15-IV-1986, J. Watts & J. Gillmore, A-3913b, *Quercus*, LS, PC, MGCL No. 100866; same location, 26-III-1990, same location, 24-III-1986, J. Watts, R. Caballero & J. Gillmore, LS, PC, MGCL No. 100865; Gainesville, 22-IX-1976, p. 15-X-1976, em. 29-X-1976,

P. Perun, A-2082, *Liquidambar styraciflua*, PC, MGCL No. 100870; same location/date, p. 6-X-1976, em. 18-X-1976, P. Perun, A-2083, *Acer rubrum*, PC, MGCL No. 100811; same location/date, em. 11-I-1982, F. Slansky, A-2741, *Aralia*, LS, PC, MGCL No. 100813; same location, 19-IV-1987, p. 22-IV-1987, em. 10-V-1987, J. Foltz, A-4123, *Quercus nigra*, LS, PC, MGCL No. 100860; Kanapaha Botanical Garden, 4-IV-1986, p. 8-IV-1986, em. 16-IV-1986, J. Watts, A-3934, *Quercus*, LS, PC, MGCL No. 100864; Newnan's Lake boat ramp, 24-IX-1976, *Toxicodendron radicans*, LS, PC, MGCL No. 100869; Williston Rd., 10-X-1975, em. 12-XI-1975, D. H. Habeck, A-1625, *Tilia*, PC, MGCL No. 100871; DADE: 13-IV-1967, D. H. Habeck, A-127, *Salix*, MGCL No. 100861; LAKE: Blue Creek Lodge Rd., 11-IV-1990, p. 23-IV-1990, em. 3-V-1990, D. H. Habeck & J. Gillmore, A-5478c, *Gordonia lasianthus*, LS, PC, MGCL No. 100863; PUTNAM: Welaka, 17-X-1981, p. 2-XI-1981, em. 20-XI-1981, D. H. Habeck, A-2906, *Glottidium vescicarium*, LS, PC, MGCL No. 100812; SANTA ROSA: Milton, Old Town Station, 14-X-1993, p. 14-XI-1993, em. 27-XI-1993, D. Matthews & T. A. Lott, A-6762, *Rhynchosia minima*, LS, PC, MGCL No. 100872.

Additional Records.—ILLINOIS: JACKSON: 30-VII-1976, p. 12-VIII-1976, em. 25-VIII-1976, G. B. Edwards, *Diospyros*, LS, PC, MGCL No. 100867.

Comments.—Previously unreported host genera from Florida are *Rhus* L. (Anacardiaceae), *Acer* L. (Sapindaceae), *Aralia* L. (Araliaceae), *Rubus* L. (Rosaceae), *Baccharis* (Asteraceae), *Gordonia* Ellis (Theaceae), *Liquidambar* L. (Altingiaceae), *Tilia* L. (Malvaceae), *Rhynchosia* Lour. (Fabaceae), and *Sesbania* Scop. (Fabaceae). The specimen from Illinois represents a new host record for the species. Records for *Glottidium vesicarium* (Jacq.) Harper refer to *Sesbania vesicaria* (Jacq.) Elliott (USDA PLANTS 2012).

6590 *Anavitrinella pampinaria* (Guenée) – common gray

Reared adults.—ALACHUA: Behind Gainesville Airport, 4-V-1983, em. 22-V-1983, D. H. Habeck, A-3203, *Baccharis*, LS, PC, MGCL No. 100302; Edgecliff subdivision, 4-X-1981, p. 9-X-1981, em. 11-I-1982, D. H. Habeck, A-2887b, *Glottidium*, PC, MGCL No. 100313; same location, 23-VIII-1989, em. 9-IX-1989, J. Gillmore & D. L. Matthews, A-5137b, *Vernonia gigantea*, LS, PC, MGCL No. 100311; Gainesville, 13-II-1975, D. H. Habeck, A-1329, ex. BLT female, larva fed on *Acer negundo*, MGCL No. 100324; same location, 13-II-1975, em. 17-IV-1975, D. H. Habeck, A-1330, ex. BLT female, larva fed on *A. negundo*, MGCL No. 100316; near Micanopy, 14-VIII-1996, em. 5-IX-1996, D. H. Habeck & J. Gillmore, A-7387, *Vernonia*, MGCL No. 100558; UF Green Acres, 24-IV-1980, J. Gillmore, *Quercus* sp., LS, PC, MGCL No. 100304; UF Hort. Experiment Sta., 16-X-1972, D. H. Habeck, PC, MGCL No. 100322; Waldo, 21-V-1980, D. H. Habeck, *Callicarpa americana*, LS, PC, MGCL No. 100307; county location only, 19-IX-1976, p. 14-X-1976, em. 27-X-1976, D. H. Habeck, A-2077, *Myrica cerifera*, LS, PC, MGCL No. 100323; LAKE: N. of Lady Lake, 30-III-1976, D. H. Habeck, A-1822, PC, MGCL No. 100321; same data, em. 3-V-1976, D. H. Habeck, A-1826, PC, MGCL No. 100318; LEVY: Bronson, 24-X-1995, p. 27-X-1995, em. 22-I-1996, D. H. Habeck & J. Gillmore, A-7276e, lichens, mostly on *Ceratiola ericoides*, PC, MGCL No. 100430; MARION: 4 mi. E of Citra, 11-IV-1986, em. 17-V-1986, J. Watts & J. Gillmore, A-3949, dwarf live oak, LS,

PC, MGCL No. 100301; East Silver Springs Shores, 11-II-1994, em. II-1994, D. H. Habeck, J. Gillmore, R. Goodson, A-6820, *Helianthemum nashii*, PC, MGCL No. 100312.

Comments.—All the above plants are previously unrecorded, except that Heppner (2003) lists *Acer* sp. from Florida. The latter may refer to box elder or maple, as both are in the same genus. Possible lichenivory/algivory is also new. Records for *Glottidium* Desv. refer to *Sesbania*. Wagner et al. (2002) include numerous hosts for the northeast, including maple, and note the highly variable diet of the species.

6594 *Cleora sublunaria* (Guenée) – double-lined gray

Reared adults.—ALACHUA: Gainesville, 24-III-1980, em. 23-III-1981, D. H. Habeck, A-2568d, *Carya* sp., LS, PC, MGCL No. 100305; same data, A-2568e, PC, MGCL No. 100326; LEVY: E. of Williston, 28-IV-1986, J. Gillmore & J. Watts, A-3953c, *Quercus laevis*, PC, MGCL No. 100306.

Comments.—Both *Carya* Nutt. (Juglandaceae) and *Quercus laevis* Walter (Fagaceae) are previously unknown hosts for this species in Florida. Wagner et al. (2002) include oak (*Quercus*) as common host in the northeast but do not indicate which species. *Comptonia peregrina* (L.) J.M. Coult. (Myricaceae) is listed by Tietz (1972) and Heppner (2003).

6597 *Ectropis crepuscularia* ([Denis & Schiffermüller]) – the small engrailed

Reared adults.—ALACHUA: Edgecliff subdivision, 24-III-1986, J. Watts, R. Caballero & J. Gillmore, *Quercus laurifolia*, LS, PC, MGCL No. 100859; Gainesville, 3-V-1976, p. 7-V-1976, em. 18-V-1976, D. H. Habeck, PC, MGCL No. 101029; COLUMBIA: Suwannee Bay Creek, 16-III-1994, p. 5-IV-1994, em. 13-IV-1994, J. Foltz, A-6842, tree trunk, PC, MGCL No. 100720.

Comments.—This species is previously known from "*Quercus* sp.", one of the 19 genera in 12 families listed as hosts by Heppner (2003).

6598 *Protoboarmia porcelaria* (Guenée) – porcelain gray

Reared adults.—ALACHUA: Gainesville, SE 16th Ave. & Williston Rd., 27-VIII-1992, em. 14-IX-1992, J. Gillmore, D. Matthews, and immatures class, A-6360, *Acer negundo*, LS, PC, MGCL No. 100797; HERNANDO: Croom WMA, 29-III-1993, p. 12-IV-1993, em. 27-IV-1993, J. Gillmore & J. Foltz, A-6501c, *Quercus laurifolia*, LS, PC, MGCL No. 101046; same data, p. 19-IV-1993, em. 30-IV-1993, J. Gillmore & J. Foltz, A-6509a, *Myrica cerifera*, LS, PC, MGCL No. 101045; LEVY: CR 320, 4 mi. E of Manatee Springs, 2-II-1995, em. 29-IV-1995, J. Gillmore, R. Goodson, & G. McDermott, A-7060a, beating lichens, LS, PC, MGCL No. 100739; 0.2 mi W of Alachua Co. line, Archer, 24-X-1995, em. 13-VI-1996, D. H. Habeck & J. Gillmore, A-7274e, lichens only, LS, PC, MGCL No. 100431; same data, em. 20-V-1996, D. H. Habeck & J. Gillmore, A-7274e, lichens only, LS, PC, MGCL No. 100432; MARION: East Silver Springs Shores, 17-X-1991, p. 2-XII, em. 16-XII, D. H. Habeck & J. Gillmore, A-6116b, beating on lichen covered oak, LS, PC, MGCL No. 100729; CR 35, nr Jct. 326, 3-III-1993, p. 26-III-1993, em. 6-IV-1993, R. Goodson & J. Gillmore, A-6480b, beating lichens, LS, PC, MGCL No. 100741; same data, p. 6-IV-1993, em. 19-V-1993, A-6480g, LS, PC, MGCL No. 100753; same location, 24-III-1993, p. 4-V-1993, em. 14-V-1993, J. Gillmore & D. H. Habeck, A-6495, lichen and moss

covered *Quercus*, LS, PC, MGCL No. 100740; East Silver Springs Shores, 17-IX-1993, em. 20-X-1993, D. H. Habeck & J. Gillmore, A-6734b, lichens, LS, PC, MGCL No. 101044; Marion Oaks, 27-IV-1995, p. 11-VIII-1995, em. 23-VIII-1995, R. Goodson & J. Gillmore, A-7096, lichens and *Quercus* sp., LS, PC, MGCL No. 100443; same location, 24-V-1995, p. 29-V-1995, em. 12-VI-1995, D. H. Habeck & J. Gillmore, A-7115, lichens, LS, PC, MGCL No. 100742.

