LARVAL FOODPLANT RECORDS FOR 106 SPECIES OF NORTH AMERICAN MOTHS

NOEL MCFARLAND
P.O. Box 475, Geraldton, Western Australia 6530

Since I donated the remainder of my former North American insect collection to the Natural History Museum of Los Angeles County, California (Donahue, 1972), it now seems worthwhile to report many of the larval foodplant records associated with the moth life history material. These specimens (both immatures and associated adults) comprise about 40% of the total collection, and are now available for loan to specialists. The majority of species represented are from localities in California and Oregon; a few are from Arizona, central New Mexico and eastern Kansas. Foodplant records for some of these moths have already been published (Buckett, 1964, 1970; Hogue et al., 1965; McFarland, 1959–1967); only a few of these have been repeated again here, but with corrected or *additional* data in all cases. Many of the foodplant names appearing here are entirely new records, or at least have never been published for the localities concerned, even though some of them may be known to certain workers. Probably fitting the latter category are some Oregon records which appeared in my Master's thesis (1963), of which 20 copies were privately distributed in 1963–64. These records still remain to be made "official" through publication, however, so are included in the present paper.

I was inspired to compile this list after reading a recent plea by R. B. Dominick (1972) and an excellent paper by Shields, et al. (1970). I have essentially followed the format devised by the latter *for reporting larval foodplants*, as illustrated under the 14 butterfly species included in their paper. One small change to their basic format has been made to emphasize a certain point: This is the capitalization of all plant family names. The plant *families* involved in foodplant records are all too often omitted in publications (McFarland, 1970). Other small changes or additions have also been made to enhance the readability of this list, and sometimes to increase the amount of information conveyed. For example, the months or seasons of peak *larval* occurrence are included for the localities named, where known with certainty.

Many of the records given here are documented by extensive notes—also in possession of the Los Angeles County Museum of Natural History; these are tied, by code-numbers, to associated pinned adults having blue labels and to their associated immatures, which have been fixed in

K.A.A.D. or K.A.S.A. and preserved in 95% ethyl alcohol. Occasional empty cocoons (on pins) were kept for the dry collection.[1]

All foodplant determinations have been carefully checked in various floras, as were available for the localities concerned during the period when I was doing this work. Those for western Oregon were kindly verified by Dr. K. L. Chambers of the Botany Department at Oregon State University, Corvallis. Other plant determinations are by the author (unless otherwise stated), following Munz & Keck (1959) or Thompson & Raven (1966) for California and Stevens (1948) for Kansas. An asterisk (*) before the plant indicates a species not native to the locality named.

My interpretation of plant families, subfamilies and tribes mostly follows the recent world synopsis of the higher classification of the flowering plants by Thorne (1968). This involves a few shifts of familiar names. For example, Asclepidaceae is treated by Thorne as a subfamily (-oideae) of APOCYNACEAE; Apiaceae (Umbelliferae) becomes a subfamily under ARALIACEAE. Only the standard ending (-aceae) is used for all plant families (for reasons, see McFarland, 1970). This only involves changes for eight well-known names having irregular endings, as follows: Compositae becomes ASTERACEAE; Cruciferae = BRASSICACEAE; Gramineae = POACEAE; Guttiferae = CLUSIACEAE; Labiatae = LAMIACEAE; Leguminosae, s.l. = FABACEAE; Palmae = ARECACEAE; Umbelliferae = ARALIACEAE, subfam. Apioideae.

Any foodplant record which begins with the phrase "Captive larvae readily (or avidly) accepted" implies that those larvae were reared from eggs (ex confined females) and were in captivity right from the start; the foodplant named was the one most readily accepted by them, from whatever selection of plants they were offered at the time of the rearing. Such records should not be interpreted as implying *chosen* foodplants under natural conditions; continuing fieldwork will eventually clarify these records. However, if the larvae did not thrive upon a plant and *successfully produce normal adults*, the plant was not listed in this paper. Foodplant records preceded simply by the word "on" (or "defoliating")

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[1] Pinned cocoons and many soil-cells are well worth saving as useful comparative material in any life history collection. Also worth saving are dried samples of last instar frass pellets, and sometimes examples of the larval nests or of typical feeding-damage to the foodplant, in those (occasional) instances where these show distinctive features. An example of the latter would be pressed mature leaf specimens of *Rhus laurina*, showing the peculiar typical feeding-pattern of the noctuid, *Paectes declinata* Grt. on that plant (McFarland, 1965). Frass pellets are not always worth preserving, but sometimes they are unique in morphology and some are even readily identifiable in the field, once known to the observer. There are three major requirements for the successful long-term preservation of larval frass, of which the first-listed is most vital: (1) thorough drying; (2) enclosure thereafter in a small and air-tight glass vial; (3) firm cushioning inside the vial, between two small wads of cotton, to prevent any subsequent crumbling due to vibration or container movement during handling. Alternatively, dry frass samples can be glued in rows, on small cards, and then pinned in the dry collection. In a glued series, some pellets should be arranged to show the ends as well as the sides.

imply field-collected larvae, found feeding ON the plant(s) named, under natural conditions. It is most important that all writers make clear these distinctions ("accepted" vs. "on") when reporting larval foodplants.

The larvae may be assumed leaf-feeders if the part of the foodplant eaten (or preferred) is not specifically mentioned. As the distinction between *young* (new) leaves and *mature* (old) leaves is often of great importance, particularly in connection with sclerophyllous plants, this has always been reported whenever such preferences could be discerned from the larval feeding habits. (See also McFarland, 1965).