Comments.—D. L. Wagner (pers. comm.) indicated that this species has been said to feed on lichens, and that larvae can be found on tree trunks in Connecticut during much of the year. These are the first conclusive records of *P. porcelaria* larvae feeding on lichens. Heppner (2003) lists 10 tree species as hosts. The three tree species recorded here — *Acer negundo*, *Quercus laurifolia*, and *Myrica cerifera* — are not previously published.

6604 *Epimecis detexta* (Walker) – avocado spanworm

Reared adults.—DADE: 6-21-XII-1984, H. B. G., avocado, reared from field collected larvae, 8 adults, MGCL Nos. 100789–100796.

Comments.—Several varieties of avocado, *Persea americana* Mill. (Lauraceae), are grown in southern Florida.

6616 *Melanchroia chephise* (Cramer) – snowbush-spanworm; white-tipped black

Reared adults.—BROWARD: Ft. Lauderdale, 8-VI-1988, R. Giblin Davis, *Breynia nivosa*, 3 adults, MGCL Nos. 100522–100524; Adult egg vouchers for preserved larvae-Broward; Miramar, 11-XII-1985, D. H. Habeck, A-3899, adults collected flying around *Bidens* sp., associated larvae reared from caged adults, MGCL Nos. 100457–100521 and MGCL Nos. 100525–100528.

Comments.—*Breynia nivosa* (W.Bull) Small (Euphorbiaceae) is one of four hosts listed by Heppner (2003).

6620a *Melanolophia canadaria* (Guenée), ssp. *choctawae* Rindge – Canadian geometer

Reared adults.—ALACHUA: Gainesville, Brywood, 4-VI-1992, F. D. Bennett, A-6338, *Liquidambar styraciflua*, LS, PC, MGCL No. 100328; Gainesville, 1-V-1992, J. Foltz, on wall, MGCL No. 100544; Edgecliff subdivision, 12-IV-1992, em. 3-V-1992, D. H. Habeck, A-6299, *Azalea*, PC, MGCL No. 100545; Gainesville, 22-IX-1996, em. 25-X-1996, P. Perun, A-2082, beating *L. styraciflua*, PC, MGCL No. 101010; DIXIE: 3-5 mi. N of Old Town, 5-IV-1980, p. 15-IV-1980, em. 23-IV-1980, G. B. Edwards, A-2584, *Magnolia virginiana*, LS, PC, MGCL No. 101011.

Comments.—Wagner et al. (2002) list numerous trees and shrubs by common name. *Liquidambar* (sweet gum) and *Azalea* are previously unpublished hosts.

6654 *Hypagyrtis unipunctata* (Haworth) – one-spotted variant

Reared adults.—ALACHUA: 29-VII-1976, em. 24-VIII-1976, P. Perun, P. Eliazar, & M. Loffer, A-2003, *Carya glabra*, PC, MGCL No. 100804; 19-IX-1976, p. 22-X-1976, em. 3-IX-1976, D. H. Habeck, A-2077, *Myrica cerifera*, PC, MGCL No. 100801; Austin Cary Forest, 14-VIII-1996, em. 11-X-1996, D. H. Habeck & J. Gillmore, A-7381, *Vaccinium arboreum*, LS, PC, MGCL No. 100439; same data, em. 15-IX-1996, A-7381f, LS, PC, MGCL No. 100440; same data, p. 23-VIII-1996, em. 6-IX-1996, D. H. Habeck & J. Gillmore, A-7381a, LS, PC, *V. arboreum*, MGCL No. 100441;

same data, p. 30-VIII-1996, em. 9-IX-1996, D. H. Habeck & J. Gillmore, A-7380b, *Liquidambar styraciflua*, PC, MGCL No. 100442; Gainesville, 12-X-1974, em. 25-XII-1974, D. H. Habeck, *Quercus*, PC, MGCL No. 100799; same location, 20-X-1974, D. H. Habeck, *Quercus nigra*, MGCL No. 100351; 20-X-1974, em. 23-XII-1974, D. H. Habeck, *Q. nigra*, PC, MGCL No. 100803; 19-IX-1976, p. 22-X-1976, em. 3-XI-1976, D. H. Habeck, A-2077, *M. cerifera*, PC, MGCL No. 100801; 4-III-1976, J. Cash, A-1772, MGCL No. 100802; Gainesville, SW 20th Ave, Hogtown Creek, near I-75, 3-III-1993, p. 11-III-1993, em. 23-III-1993, J. Watts & R. Beard, A-6485d, *Cornus foemina*, LS, PC, MGCL No. 100550; UF Agricultural Fields, 1-VI-1984, em. 19-VI-1984, Dr. Mustafa & J. Gillmore, A-3472, *Crataegus uniflora*, LS, PC, MGCL No. 100333; same location, 7-IV-1986, J. Gillmore & J. Watts, *Quercus laevis*, PC, MGCL No. 100800.

Comments.—Three of the above plants are new host genera: *Crataegus* (Rosaceae), *Liquidambar* (Altingiaceae), and *Myrica* L (Myricaceae). *Vaccinium* sp. (Ericaceae) is listed in Tietz (1972).

6655 *Hypagyrtis esther* (Barnes) – Esther moth

Adults. OKALOOSA: Riverside, 14-IX-1996, D. H. Habeck & C. Lewis, A-7445, BLT egg vouchers, MGCL Nos. 100444, 100445.

6658 *Phigalia titea* (Cramer) – eastern oak looper; the half-wing

Reared adults.—ALACHUA: Gainesville, 8-IV-1984, em. 9-III-1985, J. L. Foltz, A-3355, on ground, LS, PC, MGCL No. 100715; MARION: Belleview, 3-IV-1984, p. 20-IV-1984, em. 21-II-1985, R. E. Waites & J. Gillmore, A-3340l, *Quercus laevis*, PC, MGCL No. 101014.

Comments.—This species was previously recorded from four *Quercus* L. species but not *Q. laevis* (Robinson et al. 2002).

6660 *Phigalia strigataria* (Minot) – small oak looper; small phigalia

Reared adults.—ALACHUA: Gainesville, 1-IV-1980, p. 7-IV-1980, em. 6-IV-1981, J. Gillmore, A-2573e, *Quercus nigra*, LS, PC, MGCL No. 100716.

Comments.—Larvae are known to feed on *Quercus* (Fagaceae) and other genera but there are no previous records published for *Q. nigra* L.

6670 *Phrygionis auriferaria* (Hulst) – golden-winged palyas moth

Reared adults.—MONROE: Big Pine Key, Key Deer Refuge, No Name Key, 11-IV-1984, p. 20-IV-1984, em. 11-V-1984, D. H. Habeck & D. Wysman, A-3373, *Myrsine floridana*, PC, MGCL No. 100423; adults held for eggs - Big Pine Key, Key Deer Blvd., 0.25 mi N. of Blue Hole, 4-III-1992, D. Matthews, D. H. Habeck, J. Gillmore, MGCL No. 100422; Big Pine Key, Key Deer Refuge, 5-III-1992, D. H. Habeck, J. Gillmore, D. Matthews, MGCL Nos. 100424, 100427; Key Deer Rd. btwn. Gulf Blvd. & Big Pine St., 7-III-1992, D. Matthews & T. A. Lott, MGCL Nos. 100421, 100425, 100426.

Comments.—*Myrsine floridana* A. DC. is a synonym of *M. cubana* A. DC. (Myrsinaceae) and represents the first known host recorded for *P. auriferaria*. The related species *P. argentata* (Drury, 1773), the jeweled satyr moth, is known from *Ardisia escallonoides* Schiede & Deppe ex Schltdl. & Cham. (Robinson et al. 2002). Both host genera belong to the family Myrsinaceae.

6711 *Ilexia intractata* (Walker) – black-dotted ruddy

Reared adults.—ALACHUA: Gainesville, 22-V-1996, em. 10-VI-1996, J. L. Capinera, A-7333, *Ilex vomitoria*, LS, PC, MGCL No. 100766; same data, em. 12-VI-1996, LS, PC, MGCL No. 100767; em. 13-VI-1996, PC, MGCL No. 100768; LS, PC, MGCL No. 100772; em. 17-VI-1996, LS, PC, MGCL No. 100771.

Comments.—Ferguson (2009) described the life history and listed *Ilex opaca* Aiton and *I. americana* Lam. (Aquifoliaceae) as hosts and accurately predicted the association of *I. intractata* with *I. vomitoria* Aiton in the south. The nomenclatural status of *I. americana* is unresolved, and it is thought to be a synonym of *I. opaca* (IPNI 2012).

6713 *Episemasia solitaria* (Walker)

Reared adults.—CLINCH [GEORGIA]: Near Fargo, 2-V-1985, p. 9-V-1985, em. 23-V-1985, D. H. Habeck, J. Gillmore, J. Watts, A-3745, *Ilex myrtifolia*, PC, MGCL No. 100338; same data, p. 6-V-1985, em. 22-V-1985, LS, PC, MGCL No. 100339; p. 13-V-1985, em. 24-V-1985, LS, PC, MGCL No. 100340; p. 13-V-1985, em. 26-V-1985, LS, PC, MGCL No. 100337.

Comments.—Ferguson (2009) reared *E. solitaria* from eggs and the larvae were fed *Ilex opaca* (Aquifoliaceae). Ferguson stated that evergreen holly, such as *I. vomitaria*, must be the natural host. The above specimens resulting from field collected larvae represent a previously unpublished host species.

6742 *Xanthotype rufaria* Swett – rufous geometer

Reared adults.—ALACHUA: M.K. Rawlings Park, 6-X-1976, p. 4-XI-1976, em. 12-X-1976, P. Perun, D. H. Habeck, & K. Regas, A-2090, *Rhexia virginica*, PC, MGCL No. 100806; LIBERTY; Torreya State Park, 2-X-1983, em. 6-X-1983, D. H. Habeck & J. Watts, A-3263, *Pluchea* sp., MGCL No. 100807.

Comments.—*Rhexia* L. (Melastomataceae) and *Pluchea* Cass. (Asteraceae) are the first host plants recorded for this species.

6798 *Ennomos subsignaria* (Hübner) – elm spanworm

Reared adults.—ALACHUA: Edgecliff subdivision, 14-IV-1983, D. H. Habeck, *Acer* sp., LS, PC, MGCL No. 100639; NASSAU: George Island, 14-IV-1985, p. 20-IV-1985, em. 29-IV-1985, D. H. Habeck, A-3719b, *Carya glabra*, LS, PC, MGCL No. 100638.

Comments.—Heppner (2003) recorded 19 host genera, including *Acer* (Sapindaceae) and *Carya* (no species designated), but *C. glabra* (Mill.) Sweet (Juglandaceae) is reported in Robinson et al. (2002).

6889 *Lambdina pultaria* (Guenée)

Adult.—ALACHUA: Edgecliff subdivision, 14-IV-1993, D. H. Habeck, BL, A-6565, MGCL No. 101201.

Comments.—The above specimen is a female egg voucher. Larvae were fed *Quercus* and preserved. Published hosts are *Q. rubra* L. and *Q. virginiana* Mill. (Robinson et al. 2002).

6933 *Eusarca fundaria* (Guenée)

Reared adults.—ALACHUA: Edgecliff subdivision, 22-III-1984, D. H. Habeck, MVL female A-3347, MGCL No. 100904; same data, reared from MVL female, fed on *Baccharis,* LS, PC, MGCL No. 100900; same data, PC, MGCL No. 100902; same location, 28-VI-1984, D.H. Habeck, MVL female, A-3501, MGCL

No. 100899 (associated larvae preserved, fed on *Baccharis*); same location, 25-IX-1984, D. H. Habeck, MVL female, A-3616, MGCL No. 100893 (associated larvae preserved, fed on *Baccharis* and to a lesser extent on clover).

Comments.—*Baccharis halimifolia* L. (Asteraceae) is the only host reported for this species in the literature (Palmer and Bennett 1988, Robinson et al. 2002). Two adults were successfully reared on *Baccharis* from eggs obtained from a female collected at light.

6941 *Eusarca confusaria* Hübner – confused geometer

Reared adults.—ALACHUA: Behind Gainesville Airport, 4-V-1983, em. 29-V-1983, D.H. Habeck, A-3203, *Baccharis halimifolia*, LS, PC, MGCL No. 100901; same data, em. 31-V-1983, LS, PC, MGCL No. 100894; same data, em. 2-VI-1983, LS, PC, MGCL No. 100898; same data, em. 9-VI-1983, LS, PC, MGCL No. 100895; Gainesville, 22-III-1972, D.H. Habeck, BLT female, A-1076, MGCL No. 100903.

Comments.—The specimens from Lot A-3203 were all reared from field collected larvae on *Baccharis halimifolia* while those treated here under *E. fundaria* were reared from eggs and provided with a variety of plants, but fed on *Baccharis.* While there are apparent differences in the antemedial line of the adults of the two species, further observation and careful study of the adult genitalia and larval morphology may help in distinguishing between these easily confused sympatric species.

6966 *Eutrapela clemataria* (J. E. Smith) – curve-toothed geometer

Reared adults.—ALACHUA: 8-IV-1977, em. 9-V-1977, *Smilax* sp., MGCL No. 101035; Edgecliff subdivision, 4-III-1986, R. Caballero, J. Gillmore, & J. Watts, PC, MGCL No. 100644; Gainesville, 24.III.1980, p. 5-IV-1980, em. 10-IV-1980, D. H. Habeck, A-2569b, *Toxicodendron radicans*, MGCL No. 101203; same location, 12-IV-1984, p. 18-IV-1984, em. 1-VIII-1984, J. L. Gillmore, A-3360, *Liquidambar styraciflua*, LS, PC, MGCL No. 100646; same location, 24-III-1987, p. 7-IV-1987, em. 15-XI-1987, J. Watts & J. L. Gillmore, A-4114, *Fraxinus*, LS, PC, MGCL No. 100641; Gainesville, Archer Rd., 15-IV-1985, em. 13-V-1985, D. H. Habeck, A-3722, on twig, LS, PC, MGCL No. 100645; Kanapaha Botanical Gardens, 24-II-1984, em. 15-III-1985, LS, PC, MGCL No. 100642; JACKSON: 5 mi W of Greenwood, 27-IV-1994, p. 29-IV-1994, em. 23-V-1994, J. L. Foltz, A-6869, on tree trunk, MGCL No. 101034.

Comments.—*Smilax* L. (Smilacaceae), and *Toxicodendron* Mill. (Anacardiaceae) are previously unrecorded hosts. Wagner et al. (2002) mention ash (*Fraxinus* L.) and sweet gum (*Liquidambar*) as common hosts in the northeast.

6967 *Oxydia vesulia* (Cramer), ssp. *transponens* (Walker) – spurge spanworm

Reared adults.—POLK: near Lake Alfred, 2-IV-1987, p. 5-IV-1987, em. 23-IV-1987, J. Gillmore, A-4116, *Salix*, MGCL No. 100627.

Comments.—*Salix* (Salicaceae) is a previously unrecorded host. The above larva pupated three days after collection and there is no specific mention of feeding by the above larva in the record book.

6974b *Patalene olyzonaria* (Walker), ssp. *puber* (Grote & Robinson) – juniper geometer

Reared adults.—ALACHUA: Archer, 14-XII-1981, *Juniperus virginiana*, LS,

PC, MGCL No. 100913, Edgecliff subdivision, 5-V-1988, p. 18-V-1988, em. 27-V-1988, D. H. Habeck, A-4375, *J. virginiana*, LS, PC, MGCL No. 100919; Gainesville, 19-IV-1976, D. H. Habeck, A-1893, BLT, MGCL No. 100911; UF Honey Plant, 23-VI-1981, D. H. Habeck, A-2820, BLT female, MGCL No. 101202; same location, 28-IX-1982, J. Gillmore, A-3137, BLT, MGCL No. 100918; University of Florida Horticultural Experiment Station, 29-IX-1975, K. Tennesen & D. H. Habeck, A-1608, *Ipomoea batatas*, MGCL No. 100914; HIGHLANDS: E. of Sebring, 15-VII-1976, em. 23-VII-1976, D. H. Habeck, A-1980, *Lyonia ferruginea*, PC, MGCL No. 100809; same data, PC, MGCL No. 100810; LEVY: Cedar Key, 19-I-1995, D. H. Habeck & J. Gillmore, A-7056c, *J. virginiana*, LS, PC, MGCL No. 100915; same data, p. 22-I-1995, em. 1-II-1995, D. H. Habeck & J. Gillmore, A-7056b, *J. virginiana*, LS, PC, MGCL No. 100916.

Comments.—*Ipomoea batatas* (L.) Lam. (Convolvulaceae; sweet potato) and *Lyonia ferruginea* (Walter) Nutt. (Ericaceae) are previously unrecorded hosts, and based on the known association with *Juniperus*, they are not likely to be actual food sources for this species. In the case of *Ipomoea*, the vines may have been intertwined with *Juniperus*. Although the specimen from *Lyonia* includes a pupal exuvium, this record could be the result of a larva wandering off the host to pupate.

Subfamily GEOMETRINAE

7033 *Nemoria lixaria* (Guenée) – red-bordered emerald

Reared adults.—ALACHUA: Behind Gainesville Airport, 25-II-1986, p. 30-III-1986, em. 9-IV-1986, *Quercus laevis*, J. Gillmore & J. Watts, PC, LS, MGCL No. 100592; Gainesville, 5-IV-1976, at blacklight, A-1852, D. H. Habeck, MGCL No. 100588; UF Honey Plant, 20-V-1982, em. 6-VII-1982, J. Gillmore, A-3051, reared from BLT female, LS, PC, MGCL No. 100568; UF Honey Plant, 20-V-1982, p. 6-VII-1982, em. 18-VII-1982, J. Gillmore, A-3050, reared from BLT female, LS, PC, MGCL No. 100569; same data, egg voucher, BLT female, MGCL No. 100589; same data, egg voucher, BLT female, A-3051, MGCL No. 100591; same location, 28-V-1982, J. Gillmore, A-3069, BLT female, MGCL No. 100587; MARION: SR 326 just W. of Jct. 35, 2-V-1990, p. 21-V-1990, em. 30-V-1990, J. Gillmore & D. Matthews, A-5528c, *Q. laevis*, LS, PC, MGCL No. 100594.

Comments.—Ferguson (1969) reared *N. lixaria* from ova laid by captive females. He fed them *Quercus borealis* Michx. f. (junior synonym of *Q. rubra* L. var. *ambigua* (A. Gray) Fernald) and concluded that it is "naturally an oak feeder." *Quercus laevis* is recorded here for the first time.

7034 *Nemoria saturiba* Ferguson

Reared adults.—ALACHUA: Gainesville, 30-IV-1970, D. H. Habeck, A-971, MGCL No. 100586; Rocky Point Rd., 29-VII-1976, p. 3-VIII-1976, em. 16-VIII-1976, P. Eliazar, P. Perun & M. Loffer, A-2007, *Liquidambar styraciflua*, LS, PC, MGCL No. 100590.

Comments.—Ferguson (2008) states that he reared two broods of this moth from eggs on *L. styraciflua*, "... but do not know if this is the natural food." While indivduals of Lot A-971 were reared from eggs on artificial media and mixed herbs, the specimen from Lot A-2007 was field collected on *Liquidambar*.

7046 *Nemoria bistriaria* Hübner

Reared adults.—MARION: Ocala NF, 1.5 mi E. of Mill Dam on Hwy 40,

24-III-1976, em. 17-IV-1976, G. B. Edwards, on rosemary.

Additional Records.—GEORGIA: CLINCH: Near Fargo, 2-V-1985, p. 13-V-1985, em. 23-V-1985, A-3747c, *Hypericum fasciculatum*, LS, PC, MGCL No. 100583.

Comments.—This species is listed from tree hosts, *Betula* L. (Betulaceae), *Juglans* L. (Juglandaceae), and *Quercus* (Fagaceae) (Heppner 2003). The record for rosemary probably refers to *Ceratiola ericoides* Michx. (Empetraceae). *Hypericum* L. (Hypericaceae) and *Ceratiola* Michx. are previously unreported host genera.

7051 *Phrudocentra centrifugaria* (Herrich-Schäffer)

Reared adults.—ALACHUA: Gainesville, Bivens Arm, 22-VII-1976, em. 31-VII- 976, p. 8-VIII-1976, D. H. Habeck, A-188a, *Myrica cerifera*, MGCL No. 100570.

Comments.—Larval hosts for this species are previously unknown with certainty. Ferguson (1985) mentioned a larva from near Lake Alto, Alachua Co., Florida, collected from *Myrica cerifera* L. by the late Roger Heitzman, which he felt "must by elimination be that of *Phrudocentra centrifugaria*."