There are three major localities constantly repeated in the list that follows. Rather than writing them out completely each time they recur, they are recorded in full only once, below:

(1) * SW. CALIF. (A): California, Los Angeles County, eastern Santa Monica Mountains (1100′ elev.), ± 5 mi. N of Beverly Hills, at (or near) 9601 Oak Pass Road, in a Coastal Sage Scrub + Chaparral + Southern Oak Woodland mixed association (after Munz & Keck, 1959). This habitat has been described as it was in its undisturbed state (prior to "development"); see McFarland (1965); McFarland & Colburn (1968).

(2) * SW. CALIF. (B): Los Angeles County, northern slope of the San Gabriel Mountains (4800′–5000′ elev.), near the western edge of the Mojave Desert, 2.5 mi. SSW of Valyermo, at (or near) White Cliff Ranch, in an arid Chaparral and Pinyon Woodland ecotonal association (after Munz & Keck, 1959). This habitat has been briefly described by Robertson (1970), including a list of some of the dominant flowering plant genera and species occurring there.

(3) * W. OREGON: Benton County, in the Coastal Ranges, at McDonald Forest Reserve (± 500′ elev.), Oak Creek Fisheries Lab, 5 mi. NW of Corvallis, in a mixed coniferous and deciduous forest association. This habitat has been described by McFarland (1963).

These three localities are referred to in the list simply as "* SW. CALIF. (A)," "* SW. CALIF. (B)" and "* W. OREGON."

Localities named are always the exact source-localities of the specimens (either of the original adult females from which eggs were obtained, or of the field-collected larvae), regardless of whether or not the resulting eggs or larvae were later transported to some other locality during the period of rearing. If I have differing foodplant records for the same moth species, from more than one locality, the localities are numbered consecutively (as under the arctiid, *Hemihyalea edwardsii*). Any *months* (or seasons) given in parentheses imply the time of year when partially-grown to mature larvae are most likely to be found in those localities on the plants listed.

Conditions in some of my former collecting localities are now so drastically changed, due to the destructive activities of *Homo sapiens* (so-called "development," etc.), that it now seems important to record the *years* of these observations in addition to the months. Therefore,

the years are usually given in parentheses at or near the end of each entry; these indicate the *first* year of that foodplant record by the author. In some localities there were repeated observations involving more than one year.

For reasons discussed earlier (McFarland, 1970) the moth list is arranged alphabetically by family, genus, and species. My former larval collection code-numbers appear, wherever applicable, after the initials of the determining authorities. *Only* species so code-numbered are represented by preserved (alcoholic) immatures and/or notes in the Los Angeles County Museum of Natural History.

The following *abbreviations* are used throughout the list: lf. = leaf; lvs. = leaves; fl. = flower; fls. = flowers; nr. = near; ± means approximately.

ARCTIIDAE

Apantesis nevadensis (G. & R.) (det. LM)—Ar.27. NEW MEXICO, NE of Albuquerque, W base of the Sandia Mts., La Cueva Recreation Area (± 5200′): Nearly fullgrown larvae (May) on lvs. of Great Basin sagebrush, *Artemisia tridentata* Nutt.—ASTERACEAE (1958).

Apantesis nevadensis geneura (Stkr.) (det. LM)—Ar.28. CALIF., Los Angeles Co., Mint Canyon (SW of Palmdale): Larvae (April) on lvs. of fiddleneck, *Amsinckia ?intermedia* F. & M. (corolla deep yellow)—BORAGINACEAE, growing as ephemeral herbaceous cover among junipers (*Juniperus californica* Carr), along side of road (1956).

Arachnis picta picta Pack. (det. LM, NM)—Ar.20. *SW. CALIF.(A): Older larvae (April–May) on lvs. of deerweed, *Lotus scoparius* (Nutt. in T. &. G.) Ottley—FABACEAE (apparently a "preferred" foodplant in this locality); also often on mustards, such as **Brassica geniculata* (Desf.) J. Ball—BRASSICACEAE and cheeseweed, **Malva parviflora* L.—MALVACEAE (1950–57).

Arctia caja waroi B. & B. (det. JD)—Ar.17. *W. OREGON: Older larvae (May) commonly feeding on mature, tough lvs. of bracken, *Pteridium aquilinum* (L). Kuhn—POLYPODIACEAE. Although these larvae are more-or-less polyphagous on low-growing plants, an apparent preference for bracken is evident in this locality, at least during later instars (1962).

Clemensia albata Pack. (det. BB)—Ar.33. *W. OREGON: Captive larvae (autumn–spring) readily accepted the locally-common foliose lichen, *Lobaria pulmonaria* (L.) Hoffm.—STICTACEAE (1962).

Euchaetias egle (Dru.) (det. NM)—Ar.7. KANSAS, Douglas Co., Lawrence (in a city garden): Larvae (Sept.) on *Gonolobus laevis* Michx.—APOCYNACEAE (1960).

Haploa lecontei (Bdv.) (det. JD)—Ar.1. KANSAS, Douglas Co., 7 mi. NE of Lawrence, Univ. of Kansas Natural History Reservation: Larvae (May) on *Ceanothus ovatus* Desf.—RHAMNACEAE and *Symphoricarpos orbiculatus* Moench—CAPRIFOLIACEAE. An apparent preference for these two plants is evident on the prairie tract of the Reservation, even though these larvae are probably more-or-less polyphagous (1960).