7053 *Dichorda iridaria* (Guenée), ssp. *remotaria* (Walker) – showy emerald

Reared adults.—ALACHUA: UF Medicinal Gardens, 15-IX-1975, em. 19-X-1975, D. H. Habeck, *Rhus radicans*, MGCL No. 100342.

Comments.—Heppner (2003) reported *Rhus copallinum* L. and *R. typhina* L., both sumacs, and "*Rhus* sp." Wagner et al. (2002) also list poison ivy, *Toxicodendron* (= *Rhus*) *radicans* (L.) Kuntze. All of these hosts belong to the Anacardiaceae.

7059 *Synchlora frondaria* Guenée – camouflaged looper; southern emerald

Reared adults.—ALACHUA: 21-VII-1983, p. 5-VIII-1983, em. 11-VIII-1983, J. Gillmore, A-3221a, *Eupatorium capillifolium*, LS, PC, MGCL No. 100847; same data, p. 4-VIII-1983, em. 10-VIII-1983, PC, MGCL No. 100848; behind Gainesville Airport, 9-X-1990, p. 14-XI-1990, em. 19-XI-1990, J. Gillmore & D. Matthews, A-5743a, *Chrysopsis scabrella*, MGCL No. 100602; Biven's Arm, 30-IX-1981, D. H. Habeck, *Heterotheca subaxillaris*, MGCL No. 100822; Edgecliff subdivision, 2-VI-1982, em. 5-VI-1982, D. H. Habeck, A-3057, *E. capillifolium*, PC, MGCL No. 100838; same location, 17-VI-1982, em. 31-VII-1982, R. Weston & J. Gillmore, A-3116l, *E. capillifolium*, PC, MGCL No. 100850; 29-VI-1982, D. H. Habeck & J. Gillmore, A-3087b, *E. capillifolium*, PC, MGCL No. 100844; same data, em. 11-VII-1982, LS, PC, MGCL No. 100842; em. 13-VII-1982, LS, PC, MGCL No. 100831; em. 15-VII-1982, PC, MGCL No. 100841, em.19-VII-1982, LS, PC, MGCL No. 100830; same location, 21-VII-1982, em. 3-VIII-1982, R. Weston & J. Gillmore, A-3096c, *E. capillifolium*, LS, PC, MGCL No. 100839; em. 5-VIII-1982, PC, MGCL No. 100855; em. 6-VIII-1982, LS, PC, MGCL No. 100852; 5-VIII-1982, em. 18-VIII-1982, R. Weston & D. H. Habeck, A-3109, *E. capillifolium*, MGCL No. 100829; 13-X-1982, em. 1-XI-1982, D. H. Habeck & J. Gillmore, A-3145e, *E. capillifolium*, LS, PC, MGCL No. 100846; 21-VII-1983, em. 15-VIII-1983, J. Gillmore, A-3222a, *E. capillifolium*, LS, PC, MGCL No. 100849; em. 19-VIII-1983, LS, PC, MGCL No. 100828; same location, 19-II-1984, D. H. Habeck, A-3292, MVL, MGCL No. 100673; 28-VI-1984, D. H. Habeck, A-3491, MVL, MGCL No. 100662; 9-VIII-1984, em.

22-VIII-1984, D. H. Habeck, A-3539, crepe myrtle, LS, PC, MGCL No. 100677; same data, p. 2-IX-1984, em. 7-IX-1984, LS, PC, MGCL No. 100674; same location, 2-VII-1986, em. 23-VII, D. H. Habeck & J. Gillmore, *Cirsium nuttallii*, T.C. #18, LS, PC, MGCL No. 100436; same location, 13-V-1988, D. H. Habeck & J. Gillmore, A-4394, BLT, MGCL No. 100670; 7-IV-1992, D. H. Habeck, BLT, MGCL No. 100438; same location, 16-XI-1992, p. 3-XII-1992, em. 11-XII-1992, D. H. Habeck, A-6417a, *Bidens laevis*, PC, MGCL No. 100595; same data, em. 21-XII-1992, PC, MGCL No. 100597; same location, 27-X-1994, D. H. Habeck, A-7039, BLT, MGCL No. 100651; Gainesville, 28-IX-1972, D. H. Habeck, *Polygonum punciatum*, PC, MGCL No. 100678; same location, 23-VII-1996, p. 29-VII-1996, em. 8-VIII-1996, D. H. Habeck, A-7368, *E. capillifolium*, PC, MGCL No. 100827; Gainesville, UF Maguire Village, 31-X-1981, E. G. Fontes, *Solidago altissima*, #488, PC, MGCL No. 100530; same data, #498, PC, MGCL No. 100531; same data, #499, LS, PC, MGCL No. 100532; Lake Wauberg, 30-VIII-1996, em. 4-IX-1996, J. Gillmore, A-7411, flowers of *Vernonia*, MGCL No. 100446; same data, em. 10-IX-1996, MGCL No. 100447; same data, em. 6-IX-1996, MGCL No. 100455; same data, em. 8-IX-1996, MGCL No. 100456; near Honey Plant, 17-IX-1990, em. 17-IX-1990, D. H. Habeck, A-5725a, *E. capillifolium*, PC, MGCL No. 100851; near Micanopy, 14-VIII-1996, em. 5-IX-1996, D. H. Habeck & J. Gillmore, A-7387, *Vernonia*, MGCL No. 100448; same data, MGCL No. 100449; same data, em. 2-IX-1996, D. H. Habeck & J. Gillmore, A-7387, *Vernonia*, MGCL No. 100450; same data, em. 24-VIII-1996, PC, MGCL No. 100451; same data; MGCL No. 100452, same data, em. 30-VIII-1996, MGCL No. 100453; same data, 30-VIII-1996, A-7387h, PC, MGCL No. 100454; Owens Ill. Park (Newnan's Lake), 14-VIII-1984, p. 20-VIII-1984, em. 30-VIII-1984, D. H. Habeck, A-3548, *Rhynchospora corniculata*, LS, PC, MGCL No. 100683; Perry Pond, 2 mi. S. of Rochelle, 14-VIII-1973, D. H. Habeck, *Pluchea rosea*, MGCL No. 100672; Rochelle, 18-IX-1973, em. 29-IX, D. H. Habeck, *Monarda punctata*, PC, MGCL No 100470; UF Biven's Arm, 19-V-1987, J. Gillmore, A-4151, BLT female, MGCL No. 100682; UF Campus, Archer Rd., 12-V-1982, E. G. Fontes, *Solidago altissima*, #736, PC, MGCL No. 100533; UF Honey Plant, 28-IV-1981, D. H. Habeck, A-2812, BLT female, MGCL No. 100690; Wacahoota Rd., 17-VI-1982, p. 28-VI-1982, em. 8-VII-1982, D. H. Habeck & J. Gillmore, A-3077a, *E. capillifolium*, PC, MGCL No. 100833; same data, p. 30-VI-1982, em. 10-VII-1982, LS, PC, MGCL No. 100834; em. 13-VII-1982, LS, PC, MGCL No. 100837; em. 13-VII-1982, PC, MGCL No. 100853; em. 23-VII-1982, LS, PC, MGCL No. 100836; same location, 29-VI-1982, em. 20-VII-1982, J. Gillmore, A-3086a, *E. capillifolium*, LS, PC, MGCL No. 100835; same data, em. 15-VII-1982, LS, PC, MGCL No. 100840; em. 15-VII-1982, PC, MGCL No. 100843; em. 19-VII-1982, LS, PC, MGCL No. 100845; same location, 27-VII-1983, p. 14-VII-1983, em. 19-VII-1983, J. Gillmore, A-3226a, *E. capillifolium*, LS, PC, MGCL No. 100854; BROWARD: N of New River Canal, 30-III-1976, D. H. Habeck & P. J. Eliazar, A-1830, BLT, MGCL No. 100671; COLLIER: Big Cypress Swamp, E. of Interceptor Canal, 4-IX-1993, em. 4-X-1993, D. Matthews & T. A. Lott, A-6704, *Conyza canadensis*, PC, MGCL No. 100601; DADE: Homestead, 6-III-1989, D. H. Habeck, D. Matthews & J. Gillmore, MVL, MGCL No. 100598; ESCAMBIA: Pedro Key, Gulf Beach, 11-X-1993, em. 14-XI-1993,

D. Matthews & T. A. Lott, A-6772, *Balduina* sp., LS, PC, MGCL No. 100652; same data, em. 3-XI-1993, p. 10-XI-1993, LS, PC, MGCL No. 100653; GLADES: Palmdale, 24-IX-1980, em. 11-X-1980, D. H. Habeck, A-2705, *Taxodium*, PC, MGCL No. 100649; GULF: Port St. Joe, 18-VI-1986, em. 7-VII-1986, D. H. Habeck & G. Buckingham, A-3974, *Phoebanthus tenuifolia*, LS, PC, MGCL No. 100676; HIGHLANDS: Archbold Biological Station, 13-X-1990, p. 16-X, em. 25-X, D. Matthews, A-5745b, *Palafoxia feayi*, PC, MGCL No. 100650; LEVY: 2 mi E. of Cedar Key, Jct. L-347 & 24, 12-VII-1990, p. 25-VII-1990, em. 6-VIII-1990, D. H. Habeck & J. Gillmore, A-5637b, *Teucrium canadense*, LS, PC, MGCL No. 100599; Hwy 24, Sumner, 22-IX-1993, em. 11-X-1993, R. Goodson, A-6736, *Monarda* sp., PC, MGCL No. 100663; MARION: East Silver Springs Shores, 17-X-1991, em. 21-XI-1991, D. H. Habeck & J. Gillmore, A-6100b, *Heterotheca subaxillaris*, LS, PC, MGCL No. 100820; same location, 8-X-1992, p. 16-X-1992, em. 26-X-1992, D. Matthews & J. Gillmore, A-6392, *H. subaxillaris*, PC, MGCL No. 100603; same location, 4-XI-1992, D. H. Habeck & J. Gillmore, A-6411, *Chrysopsis scabrella*, PC, MGCL No. 100600; McIntosh, 31-VIII-1990, p. 13-IX, em. 24-IX, C. Teixeira, D. H. Habeck, & J. Gillmore, A-5678k, *Ambrosia*, LS, PC, MGCL No. 100664; near Ocala, 23-XI-1983, em. 19-XII-1983, J. Gillmore & C. L. Tan, A-3281, *Aster*, MGCL No. 100675; Ocala NF, 16-XI-1983, D. H. Habeck & J. Gillmore, A-3274, *Garberia fruticosa*, MGCL No. 100680; Oklawaha River, S. of Rodman, 8-XI-1988, em. 17-XII-1988, J. Gillmore & M. Glenn, A-4615, *Aster carolinianus*, MGCL No. 100815; same data, em. 12-I-1989, MGCL No. 100816; MONROE: Key Largo, Carey's Fort, 18-IX-1989, D. H. Habeck, J. Gillmore & M. Hennessey, A-5231, MVL female, MGCL No. 100596; OKALOOSA: W. of Crestview, 14-X-1993, em. 22-XI-1993, D. Matthews & T. A. Lott, A-6764, *Eupatorium* sp., LS, PC, MGCL No. 100824; SANTA ROSA: Milton, Old Town Station, 14-X-1993, p. 5-XI-1993, em. 14-XI-1993, D. Matthews & T. A. Lott, A-6776, *Eupatorium* sp., PC, MGCL No. 100823; TAYLOR: Taylor, 18-VI-1986, em. 2-VII-1986, D. H. Habeck & G. Buckingham, A-3970b, *Coreopsis leavenworthii*, LS, PC, MGCL No. 100681.