Hemihyalea edwardsii (Pack.) (det. LM)—Ar.3. (1) *SW. CALIF.(B): Larvae (summer) feeding at night on tough-sclerophyll mature lvs. of *Quercus chrysolepis* Liebm.—FAGACEAE (1960). (2) *W. OREGON: Captive larvae readily accepted mature lvs. of *Q. garryana* Dougl. (1962).

Kodiosoma fulva Stretch (det. JD)—Ar.29. CALIF., Los Angeles Co., ± 2 mi. WSW of Valyermo, in dry river beds (Cruthers and Pallett Creeks), among large rocks (± 4000′ elev.): Larvae (March–April) on *Stephanomeria pauciflora* (Torr.) Nutt.—ASTERACEAE (det. CH). I am indebted to Mr. C. Henne, of Pearblossom, Calif., for originally showing me these larvae (1963).

Leptarctia californiae (Walk.) (det. LM)—Ar.18. (1) ARIZONA, Coconino Co., Williams, along roadside (± 6700′ elev.): Nearly fullgrown larvae (Aug.) abundant (feeding at night) on lvs. of white sweet clover, **Melilotus albus* Desr.—FABACEAE (1955). (2) OREGON, Jackson Co., nr. Dead Indian Soda Springs: Larvae (June), obtained from eggs in captivity, readily accepted mature lvs. of bracken, *Pteridium aquilinum* (L.) Kuhn—POLYPODIACEAE; the larvae showed a distinct preference for this plant over all weeds and other plants offered to them in captivity, although they are probably ± general feeders under natural conditions (1962). For an interesting and detailed study of a western Oregon population of this species, see Mays (1966).

Maenas vestalis (Pack). (det. NM)—Ar.21. (1) *SW. CALIF.(A): Eggs and early instar larvae (March–April) almost invariably on mature lvs. of wild cucumber or man-root, *Marah macrocarpus* (Greene) Greene—CUCURBITACEAE, in this locality; later dispersing to other plants, because the soft and rank-growing *Marah* shrivels and dies early in the summer long before these larvae reach full growth. They wander widely, feeding (well into the summer) on many unrelated plants after leaving the *Marah*. Captive larvae readily accepted mature lvs. of Calif. black walnut, *Juglans californica* Wats.—JUGLANDACEAE, and completed growth on this plant alone, in excellent condition (1952). (2) CALIF., Los Angeles Co., San Gabriel Canyon, Camp Coldbrook: Small Larvae (May) on *Tauschia arguta* (T. & G.) Macbr.—ARALIACEAE; these larvae were kindly provided by John F. Emmel (1962).

Platyprepia guttata (Bdv.) (det. NM)—Ar.16. *W. OREGON: Larvae (April) ± polyphagous on luxuriant low-growing herbs, but later instars show an obvious preference for the basal lvs. of a locally-common large thistle, *Cirsium* sp.—ASTERACEAE, usually growing in open-sunny, low, damp areas in this locality (1962).

Spilosoma vagans (Bdv.) (det. JD)—Ar.15. CALIF., Mendocino Co., Hwy. 1 at Ten Mile River, N of Fort Bragg: Larvae (Sept.) sheltering under a low-growing perennial *Lupinus* sp.—FABACEAE, by day; feeding on the lvs. of this plant after dark; in a coastal sand dune habitat (1961).

CTENUCHIDAE (AMATIDAE)

Ctenucha brunnea Stretch (det. LM)—Am.3. *SW. CALIF.(A): Larvae (April–May) were often common in clumps of giant ryegrass, *Elymus condensatus* Presl.—POACEAE (1948). The numbers of adults of this sp. seem to have diminished *tremendously* in this locality since the late 1940's–early 1950's, although the foodplant was still common here into the early 1970's. (For additional details, see also McFarland, 1965: 54.)

Ctenucha rubroscapus (Men.) (det. BB)—Am.2. *W. OREGON: Captive larvae (June) readily accepted mature lvs. of orchard grass, **Dactylis glomerata* L.—POACEAE (1962).

DREPANIDAE

Drepana arcuata Walk. (det. NM)—Dr.1. *W. OREGON: Larvae (autumn) on mature lvs. of red alder, *Alnus oregona* Nutt. (syn. = *A. rubra* Bong.)—BETULACEAE (1961).

Drepana bilineata Pack. (det. BB)—Dr.2. *W. OREGON: Captive larvae

(spring) readily accepted lvs. of **Betula* sp. (ornamental weeping birch)—BETULACEAE, but positively refused the local (native) *Alnus oregona* Nutt. of the same family (1962). Oak (*Quercus garryana*) might be the native foodplant in this locality.

GEOMETRIDAE

Anavitrinella pampinaria Gn. (det. BB)—G.24. *W. OREGON: Larvae (autumn) on *Alnus oregona* Nutt.—BETULACEAE (1961).

Biston (*Amphidasis*) *cognataria fortitaria* B. & McD. (det. CK)—G.25. *W. OREGON: Larvae (autumn) on *Alnus oregona* Nutt.—BETULACEAE (1961).

Campaea perlata Gn. (det. BB)—G.37. *W. OREGON: Captive larvae (June) readily accepted *Alnus oregona* Nutt.—BETULACEAE (1962).

Caripeta aequaliaria Grt. (det. BB)—G.39. *W. OREGON: Captive larvae (Aug.) avidly accepted mature lvs. of Douglas fir, *Pseudotsuga menziesii* (Mirb.) Franco.—PINACEAE (1962).

Chlorochlamys appellaria Pears. (det. NM)—Gm.20. *SW. CALIF.(B): Larvae (summer) on fl. heads of wild buckwheat, *Eriogonum fasciculatum* ssp. *polifolium* (Benth.) S. Stokes—POLYGONACEAE (1961).

Chlorosea banksaria gracearia Sperry (det. CK)—Gm.70. *SW. CALIF.(B): Captive larvae (summer) readily accepted birchleaf mahogany, *Cercocarpus betuloides* Nutt. ex T. & G.—ROSACEAE (1964).

Cingilia (*Nepytia*) *phantasmaria* Stkr. (det. CK)—G.49. *W. OREGON: Captive larvae (summer) readily accepted young lvs. (only) of *Pseudotsuga menziesii* (Mirb.) Franco.—PINACEAE (1962).

Cingilia umbrosaria nigrovenaria Pack. (det. CK)—G.40. *W. OREGON: Captive larvae (Oct.–Nov.) readily accepted Douglas fir, *Pseudotsuga menziesii* (Mirb.) Franco.—PINACEAE (1962).

Cochisea sinuaria B. & McD. (det. LM)—G.53. (1) *SW. CALIF.(A): Larvae (spring) on mature lvs. of laurel-leaf sumac, *Rhus laurina* Nutt. in T. & G.—ANACARDIACEAE (1956). (2) *SW. CALIF.(B): Larvae (spring) on young lvs. of *Arctostaphylos glauca* Lindl.—ERICACEAE; captive larvae readily accepted *Cercocarpus betuloides* Nutt. ex T. & G.—ROSACEAE (1963).

Cosymbia dataria piazzaria Wgt. (det. CK). *SW. CALIF.(A): Larvae (July–Aug.) abundant on fls. and buds of a tarweed, *Hemizonia ramosissima* Benth.—ASTERACEAE (1948 +).

Deuteronomos magnarius ochreatus Hlst. (det. CK)—G.32. *W. OREGON: Larvae (autumn) on mature lvs. of *Alnus oregona* Nutt.—BETULACEAE (1961).

Dichorda illustraria (Hlst.) (det. LM)—Gm.22. *SW. CALIF.(B): Captive larvae (Aug.) avidly accepted mature lvs. of squawbush, *Rhus trilobata* var. *anisophylla* (Greene) Jeps.—ANACARDIACEAE (1961).

Dysstroma citrata L. (det. CK)—G.28. *W. OREGON: Captive larvae (early spring) avidly accepted young lvs. of *Geum macrophyllum* Willd.—ROSACEAE (1962).

Earophila pectinata Rindge (det. FR)—G.58. CALIF., Los Angeles Co., 4–5 mi. S of Pearblossom, near N base of San Gabriel Mts. (± 4000′–4200′): Larvae (May) on lvs. of the viscid, woody shrub, *Purshia glandulosa* Curran—ROSACEAE. Obtained by beating; fairly common (1964). Chris Henne kindly completed this rearing for me, from pupa to adult.

Earophila vasiliata Gn. (det. CK)—G.46. *W. OREGON: Captive larvae (spring) readily accepted young lvs. of wild blackberry, *Rubus* sp.—ROSACEAE (1963).

Enypia griseata Grossb. (det. CK)—G.41. *W. OREGON: Captive larvae (summer-autumn) readily accepted *Pseudotsuga menziesii* (Mirb.) Franco.—PINACEAE (1962).

Epirrhoe plebeculata Gn. (det. CK)—G.30. *W. OREGON: Captive larvae

(April) avidly accepted youngest lvs. and tips (only) of bedstraw, *Galium* sp.—RUBIACEAE (1962).

Eupithecia nevadata Pack. (det. FR)—G.34. CALIF., Los Angeles Co., San Gabriel Canyon, Camp Coldbrook: Larvae (May) on *Lotus scoparius* (Nutt. in T. & G.) Ottley—FABACEAE (det. J. F. Emmel). These larvae were kindly provided by John F. Emmel (1962).

Fernaldella fimetaria G. & R. (det. CK)—G.3. CALIF., San Bernardino Co., Mojave Desert, Apple Valley, at junction of Ramona and Navajo Roads, in a Joshua-creosote association (± 3000′): Larvae (June) fairly common on a matchweed, *Gutierrezia microcephala* (DC.) Gray—ASTERACEAE (1960). Feeding at night.

Itame extemporata B. & McD. (det. CK)—G.66. *SW. CALIF.(B): Larvae (May) common on *Cercocarpus betuloides* Nutt.—ROSACEAE (1964). They are exceptionally superb mimics of the smaller gray twiglets of this shrub. Easily obtained by beating.

Itame guenearia Pack. (det. LM). *SW. CALIF.(A): Larvae (spring) on young lvs. of redberry, *Rhamnus ilicifolia* Kell.—RHAMNACEAE (1955).

Lambdina ?fisellaria somniaria Hlst. (det. CK)—G.35. OREGON, Polk Co., 5–7 mi. W of Monmouth: Larvae (autumn) defoliating *Quercus garryana* Dougl.—FAGACEAE (1961).