Additional Records.—ALABAMA: BALDWIN: Bon Secour, 12-X-1993, em. 10-XI-1993, D. Matthews & T. A. Lott, A-6760, *Carphephorous odoratissimus*, PC; MGCL No. 100654.

Comments.—Larvae of this species and close relatives such as *S. aerata* Fabricius are well known for their habit of attaching plant fragments to their bodies, especially composite flower petals. The larvae were commonly called camouflaged loopers, or "trash geos" in the Habeck lab, while the adult was known as the "wavy-lined emerald." Larvae feed on plants from numerous families including Asteraceae, Cyperaceae, Fabaceae, Lamiaceae, Polygonaceae, Rosaceae, and Salicaceae. While apparently polyphagous, hosts of the family Asteraceae are the most widely used. All the host records are included here as *S. frondaria*, though some of these may apply to *S. aerata* as listed by Heppner (2003). Ferguson (1985) indicates a zone of overlap between the two species, with no records of *S. aerata* from Florida. Additional study of Florida material may be necessary to sort out previous host records. Several hosts are listed here for the first time for *S. frondaria*. Previously published Florida records for *S. aerata* most likely refer to *S. frondaria*. All the above foodplants are new records for both *S. aerata* and *S. frondaria* except *Ambrosia* L., *Aster* L., *Bidens* L., *Coreopsis*, *Eupatorium*, *Pluchea*, *Solidago* L., and *Vernonia* Schreb.

Records for *Garberia fruticosa* (Nutt.) A. Gray now refer to *Garberia heterophylla* (Bartram) Merr. & F. Harper (USDA PLANTS 2012).

7060 *Synchlora xysteraria* (Hulst)

Reared adults.—PINELLAS: St. Petersburg on I-275, exit 15, 3-I-1993, p. 13-I-1993, em. 25-I-1993, R. Goodson, A-6451, *Schinus terebinthifolius*, LS, PC, MGCL No. 100669.

Comments.—Host families listed by Heppner (2003) include Sapindaceae (lychee), Anacardiaceae (mango), and Asteraceae. The record for Asteraceae is derived from Ferguson (1985) who attempted to rear *S. xysteraria* on *Taraxacum officinale* F.H. Wigg, common dandelion, but questioned the suitability of the host as only one adult was obtained from the brood originating from eggs. This plant has not been confirmed as a natural host. The record for *Schinus* L. (Anacardiaceae), the invasive Brazilian pepper tree, is previously unpublished.

7071 *Chlorochlamys chloroleucaria* (Guenée) – blackberry looper

Reared adults.—ALACHUA: Behind Gainesville Airport, 7-XI-1988, p. 18-XI-1988, em. 27-XI-1988, J. Gillmore & M. Glenn, A-4611a, *Carphephorus*, PC, MGCL No. 100576; Bivens Arm, Gainesville, 13-VII-1973, em. 24-VII-1973, D. H. Habeck, *Cicuta mexicana*, PC, MGCL No. 100581; CR 346 near Jct. w/ CR 325, 4-IV-1995, D. H. Habeck & G. McDurmott, A-7075, *Rumex hastatulus*, MGCL No. 100608; Edgecliff subdivision, 2-VI-1982, p. 18-VI-1982, em. 28-VI-1982, D. H. Habeck, A-3057, *Eupatorium capillifolium*, LS, PC, MGCL No. 100857; same data, p. 20-VI-1982, em. 28-VI-1982, LS, PC, MGCL No. 100856; same location, 5-III-1984, D. H. Habeck, A-3300, MVL female, MGCL No. 100582; 27-VI-1984, D. H. Habeck, A-3487, MVL, MGCL No. 100665; 27-II-1985, D. H. Habeck, A-3686, BLT, MGCL No. 100657; UF Honey Plant, 14-V-1982, J. Gillmore, A-3041, BLT female, MGCL No. 100580; HIGHLANDS: Archbold Biological Station, 13-X-1990, p. 22-X-1990, em. 1-XI-1990, D. Matthews, A-5745e, *Palafoxia feayi*, PC, MGCL No. 100571; same data, p. 22-X-1990, em. 2-XI-1990, PC, MGCL No. 100572; p. 22-X-1990, em. 4-XI-1990, PC, MGCL No. 100573; em. 8-XI-1990, PC, MGCL No. 100575; em. 9-XI-1990, PC, MGCL No. 100574; N. of SR 70 on Martin St., 4-VII-1989, p. 24-VII-1989, em. 31-VII-1989, T. A. Lott & D. Matthews; A-5003a, *Solidago chapmanii*, LS, PC, MGCL No. 100668; LAKE: Eustis, 13-IV-1983, D. H. Habeck, *Lepidium*, LS, PC, MGCL No. 100579; MARION: 4 mi. E of Hwy 441 on CR 326, 15-XI-1988, p. 1-XII-1988, em. 12-XII-1988, D. Matthews, M. Glenn & J. Gillmore, A-4635, *Chrysopsis scabrella*, LS, PC, MGCL No. 100577; Ocala NF, 19-VII-1989, p. 31-VII-1989, em. 9-VIII-1989, D. H. Habeck & D. Campbell, A-5075a, *Eriogonum tomentosum*, PC, MGCL No. 100578; East Silver Springs Shores, 17-X-1991, p. 1-XI-1991, em. 12-XI-1991, D. H. Habeck & J. Gillmore, A-6100c, *Heterotheca subaxillaris*, LS, PC, MGCL No. 100821; same location, 4-XI-1992, em. 24-XI-1992, D. H. Habeck & J. Gillmore, A-6410, *Symphyotrichum* (*Aster*) *pilosum*, LS, PC, MGCL No. 100666.

Additional Records.—MISSISSIPPI: JACKSON: near Moss Point, 13-X-1993, em. 10-XI, D. Matthews & T. A. Lott, A-6786b, *Conyza canadensis*, PC, MGCL No. 100667.

Comments.—All the above plants are new records except *Conyza canadensis* (L.) Cronquist (Asteraceae), which is reported in Robinson et al. (2002), and *Aster* and *Solidago* which were listed only as

genera by Heppner (2003). Tietz (1972) listed a different species of *Solidago, S. altissima* L. *Cicuta mexicana* J.M. Coult. & Rose is now a synonym of *Cicuta maculata* L. var. *maculata* (Apiacae) (USDA PLANTS 2012). *Solidago chapmanii* A. Gray is likewise a synonym of *S. odora* Aiton var. *chapmanii* (A. Gray) Cronquist (Asteraceae). In the above rearings, larvae typically fed on the flowers of the hosts, especially in the Asteraceae. Wagner et al. (2002) list a variety of common hosts and note the larvae also feed on leaves and fleshy fruits.

7077 *Chloropteryx paularia* (Möschler)

Reared adults.—CITRUS: Ozello, 18-X-1992, em. 20-XI-1992, D. H. Habeck, A-6401, *Schinus terebinthifolius*, LS, PC, MGCL No. 100659; COLLIER: Jct. 41 & 951, 14-XI-1992, em. 2-XII-1992, D. H. Habeck, A-6427, *S. terebinthifolius* berries, MGCL No. 100660; LEVY: Cedar Key, 4-VI-1989, F. Bennett, A-4931, *Schinus* berries, MGCL No. 100661; same location, 2-XII-1989, p. 20-XII-1989, em. 31-XII-1989, T. A. Lott & D. Matthews, *S. terebinthifolius*, PC, MGCL No. 100658; 20-IX-1995, p. 25-IX-1995, em. 4-X-1995, J. Gillmore & J. Medal, A-7202b, *S. terebinthifolius*, PC, MGCL No. 100437.

Comments.—No hosts were reported by Heppner (2003). Becker and Miller (2002) reported *Myrica cerifera* L. (Myricaceae) as a foodplant listed in Ferguson (1985). However such is not the case as Ferguson stated that the "immature stages are unknown." The Brazilian pepper tree records above are apparently the first and only ones for this moth.