Merochlora graefiaria (Hlst.) (det. NM)—Gm.21. CALIF., San Bernardino Co., San Bernardino Mts., 1 mi. NE of Union Flat (± 7500′ elev.): Captive larvae (July–Aug.) accepted young lvs., buds, and fls. of Great Basin sagebrush, *Artemisia tridentata* Nutt.—ASTERACEAE. This plant was a dominant in the habitat (1961).

Nemoria ?intensaria (Pearsall) (det. NM)—Gm.74. CALIF., Los Angeles Co., 3 to 5 mi. S of Pearblossom, in a Joshua-juniper association (± 3800′–4000′ elev.): Larvae (Sept.) on fls. of *Eriogonum plumatella* Dur. & Hilg.—POLYGONACEAE (1964).

Nemoria pulcherrima (B. & McD.) (det. BB)—Gm.45. *W. OREGON: Captive larvae (spring) avidly accepted catkins, tender young lvs., and lf. buds of *Quercus garryana* Dougl.—FAGACEAE (1963). Brown adult form common here (Feb.–March).

Philedia punctomacularia Hlst. (det. CK)—G.43. *W. OREGON: Captive larvae (May) avidly accepted young lvs. of bracken, *Pteridium aquilinum* (L.) Kuhn—POLYPODIACEAE (1962).

Plagodis ?phlogosaria approximaria Dyar (det. CK)—G.33. *W. OREGON: Larvae (May) on *Alnus oregona* Nutt.—BETULACEAE (1962).

Sabulodes caberata Gn. (det. NM)—G.23. (1) CALIF., Los Angeles Co., La Cañada, in a suburban garden: Larvae (spring) feeding readily on lvs. of English ivy, **Hedera helix* L.—ARALIACEAE (1952). (2) *W. OREGON: Larvae (autumn) on *Alnus oregona* Nutt.—BETULACEAE (1961).

Selenia alciphearia Walk. (det. CK)—G.29. *W. OREGON: Larvae (spring) on *Alnus oregona* Nutt.—BETULACEAE (1962).

Semiothisa colorata Grt. (det. FR)—G.59. CALIF., Los Angeles Co., ± 2 mi. S of Pearblossom, along Avenue X-8, in Creosote Brush Scrub (± 3500′ elev.): Larvae (May) abundant on creosote bush, *Larrea divaricata* Cav.—ZYGOPHYLLACEAE. Obtained by beating (1964).

Sicya pergilvaria B. & McD. (det. FR)—G.18. *SW. CALIF.(B): Captive larvae (July) avidly accepted mistletoe, *Phoradendron flavescens* var. *villosum* (Nutt.) Engelm. in Rothr.—LORANTHACEAE, growing on its host, canyon oak, *Quercus chrysolepis* Liebm.—Fagaceae (1961).

Stamnodes marinata Wright (det. FR)—G.31. SW. OREGON, Josephine Co., 4 mi. N of Galice (in a park): Larvae (May) abundant on young lvs. of *Cercocarpus betuloides* Nutt. ex T. & G.—ROSACEAE. These larvae were kindly provided by David R. Smith; obtained by beating (1962).

Synchlora liquoraria Gn. (det. CK)—Gm.19. *SW. CALIF.(B): Larvae (summer) on fl. heads of *Eriogonum fasciculatum* ssp. *polifolium* (Benth.) S. Stokes.—POLYGONACEAE (1961).

Triphosa californiata Pack. (det. CK)—G.52. *SW. CALIF.(B): Larvae (June) in silk-closed leaf-shelter nests, among young lvs. of redberry, *Rhamnus crocea* Nutt. ex T. & G. (ssp. ?)—RHAMNACEAE (1963).

Zophyta (*Metasiopsis*) *perirrorata* Pack. (det. CK)—G.6. CALIF., San Bernardino Co., Mojave Desert, Apple Valley, at junction of Ramona and Navajo Roads, in a Joshua-creosote association (± 3000′): Captive larvae (summer) avidly accepted a small annual spurge, *Euphorbia albomarginata* T. & G.—EUPHORBIACEAE (1960); they closely resembled the stems of this plant.

LASIOCAMPIDAE

Dicogaster coronada (Barnes) (?) (det. LM)—La.11. ARIZONA, Cochise Co., Chiricahua Mts., at the Southwestern Research Station (± 5000′): Captive larvae (summer-autumn) readily accepted mature lvs. of *Quercus *chrysolepis* Liebm.—FAGACEAE, in the San Gabriel Mts. of S. Calif.; the indication was that they would be feeders upon *Quercus* in S. Arizona, as they avidly devoured the substitute species provided in S. California (1963).

Gloveria medusa (Stkr.) (det. LM). *SW. CALIF.(A): Larvae (spring) occurring and *feeding* on BOTH of the following in this locality: *Eriogonum fasciculatum* Benth.—POLYGONACEAE and *Quercus agrifolia* Nee—FAGACEAE. The former appears to be the "preferred" foodplant here. (See also McFarland, 1965).

Malacosoma californicum fragile (Stretch) (det. JD)—La.13. CALIF., Los Angeles Co., nr. Valyermo (± 3500′): Larvae (March–April) in conspicuous "tents" on *Prunus fasciculata* Gray—ROSACEAE (1964).

Tolype sp., nr. *dayi* Blackmore (det. JD)—La.10. *W. OREGON: Captive larvae (summer), readily accepted Douglas fir, *Pseudotsuga menziesii* (Mirb.) Franco.—PINACEAE (1963).

Tolype sp., nr. *distincta* French (det. JD)—La.5. *SW. CALIF.(B): Captive larvae (May–June) readily accepted young and semi-mature lvs. of *Quercus chrysolepis* Leibm.—FAGACEAE (1962). (See Buckett, 1964.)

Tolype sp., nr. *glenwoodii* Barnes, or *austella* Franclemont (det. JD). *SW. CALIF.(A): Captive larvae (spring) readily accepted young lvs. of (only) *Ceanothus megacarpus* Nutt.—RHAMNACEAE, after 6–7 months of diapause in the egg stage. It is worth noting that larvae of this *Tolype* were also offered lvs. of numerous other local woody plants, including *C. spinosus* Nutt. in T. & G., which they absolutely refused; the latter was the only other *Ceanothus* occurring in the locality named (1956). This moth was incorrectly listed under "*T. ?lowriei* B. & McD." by McFarland, 1965 (p. 60).

NOCTUIDAE

Admetovis oxymorus Grt. (det. LM)—N.31. CALIF., Ventura Co., Mt. Pinos, near summit (8800′ elev.): Captive larvae (summer) readily accepted elderberry, *Sambucus mexicana* Presl.—CAPRIFOLIACEAE (1961).

Autographa biloba Steph. (det. LM). *SW. CALIF.(A): Larva (spring) on *Collinsia heterophylla* Buist. ex Grah.—LAMIACEAE (1954).

Behrensia conchiformis Grt. (det. J. S. Buckett)—N.43. *W. OREGON: Captive larvae (spring) avidly accepted snowberry, *Symphoricarpos rivularis* Suksd.—CAPRIFOLIACEAE (1962).

Behrensia conchiformis suffusa Buckett (det. J. S. Buckett). *SW. CALIF.(A): Larvae (spring) feed at night on the large and widely-spaced young lvs. of rank, fast-growing (young) stems of chaparral honeysuckle, *Lonicera subspicata* var. *johnstonii* Keck—CAPRIFOLIACEAE (1955). (See also *Pleroma cinerea*.)

Callierges tropicalis Schaus? (det. BB)—N.55. *W. OREGON: Larvae (Sept.–Oct.) feed at night on lvs. of (only) St. John's wort, **Hypericum perforatum* L.—CLUSIACEAE (1962). (See also *Zosteropoda.*)

Catabena lineolata Walk. (det. LM)—N.11. *SW. CALIF.(A): Larvae (spring–summer) on lvs. of wild verbena, *Verbena lasiostachys* Link.—VERBENACEAE (1954).

Catocala verrilliana beutenmulleri B. & McD. (det. BB)—N.70. *W. OREGON: Captive larvae (spring) avidly accepted young lvs. of *Quercus garryana* Dougl.—FAGACEAE (1962).

Copicucullia jemezensis Dyar (det. JD, 1972).—N.90. *SW. CALIF.(A): Larvae (spring–summer) alternating (irregularly) between *both* of the following, but usually predominating on only *one* of these two plants in any given year: *Corethrogyne filaginifolia* (H. & A.) Nutt. (var. ?) and *Haplopappus* (*Hazardia*) *squarrosus* ssp. *grindelioides* (DC) Keck—both ASTERACEAE (1955). Note: This same information was wrongly reported by McFarland (1965) under the name *"Cucullia ?laetifica* Lint."

Cucullia ?intermedia Speyer (det. JD)—N.79. CALIF., San Bernardino Co., Mojave Desert, Granite Mts., about 4 mi. NE of Apple Valley: Larvae (Nov.) on desert aster, *Machaeranthera tortifolia* (Gray) Cronq. & Keck—ASTERACEAE (1963).

Euclidina ardita Franclemont (det. NM). *SW. CALIF.(A): Captive larvae (spring) avidly accepted lvs., buds, and fls. of deerweed, *Lotus scoparius* (Nutt. in T. & G.) Ottley—FABACEAE. I often observed the diurnal female adults fluttering over and around this plant, but never observed them actually ovipositing (1950 +).

Eupsilia fringata B. & McD. (det. LM)—N.73. CALIF., Los Angeles Co., nr. Jackson Lake, about 5–6 mi. WNW of Wrightwood (6300′ ± elev.): Larvae (June) in silk-tied leaf-nest shelters on a goldenrod, *Solidago* sp.—ASTERACEAE; a disturbed roadside habitat. I am indebted to Mr. C. Henne for bringing to my attention these striking velvet-black larvae (1963).

Feralia deceptiva McD. (det. BB)—N.44. *W. OREGON: Captive larvae (April) readily accepted young lvs. (only) of Douglas fir, *Pseudotsuga menziesii* (Mirb.) Franco.—PINACEAE (1962).

Gerra sevorsa (Grote) (det. JD)—As.3. ARIZ., Cochise Co., Chiricahua Mts., at the Southwestern Research Station (± 5000′): Larvae (Aug.) abundant on a creeper, *Parthenocissus* sp., and wild grape, *Vitis arizonica* Engelm.—both VITACEAE (1963).

Lycanades pulchella Sm. (det. BB)—N.59. *W. OREGON: Captive larvae (April) avidly accepted young lvs. of the commonest local wild blackberry, *Rubus* sp.—ROSACEAE (1962). A number of the resultant pupae were given to J. G. Franclemont.