SUBFAMILY STERRHINAE

7132 *Pleuroprucha insulsaria* (Guenée) – common tan wave

Reared adults.—ALACHUA: Edgecliff subdivision, 13-X-1982, em. 24-X-1982, D. H. Habeck & J. Gillmore, A-3145, *E. capillifolium*, PC, MGCL No. 101085; same data, p. 29-X-1982, LS, PC, MGCL No. 101081; Gainesville, 27-IX-1973, p. 28-IX-1973, em. 5-X-1973, D. H. Habeck, A-1166, *Helianthus annuus* leaves, LS, PC, MGCL No. 101052; same location, 11-XI-1975, p. 12-XI-1975, em. 21-XI-1975, K. Regis, A-1653, *Eupatorium*, PC, MGCL No. 101077; 22-VII-1976, em. 30-VII-1976, D. H. Habeck, P. Perun, M. Loffer, A-1986b, *Cassia fasciculata*, MGCL No. 101047; same data, em. 31-VIII-1976, PC, MGCL No. 101091; same location, 3-III-1991, J. Maruniak, A-5836, "Apple flowers", LS, PC, MGCL No. 101050; 8-VIII-1995, em. 24-VIII-1995, R. Goodson & J. Gillmore, A-7156, *Rhus copallina* flowers, MGCL No. 101086; UF campus, Archer Road Lab, 28-V-1980, T. Smith, *Mimosa*, LS, PC, MGCL No. 101065; 21-X-1982, J. Gillmore, *Eupatorium capillifolium*, LS, PC, MGCL No. 101078; same location; 2-VI-1987, J. Watts, MGCL No. 101088; Lake Wauberg, 30-VIII-1996, em. 13-IX-1996, J. Gillmore, A-7411, *Vernonia*, MGCL No. 101072; same data, em. 15-IX-1996, MGCL No. 101073; near Micanopy, 14-VIII-1996, p. 18-VIII, em. 25-VIII-1996, D. H. Habeck & J. Gillmore, A-7387d, *Vernonia*, LS, PC, MGCL No. 101071; same data, em. 30-VIII-1996, LS, PC, MGCL No. 101075; em. 2-IX-1996, MGCL No. 101069; Paynes Prairie, 9-VIII-1976, P. Perun, A-2026, *Clematis virginiana*, LS, PC, MGCL No. 101053; same data, PC, MGCL No. 101054; Wacahoota Rd., 5-X-1983, E. G. Fontes, #2280, *Solidago gigantea*, PC, MGCL No. 101070; BROWARD: Ft. Lauderdale, 8-XI-1973, D. H. Habeck, MGCL No. 101083; CITRUS: Ozello, 18-X-1992, p. 8-XI-1992, em. 16-XI-1992, D. H. Habeck, A-6401, *Schinus terebinthifolius*, LS, PC, MGCL No. 101068; GLADES: Fisheating Creek, 27-VIII-1986, D. H.

Habeck, MGCL No. 101066; LAKE: 3 mi S of 40 on SR 19, 4-X-1989, p. 6-X-1989, em. 14-X-1989, PC, D. Campbell & J. Gillmore, A-5289, *Palafoxia feayi*, MGCL No. 101063; same data, p. 6-X-1989, em. 16-X-1989, PC, MGCL No. 101058; p. 6-X-1989, em. 16-X-1989, PC, MGCL No. 101059; p. 6-X-1989, em. 16-X-1989, LS, PC, MGCL No. 101060; p. 9-X-1989, em. 16-X-1989, PC, MGCL No. 101062; p. 6-X-1989, em. 16-X-1989, PC, MGCL No. 101064; p. 9-X-1989, em. 16-X-1989, PC, MGCL No. 101051; p. 9-X-1989, em. 16-X-1989, LS, PC, MGCL No. 101057; LEVY: Cedar Key, 20-IX-1995, p. 29-IX-1995, em. 6-X-1995, J. Gillmore & J. Medal, A-7202b, *S. terebinthifolius*, PC, MGCL No. 101076; LIBERTY: Torreya State Park, 24-IV-1984, p. 3-V-1984, em. 9-V-1984, D. H. Habeck & D. Weisman, A-3436d, *Amorpha fruticosa*, LS, PC, MGCL No. 101067; same data, p. 3-V-1984, em. 10-V-1984, LS, PC, MGCL No. 101090; em. 10-V-1988, LS, PC, MGCL No. 101049; MARION: East Silver Springs Shores, 17-X-1991, p. 22-X, em. 28-X, D. H. Habeck & J. Gillmore, A-6101a, *Eupatorium capillifolium*, PC, MGCL No. 101080; same location, 4-XI-1992, p. 8-XI-1992, em. 13-XI-1992, D. H. Habeck & J. Gillmore, A-6406, *E. capillifolium*, PC, MGCL No. 101082; near Ocala, 23-XI-1983, em. 16-XII-1983, J. Gillmore & C. L. Tan, A-3281, *Aster*, MGCL No. 101048; MONROE: Big Pine Key, 11-IV-1984, D. H. Habeck & D. Weisman, A-3368b, *Byrsonima lucida*, PC, MGCL No. 101061; OKALOOSA: Riverside, 14-IX-1996, D. H. Habeck & C. Lewis, A-7445, at BLT, MGCL No. 101084; same data, MGCL No. 101089; PUTNAM: vic. Hawthorne, 13-IX-1995, em. 16-X-1995, D. H. Habeck & J. Gillmore, A-7196, *Heterotheca subaxillaris*, MGCL No. 101079; SARASOTA: North Port, exit 32 on I-75, 1-XII-1996, G. McDermott, *Schinus terebinthifolius*, MGCL No. 101074.

Comments.—All the above plants are new records except for *Cassia fasciculata* Michx. (Fabaceae). *Solidago gigantea* expands on "*Solidago* sp." (Heppner 2003). Most records belong to families Asteraceae and Fabaceae. *Cassia fasciculata* is now *Chamaecrista fasciculata* (Michx.) Greene var. *fasciculata* (USDA PLANTS 2012).

7133 *Pleuroprucha asthenaria* (Walker)

Reared adults.—DADE: Key Biscayne, 4-XI-1988, em. 3-XII-1988, D. H. Habeck, A-4607, *Schinus* berries, MGCL No. 101094; same data, em. 2-XII-1988, MGCL No. 101095; MONROE: Big Pine Key, 10-V-1989, em. 23-V-1989, D. H. Habeck & J. Gillmore, A-4888, *Serenoa repens*, LS, PC, MGCL No. 101092; Big Pine Key, Cactus Hammock, 20-IX-1989, em. 2-X-1989, D. H. Habeck, J. Gillmore, & M. Hennessey, A-5265a, *Schinus*, PC, MGCL No. 101093; PINELLAS: Ft. DeSoto County Park entrance, 17-III-1989, em. 12-IV-1989, D. Matthews & J. Gillmore, A-4764a, LS, PC, MGCL No. 101096.

Comments.—These are the first foodplant records to be published for this species.

7137 *Cyclophora myrtaria* (Guenée)

Reared adults.—ALACHUA: Gainesville, Bivens Arm, 22-VII-1976, em. 10-VIII, P. Perun, D. H. Habeck, & M. Loffer, A-1988a, *Myrica cerifera*, PC, MGCL No. 101112; same data, p. 30-VII, em. 2-VIII, LS, PC, MGCL No. 101115; CITRUS: Crystal River, 7-VII-1973, P.A.T., *M. cerifera*, PC, MGCL Nos. 101111-101114.

Comments.—In addition to wax myrtle, *Myrica cerifera*, *C. myrtaria* is known to feed on *Comptonia* L'Hér. ex Aiton, which also belongs to the same family

(Myricaceae). Other recorded hosts belong to the families Ericaceae, Fabaceae, and Fagaceae.

7151 *Scopula aemulata* (Hulst)

Reared adults.—ALACHUA: Edgecliff subdivision, 27-XI-1983, D. H. Habeck, A-3285, MVL female, MGCL No. 101105; same location, 28-II-1985, D. H. Habeck, A-3681, MVL female, MGCL No. 101106; Perry Pond, 2 mi. S. of Rochelle, 14-VIII-1973, D. H. Habeck, A-1152, *Bidens*, MGCL No. 101107; same data, MGCL No. 101108.

Comments.—*Bidens* (Asteraceae) is a new and the only known natural host plant for this species. Covell (1970) reared several continuous generations of *S. aemulata* on *Taraxacum* F.H. Wigg (Asteraceae) and *Trifolium* L. (Fabaceae). The colonies began with ova from females taken at lights.

7173 *Leptostales pannaria* (Guenée)

Reared adults.—ALACHUA: Near Micanopy, 14-VIII-1996, em. 11-IX-1996, D. H. Habeck & J. Gillmore, A-7390e, *Ambrosia artemisiifolia*, PC, MGCL No. 101102; River Styx, 6-X-1976, p. 18-X-1976, em. 28-X-1976, D. H. Habeck, A-2107, *A. artemisiifolia*, PC, MGCL No. 101099; same data, p. 19-X-1976, em. 29-X-1976, PC, MGCL No. 101100; p. 21-X-1976, em. 29-X-1976, PC, MGCL No. 101101; p. 26-X-1976, em. 3-XI-1976, PC, MGCL No. 101098; p. 28-X-1976, em. 5-XI-1976, PC, MGCL No. 101097.

Comments.—*Ambrosia* (Asteraceae) is a previously unrecorded host. Heppner (2003) lists *Vigna sinensis* (L.) Savi ex Hassk. which is now *Vigna unguiculata* (L.) Walp. (Fabaceae) (USDA PLANTS 2012).

7174 *Leptostales crossii* (Hulst)

Reared adults.—ALACHUA: 19-IX-1976, D. H. Habeck, A-2076, *Lantana*, PC, MGCL No. 101120; same data, p. 23-IX-1976, em. 1-X-1976, PC, MGCL No. 101124; p. 27-IX-1976, em. 4-X-1976, PC, MGCL No. 101130; Archer Road Greenhouse, 13-VII-1982, p. 18-VII-1982, em. 26-VII-1982, J. Gillmore, A-3095, *Lantana camara*, LS, PC, MGCL No. 101122; same data, p. 18-VII-1982, em. 26-VII-1982, LS, PC, MGCL No. 101123; p.19-VII-1982, em. 26-VII-1982, LS, PC, MGCL No. 101117; p. 19-VII-1982, em. 26-VII-1982, LS, PC, MGCL No. 101119; Edgecliff subdivision, 10-X-1989, em. 19-X-1989, D. H. Habeck, A-5317, *Quercus*, PC, MGCL No. 101125; Gainesville, 2-X-1976, D. H. Habeck, A-2076, *Lantana*, PC, MGCL No. 101129; same location, 3-X-1975, p. 11-X-1975, em. 19-X-1975, K. J. Tennessen, *Lantana*, PC, FSCA; 4-X-1975, em. 19-X-1975, K. J. Tennessen, *Lantana*, LS, PC, MGCL No. 101126; 16-X-1975, p. 19-X-1975, em. 1-XI-1975, K. J. Tennessen, A-1628, *Lantana*, PC, MGCL No. 101121; same location, 16-X-1975, em. 29-X-1975, *Lantana*, FSCA; 19-IX-1976, em. 4-IX-1976, D. H. Habeck, A-2076, *Lantana*, PC, MGCL No. 101126; em. 3-X-1976, PC, MGCL No. 101127; em. 6-X-1976, PC, MGCL No. 101128.