Magusa orbifera Walk. (det. LM)—N.76. ARIZ., Cochise Co., Chiricahua Mts., between Portal and the Southwestern Research Station (± 4700′), along the roadside: Larvae (Aug.) defoliating *Rhamnus betulaefolia* Greene—RHAMNACEAE (1963).

Marathyssa inficita minus Dyar (det. LM)—N.30. *SW. CALIF.(B): Captive larvae (July) avidly accepted mature lvs. of *Rhus trilobata* var. *anisophylla* (Greene) Jeps.—ANACARDIACEAE (1961).

Oncocnemis astrigata B. & McD. (det. JD)—N.89. *SW. CALIF.(B): Larvae (May) on *Cercocarpus betuloides* Nutt. ex T. & G.—ROSACEAE; obtained by beating (1964).

Oncocnemis ragani Barnes (det. LM)—. *SW. CALIF.(A): Larvae multiple-brooded (spring–summer) on chaparral honeysuckle, *Lonicera subspicata* var. *johnstonii* Keck—CAPRIFOLIACEAE (1956).

Oncocnemis singularis B. & McD. (det. CH). *SW. CALIF.(A): Larva (June) on fl. buds and fls. of *Keckiella* (= *Penstemon*) *cordifolia* (Benth.)—SCROPHU-

LARIACEAE. Chris Henne kindly carried this rearing through to completion for me, after I had left the U.S.A. (1964).

Orthosia ferrigera SM. (det. BB)—N.69. *W. OREGON: Captive larvae (April) avidly accepted new lvs. of *Quercus garryana* Dougl.—FAGACEAE (1963).

Orthosia garmani Grt. (det. JF)—N.26. KANSAS, Douglas Co., 7 mi. NE of Lawrence, Univ. of Kans. Natural History Reservation: Captive larvae (April) readily accepted *Cornus asperifolia* Michx.—CORNACEAE, *Fraxinus* sp.—OLEACEAE, and *Ulmus americana* L.—ULMACEAE (1961).

Panthea portlandia Grt. (det. BB)—N.52. *W. OREGON: Captive larvae (Aug.) avidly accepted mature lvs. of Douglas fir, *Pseudotsuga menziesii* (Mirb.) Franco.—PINACEAE (1962).

Pleroma cinerea Sm. (det. LM). *SW. CALIF.(A): Larvae (spring) feed at night on the large young lvs. of the rank, fast-growing (young) stems of *Lonicera subspicata* var. *johnstonii* Keck—CAPRIFOLIACEAE (1955). By day they rest low down among the woody stems. (See also *Behrensia conchiformis suffusa.*)

Pleroma conserta Grt. (det. BB)—N.39. *W. OREGON: Captive larvae (April) avidly accepted *Symphoricarpos rivularis* Suksd.—CAPRIFOLIACEAE (1962).

Pleroma obliquata Sm. (det. BB)—N.53. *W. OREGON: Captive larvae (April) avidly accepted *Symphoricarpos rivularis* Suksd.—*CAPRIFOLIACEAE* (1963).

Pleromella opter Dyar (det. LM)—N.82. *SW. CALIF.(B): Captive larvae (spring) avidly accepted young lvs. (only) of *Arctostaphylos glauca* Lindl.—ERICACEAE (1964).

Polychrisia morigera Hy. Edw. (det. T. D. Eichlin, 1972)—N.66. *W. OREGON: Larvae locally abundant (April), in a low-lying streamside habitat, inside distinctive cut-leaf-nests on *Delphinium trolliifolium* Gray—RANUNCULACEAE (1963). This moth is apparently well established in the above locality, but adults were *never* taken at incandescent or ultraviolet lights while I was collecting there. Had I not discovered the larvae, I would never have suspected the presence of this species.

Provia argentata B. & McD. (det. CH)—N.87. CALIF., Los Angeles Co., 4–5 mi. S of Pearblossom, near N base of San Gabriel Mts. (± 4000′–4200′): Larvae (May) on the woody shrub, *Purshia glandulosa* Curran—ROSACEAE; obtained by beating (1964). A very colorful larva, marked with vivid red and pure white over a translucent green ground-color. Chris Henne kindly completed this rearing for me, from pupa to adult.

Pseudocopivaleria anaverta Buckett & Bauer (det. BB)—N.83. *SW. CALIF.(B): Larvae (spring) on young lvs. of *Quercus chrysolepis* Liebm.—FAGACEAE (1964).

Raphia frater Grt. (det. BB)—N.51. *W. OREGON: Captive larvae (summer) readily accepted *Populus* spp.—SALICACEAE (1962).

Rhodophora gaurae A. & S. (det. NM)—N.16A. ARIZ., Cochise Co., near Portal: Larvae (Aug.) on inflorescences of *Gaura parviflora* Dougl. ex Hook.—ONAGRACEAE (1963).

Schinia trifascia Hbn. (det. JF)—N.15. KANS., Douglas Co., 7 mi. NE of Lawrence, near the Univ. of Kansas Natural History Reservation, along roadside: Larvae (Sept.) in fl. heads of *Eupatorium altissimum* L.—ASTERACEAE (1960).

Triocnemis saporis Grt. (det. CH)—N.86. CALIF., Los Angeles Co., near Valyermo, Bob's Gap: Larvae (May) on fl. buds and fls. of the small annual, *Eriogonum pusillum* T. & G.—POLYGONACEAE (1964). These larvae are most distinctive in both appearance and behavior.