Comments.—*Lantana involucrata* L. (Verbenaceae) was reported as a larval host by Heppner (2003) but not *L. camara* L. *Quercus* (Fagaceae) is also a previously unreported host.

SUBFAMILY LARENTIINAE

7196 *Eulithis diversilineata* (Hübner) – lesser grapevine looper

Reared adults.—ALACHUA: UF Honey Plant, 28-IV-1982, J. Gillmore, A-3092, BLT, MGCL No. 100633; BAKER: Near Macclenny, 30-III-1983, p. 15-IV-1983, em. 22-IV-1983, J. Gillmore, A-3170, *Vitis* sp., LS, PC, MGCL No. 100632.

Comments.—This species is previously known from *Vitis* L. (Vitaceae)

and from species in six other plant families (Heppner 2003).

7197 *Eulithis gracilineata* (Guenée) – greater grapevine looper

Reared adults.—ALACHUA: Edgecliff subdivision, 11-IX-1994, p. 26-IX-1994, em. 5-X-1984, D. H. Habeck, A-6985e, *Ampelopsis arborea*, LS, PC, MGCL No. 100696; CITRUS: Inverness, 14-IV-1992, p. 18-IV-1992, em. 27-IV-1992, D. H. Habeck & J. Gillmore, A-6298b, *Crataegus flava*, LS, PC, MGCL No. 100636.

Comments.—This species has been reported from *Epilobium* L. (Onagraceae), and *Vitis* and *Parthenocissus* Planch. (Vitaceae). *Ampelopsis* Michx. (Vitaceae) and *Crataegus* (Rosaceae) are previoulsy unpublished hosts. The record for *Crataegus* is questionable given the known association of the genus with Vitaceae and may be the result of a larva wandering from host vines growing on other plants.

7414 *Orthonama obstipata* (Fabricius) – the gem

Reared adults.—ALACHUA: Biven's Arm, 4-II-1988, J. Gillmore, A-4283, BLT female, assoc. larvae preserved, MGCL No. 100730; Gainesville, Lake Alice, II-1967, D. H. Habeck, A-3, MGCL No. 100736; Gainesville, 26-II-1976, D. H. Habeck, A-1733, MGCL No. 100737; Santa Fe River, 26-X-1972, p. 3-XI-1972, em. 11-XI-1972, D. H. Habeck, *Rumex* sp., LS, PC, MGCL No. 100738.

Comments.—*Rumex* L. (Polygonaceae) is one of the nine known hosts included in Robinson et al. (2002).

7417 *Disclisioprocta stellata* (Guenée) – somber carpet

Reared adults.—ALACHUA: E of Gainesville, Anhinga Roost, 4-VIII-1976, p. 10-VIII-1976, em. 19-VIII-1976, D. H. Habeck & K. Regas, A-2012, *Phytolacca americana*, PC, MGCL No. 100885; same data, p. 10-VIII-1976, em. 19-VIII-1976, MGCL No. 100888; em. 25-VIII-1976, MGCL No. 100892; p. 8-VIII-1976, em. 17-VIII-1976, PC, MGCL No. 100891; Edgecliff subdivision, 19-I-1986, D. H. Habeck, A-3901, MVL, MGCL No. 100882; Gainesville, 13-V-1973, em. 30-V-1973, D. H. Habeck, LS, PC, MGCL No. 100889; same location, 7-IX-1982, P. G. Lawyer, *Mirabilis*, reared from field material, MGCL No. 100615; 11-IV-1975, D. H. Habeck, A-1410, BLT, MGCL No. 100883; Gainesville, Haines Nursery, 16-XII-1975, p. 24-XII-1975, em. 5-I-1976, J. Cash & K. Regas, A-1660, LS, PC, MGCL No. 100881.

Comments.—The host plants listed above are previously unreported. Heppner (2003) lists *Boerhavia erecta* L. and *Pisonia aculeata* L. (Nyctaginaceae).

7474 *Eupithecia miserulata* Grote – common pug

Reared adults.—ALACHUA: Cross Creek, 7-XI-1984, p. 27-XI-1984, em. 6-XII-1984, D. H. Habeck, A-3667, *Carphephorus paniculatus*, PC, MGCL No. 100404; Edgecliff subdivision, 13-X-1982, em. 9-XI-1982, D. H. Habeck & J. Gillmore, A-3145, *Eupatorium capillifolium*, MGCL No. 100375; same location, 27-XII-1987, em. 2-I-1988, D. H. Habeck, A-4272, *Geranium*, LS, PC, MGCL No. 100607; 8-V-1988, M. H. Habeck, *Rubus*, PC, MGCL No. 100765; 30-III-1993, p. 6-IV-1993, em. 14-IV-1993, D. H. Habeck, A-6508, *Quercus shumardii*, LS, PC, MGCL No. 100396; Gainesville, 19-X-1967, em. 8-XI-1967, D. H. Habeck, A-306, *Carphephorus corymbosus*, MGCL No. 100382; same location, 28-II-1976, D. H. Habeck, A-1735, BLT female, assoc. larvae preserved, MGCL No. 100377; 28-II-1976,

D. H. Habeck, A-1736, ex. BLT female, eggs1-III-1976, hatched 4-III-1976, MGCL No. 100383; same data, MGCL No. 100384; same location, 18-X-1981, em. 9-XI-1981, D. H. Habeck, A-2897, *Heterotheca subaxillaris*, MGCL No. 100414; 14-X-1981, p. 8-XI-1981, em. 24-XI-1981, D. H. Habeck, A-2897, *H. subaxillaris*, PC, MGCL No. 100605; 11-X-1991, p. 21-X-1991, em. 28-X-1991, L. Volpe, A-6081, *Ageratum*, LS, PC, MGCL No. 100394; Gainesville, SW 20th Ave, Hogtown Creek, near I-75, 6-III-1993, em. 23-III-1993, J. Watts & R. Beard, A-6485e, *Cornus foemina*, PC, MGCL No. 100385; Gainesville, UF Maguire Village, 31-X-1981, E. G. Fontes, *Solidago altissima*, # 501, PC, MGCL No. 100535; Gainesville, US 441 & NW 34th St., 10-X-1981, E. G. Fontes, *Solidago fistulosa*, #447, PC, MGCL No. 100534; near Micanopy, 14-VIII-1996, em. 30-VIII-1996, D. H. Habeck & J. Gillmore, A-7387, *Vernonia*, MGCL No. 100612; same data, MGCL No. 100613; PC, LS, MGCL No. 100614; River Styx, 6-X-1976, p. 26-X-1976, em. 4-XI-1976, D. H. Habeck, A-2107, *Ambrosia*, PC, MGCL No. 100398; Rocky Point Rd., 29-IV-1988, p. 9-V-1988, em. 15-V-1988, J. Gillmore, A-4367, *Oenothera speciosa*, PC, MGCL No. 100403; Santa Fe River near High Springs, 28-XI-1972, D. H. Habeck, Apiaceae, LS, PC, MGCL No. 100409; same data, em. 24-XII-1972, LS, PC, MGCL No. 100410; em. 23-XII-1972, LS, PC, MGCL No. 100411; PC, MGCL No. 100415; LS, PC, MGCL No. 100418; PC, MGCL No. 100420; UF Campus, 3-XII-1985, p. 6-XII-1985, em. 16-XII-1985, D. H. Habeck, A-3895, *Bidens alba*, LS, PC, MGCL No. 100390; UF Campus, Archer Rd. labs, 7-IV-1980, D. H. Habeck, *Acer negundo*, PC, MGCL No. 100413; W. Gainesville, 2-X-1981, em. 11-XI-1981, J. McGilvary, A-2884, *Heterotheca subaxillaris*, LS, PC, MGCL No. 100416; BRADFORD; 3 mi S. of Keystone Heights, 13-IX-1990, em. 1-X-1990, J. Gillmore & D. Matthews, A-5701, *Carphephorus* sp., PC, MGCL No. 100606; ESCAMBIA: River Gardens Development, 14-X-1993, em. 9-XI-1993, D. Matthews & T. A. Lott, A-6780, "yellow aster", PC, MGCL No. 100387; LAKE: 2 mi S. of 40 on 19, 15-XI-1988, em. 5-XII-1988, D. Matthews, M. Glenn, & J. Gillmore, A-4622, *Bidens mitis*, MGCL No. 100761; 3 mi. S. of SR 40 on SR 19, 4-X-1989, p. 9-X-1989, em. 18-X-1989, D. Campbell & J. Gillmore, A-5289, *Palafoxia feayi*, LS, PC, MGCL No. 100402; 4 mi. S. of 40 on 19, 15-XI-1988, em. 9-XII-1988, D. Matthews, M. Glenn, & J. Gillmore, A-4640, *Garberia fruticosa*, MGCL No. 100760; SR 19, S. of SR 40, 19-X-1989, p. 25-IX-1989, em. 2-XII-1989, D. Campbell & J. Gillmore, A-5323, *G. fruticosa*, LS, PC, MGCL No. 100407; MANATEE: Terra Ceia, 26-III-1991, M. A. Solis, D. H. Habeck, L. Dow & D. Matthews, A-5943, BL, MGCL No. 100825; MARION: 4 mi E. of 441 on CR 326, 15-XI-1988, em. 4-XII-1988, D. Matthews, M. Glenn, & J. Gillmore, A-4635, *Chrysopsis scabrella*, LS, PC, MGCL No. 100762; same data, em. 7-XII-1988, MGCL No. 100763; East Silver Springs Shores, 17-X-1991, D. H. Habeck & J. Gillmore, A-6106, *Pityopsis*, LS, PC, MGCL No. 100400; same location, 4-XI-1992, p. 9-XI-1992, em. 18-XI-1992, D. H. Habeck & J. Gillmore, A-6410, *Aster pilosus*, LS, PC, MGCL No. 100381; same data, em. 20-XI-1992, LS, PC, MGCL No. 100393; p. 9-XI-1992, em. 18-XI-1992, LS, PC, MGCL No. 100395; same date/location, em. 30-XI-1992, D. H. Habeck & J. Gillmore, A-6411, *C. scabrella*, LS, PC, MGCL No. 100392; same date/location, p.17-XI-1992, em. 25-XI-1992, D. H. Habeck & J. Gillmore, A-6412, *G. fruticosa*,

MGCL No. 100397; Hwy 19 N. of SR 40, 9-XI-1989, p. 28-XI-1989, em. 7-XII-1989, D. Campbell, A-5342, *G. fruticosa*, PC, MGCL No. 100412; N. of Silver Glenn Springs on Hwy 19, 30-XI-1989, em. 26-XII-1989, T. A. Lott, A-5364, *G. fruticosa*, MGCL No. 100754; same data, p. 15-XII-1989, em. 26-XII-1989, LS, PC, MGCL No. 100755; near Ft. McCoy at Buck Rub Bar, 15-XI-1988, em. 26-XII-1988, D. Matthews, M. Glenn, & J. Gillmore, A-4621, *Aster puniceus* ssp. *elliotii*, MGCL No. 100764; near Ocala, 23-XI-1983, p. 12-XII-1983, em. 23-XII-1983, J. Gillmore & C. L. Tan, A-3281, *Aster*, LS, PC, MGCL No. 100406; Ocala NF, 16-XI-1983, D. H. Habeck & J. Gillmore, A-3274, *G. fruticosa*, MGCL No. 100399; Oklawaha River, S. of Rodman, 8-XI-1988, em. 21-XII-1988, M. Glenn & J. Gillmore, A-4615, *Aster carolinianus*, MGCL No. 100415; same data, em. 12-XII-1988, MGCL No. 100416; em. 29-XII-1988, MGCL No. 100417; em. 9-XII-1988, MGCL No. 100418; NASSAU: 18-X-1978, em. 4-VI, *Cornus*, LS, PC, MGCL No. 100417; OKALOOSA: Ft. Walton Beach, 23-III-1974, G. B. Edwards, *Vigna luteola*, PC, MGCL No. 100408; PUTNAM: Little Orange Lake, 14-XI-1992, p. 23-XI-1992, em. 2-XII-1992, T. A. Lott & D. Matthews, A-6433b, *Bidens mitis*, LS, PC, MGCL No. 100391; Welaka REC, 17-X-1981, em. 6-XI-1981, D. H. Habeck, A-2903, *B. mitis*, PC, MGCL No. 100405; same date/location, em. 27-IV-1982, D. H. Habeck, A-2914, *Rhus copallina*, LS, PC, MGCL No. 100419; SANTA ROSA: Milton, Old Town Station, 14-X-1993, em. 5-XI-1993, T. A. Lott & D. Matthews, A-6776a, *Eupatorium* sp., LS, PC, MGCL No. 100374.

Additional Records.—MISSISSIPPI: JACKSON: near Moss Point, 13-X-1993, em. 15-X-1993, D. Matthews & T. A. Lott, A-6786, *Conyza canadensis*, MGCL No. 100386; same data, em. 8-XI-1993, MGCL No. 100388; p. 27-X-1993, em. 9-XI-1993, PC, MGCL No. 100389.

Comments.—All the host records above are new species level records for Florida except for *Conyza canadensis* (Asteraceae). Records for *Aster puniceus* L. var. *elliottii* (Torr. & A. Gray) A.G. Jones now refer to *Symphyotrichum elliotii* (Torr. & A. Gray) G.L. Nesom (USDA PLANTS 2012). Wagner et al. (2002) list 13 hosts for the northeast by common name including "oak" and "aster". These can generally be referred to *Quercus* and *Symphiotricum* but do not necessarily refer to the species of the reared material from Florida listed above.

7648 *Dyspteris abortivaria* (Herrich-Schäffer) – the badwing

Reared adults.—ALACHUA: Gainesville, 18-IV-1973, D. H. Habeck, *Campsis radicans*, MGCL No. 100564; BAKER: Macclenny, 30-III-1983, p. 11-IV-1983, em. 24-IV-1983, J. Gillmore, A-3170, *Vitis* sp., LS, PC, MGCL No. 100565.

Comments.—*Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae) is a questionable record for this species based on the known assocation with Vitaceae (Wagner et al. 2002). The specimen (MGCL No. 100564) dates to the early years before Habeck's rearing program was well established and does not bear an associated lot number. *Vitis* vines may grow together with *Campsis* in the same habitat and furthermore, to an untrained eye, *Campsis radicans* leaves could be mistaken for the compound leaves of *Ampelopsis* (Vitaceae). Along with *Vitis* sp. and *Parthenocissus quinquefolia* (L.) Planch. (Vitaceae), Heppner (2003) lists *Prunus serotina* Ehrh. (Rosaceae) for Florida. The latter record may also be dubious.

Synoptic List of Host Plants

An alphabetic listing of plant taxa and their associated species of Geometridae as recorded from the Habeck Collection or literature records mentioned in the comments section for each species is provided in Table 1. The current classification and phylogeny of angiosperm plant families is available in APG III (2009) and Stevens (2012). In several cases, larvae feed in part or entirely on lichens which grow attached to the listed angiosperm plants. Notes on suspected lichenivory are included in the preceding species accounts and discussion. The list in Table 1 includes questionable records mentioned in the comment sections of the species accounts and should be used as cross reference to treatments in the text as opposed to a stand alone list.

Discussion

A major portion of Dr. Dale H. Habeck's career at the University of Florida involved rearing the Lepidoptera of numerous families, recording life cycle information, and recording host plant data. The Habeck collection includes any and all Lepidoptera that were encountered during the course of fieldwork ranging from surveys of specific weeds targeted for biological control to general backyard collecting. Some of the plants of special interest or targeted for specific surveys which resulted in several examples of reared Geometridae included Brazilian pepper (*Schinus terebinthefolius*), dog fennel (*Eupatorium capillifolium*), as well as common plants found throughout Florida such as wax myrtle (*Myrica cerifera*) and various oaks (*Quercus* spp.). Habeck was not only interested in the lepidopteran fauna associated with specific plants but also larvae with particular habits and microhabitat preferences as in the case of geometrids feeding on composite flowers and lichens.

A variety of methods were employed while collecting. In the case of lichen feeders this entailed beating plants such as various oaks with a rod over a beating square (beating sheet), sweeping lichen covered trunks with a broom, or picking up and containing lichen encrusted branches recently fallen after storms. In some cases, beating vegetation may be a source of error where larval food plants may be comingled with other plants, or include wandering prepupae, or larvae otherwise dislodged from food plants by predators, weather events or other environmental factors. In most cases, observations of feeding were noted by Habeck or his assistants in the original log books, though this information is not always recorded on the specimen labels.

While individual larvae were collected in snap cap vials in the field, general procedures on collecting trips also involved placing infested cuttings of hostplants into ziplock bags and large trash bags. This technique reduced the chances of host mixups and these samples were carefully picked through back at the lab with individual larvae then confined in 2 oz styrene rearing cups or other containers. Hostplant remains were refrigerated in ziplocks for replenishing larval food as needed as well as vouchering pressed plant samples for identification. In some cases, such as fruiting structures (i.e., *Schinus* berries), bulk samples were set up in cylindrical cardboard containers ("ice cream cartons") with a glass vial attached to the side and secured with clay. Emerging moths and other insects flew into the vials, attracted to the light, and were thus collected from the samples over the course of several months.

In addition to larvae collected which may have wandered off the actual food plant, other potential sources of error

may include misdetermination of hostplants. Hosts from the 1980s and later were confirmed by vouchers sent to the University of Florida Herbarium for identification. Occasional labeling errors have also been encountered which have resulted from transposing numbers or the misinterpetation of log book entries. These problems were usually resolved by consulting the original log books and comparing labels from other specimens bearing the same lot number. Future researchers investigating specific rearings from the Habeck collection are advised to consult these books, which were included with the 2010 donation and are housed at MGCL.

The host records reported here contribute several categories of new information. Foremost, new host records are reported for the 11 species of Geometridae for which no foodplant was known previously (though several were suspected, or fed on plants offered to first instar larvae in the laboratory). In the case of *Xanthotype rufaria*, two plant species from different families are listed as natural hosts "in the wild." Second, there are many cases in which new plant genera, or genera plus species, are reported. New host records are included here for 31 species in five subfamilies of Geometridae. Third are cases in which a genus was known as a host, and now a species in that genus is positively identified as a natural host. A total of 131 hosts are documented here that are new either at the level of both genus and species, or as species in genera recorded in Heppner (2003) and other literature cited. Some of the hosts have been recorded in literature such as Covell (1984), Wagner et al. (2002) and Wagner (2005) by the common name of the genus ("hickory" or "clover"). Records published here provide much more precise information about hostplants actually recorded, mostly in Florida. Finally, there are a few cases in which larvae hatching from eggs laid by captive female moths were reared to adults on plants offered as potential hosts, but are not known to be natural foodplants in the wild.

In some cases, new knowledge of hosts may lead to further study of the plants for conservation purposes. In other cases, such as those of moths recorded feeding on *Schinus*, these records may lead to biological control efforts against these invasive pest plants. One or more of these geometrid species (*Synchlora xysteraria*, *Chlorochlamys paularia*, *Pleuroprucha insulsaria* and *P. asthenaria*) may prove to be useful in biological control studies of this central and south Florida pest.

The positive records of lichenivory expand our knowledge of geometrids known to follow this feeding strategy. While *Protoboarmia porcelaria* was thought to be lichenivorous, the records presented here establish the fact. Lichens were established as hosts for *Glenoides texanaria* for the first time, although this feeding behavior was documented earlier for the closely related species, *Glenoides lenticuligera* Blanchard (Wagner et al. 2008). Possible lichenivory is noted here for *Hypomecis umbrosaria*, *Anavitrinella pampinaria*, and *Pimaphera sparsaria*, suggesting that among gray ennomines, this feeding behavior is more common than previously known. Wagner (pers. comm.) expressed this view, and further believes that many larvae actually feed on green algae (Chlorophyta) closely associated with the lichens from which they are collected.

While there is some duplication of basic label data from vouchers of the same rearing lots that were deposited in FSCA prior to 2010, many host associations are published here for the first

time. The database of these records and rearing lot numbers is especially useful for cross-reference to preserved larvae and pupae and color transparencies of live individuals. As identification of material in all families of the collection continue, additional images will be submitted for inclusion on the Moth Photographers Group website (MPG 2012).

There are still many North American Geometridae for which hosts are unknown. We hope that the data included herein, and available for query online pending developments of the FLMNH website (http://www.flmnh.ufl.edu/mcguire/), will provide insight and useful information for those working to fill these gaps, as well as for geometrid systematists and researchers in fields related to Florida agriculture and natural history.

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