Xylomyges februalis B. & McD. (det. BB)—N.45. *W. OREGON: Captive larvae (April) avidly accepted young lvs. of *Quercus garryana* Dougl.—FAGACEAE (1962).

Zosteropoda hirtipes Grt. (det. NM)—N.58. *W. OREGON: Larvae (autumn) feeding at night on **Hypericum perforatum* L.—CLUSIACEAE (1962). (See also "*Callierges.*")

NOTODONTIDAE

Dicentria pallida Stkr. (det. BB)—Nd.8. *W. OREGON: Larvae (autumn) on *Alnus oregona* Nutt.—BETULACEAE (1961).

Gluphisia severa Hy. Edw. (det. BB)—Nd.12. *W. OREGON: Captive larvae (May) readily accepted *Populus* spp.—SALICACEAE (1963).

Pheosia portlandia Hy. Edw. (det. BB)—Nd.10. *W. OREGON: Captive larvae (summer) readily accepted Lombardy poplar, **Populus nigra* var. *italica* DuRoi—SALICACEAE (1962).

PLUTELLIDAE

Trachoma walsinghamella Busck. (det. JD)—27(M). CALIF., Los Angeles Co., 4–5 mi. S of Pearblossom, near N base of San Gabriel Mts. (± 4000′–4200′): Larvae (May) abundant on *Purshia glandulosa* Curran—ROSACEAE; by beating (1964).

PYRALIDAE

Jocara trabalis (Grote) (det. LM)—Py.2(M). CALIF., San Bernardino Co., near Hesperia (± 3200′): Larvae (July) in conspicuous communal webs on *Eriogonum fasciculatum* Benth. var.?—POLYGONACEAE (1960).

Nephopteryx bifasciella Hulst (det. JC)—Py.15(M). *SW. CALIF.(B): Larvae (July) common on *Rhus trilobata* var. *anisophylla* (Greene) Jeps.—ANACARDIACEAE (1961).

SATURNIIDAE

Automeris pamina (Neum.) (det. LM)—St.12. (1) ARIZ., Cochise Co., Chiricahua Mts., at the Southwestern Research Station (± 5000′): Larvae (Aug.) on *Quercus* sp.—FAGACEAE (1963). (2) ARIZ., Coconino Co., nr. Jerome: Larvae (spring) on locust, *Robinia neomexicana* A. Gray—FABACEAE.

Hemileuca burnsi Wats. (det. LM)—St.15. CALIF., San Bernardino Co., Mojave Desert, Apple Valley, on sandy flats nr. the Apple Valley Inn (± 2800′): Larvae (spring) on the woody and spiny shrub, cotton thorn, *Tetradymia axillaris* A. Nels.—ASTERACEAE (1956).

Hemileuca electra clio B. & McD. (det. LM)—St.14. CALIF., San Bernardino Co., Mojave Desert, Apple Valley, on rocky hillside behind the Apple Valley Inn (± 2800′): Larvae (spring) on *Eriogonum fasciculatum* Benth. var. *polifolium* S. Stokes—POLYGONACEAE (1955).

Saturnia (= *Calosaturnia*) *albofasciata* (Johnson) (det. LM)—St.13. *SW. CALIF.(B): Larvae (May) by beating, and pale salmon-tan cocoons (July–Oct.) by searching, on birchleaf mahogany or hard tack, *Cercocarpus betuloides* Nutt. ex T. & G.—ROSACEAE; this appears to be a "preferred" or normal foodplant in the locality concerned, although *Ceanothus* spp. (RHAMNACEAE) and *Fremontia* (STERCULIACEAE) may also be involved here (1964). See Hogue et al. (1965).

SPHINGIDAE

Sphinx perelegans Hy. Edw. (det. BB)—Sp.12. *SW. CALIF.(B): Larvae (summer) on both *Cercocarpus betuloides* Nutt. ex T. & G.—ROSACEAE, and big-berry manzanita, *Arctostaphylos glauca* Lindl.—ERICACEAE (1964).

STENOMIDAE

"Antaeotricha" leucillana (Zeller) (det. JD)—Sn.10(M). KANSAS, Douglas Co., 7 mi. NE of Lawrence, nr. Univ. of Kans. Nat. Hist. Reservation: Larvae (Sept.) on *Cornus asperifolia* Michx.—CORNACEAE (1960).

THYATIRIDAE

Pseudothyatira cymatophoroides (Gn.) (det. BB)—Th.3. *W. OREGON: Larvae (autumn) on *Alnus oregona* Nutt.—BETULACEAE; also on *Corylus* sp.—CORYLACEAE (1962–63).

ZYGAENIDAE

Triprocris smithsonianus Clemens (det. JD)—Zy.2. NEW MEXICO, Socorro Co., about 20 mi. N of Socorro, in sand dunes west of the highway: Larvae (June) on lvs. of a sand verbena, *Abronia* sp.—NYCTAGINACEAE (1961). Damage to foodplant lvs. is rather lycaenid-like, as is the general appearance of the larvae at first glance.

REMARKS

Some foodplant records had to be omitted from the present list because the adult moths involved still remain unidentified. However, it will be noted that I have included a few foodplant records where the moths involved are NOT fully determined; see the three *Tolype* spp. (Lasiocampidae), for example. In these particular cases the value of the *foodplant* information offsets the uncertainty over indefinite specific determinations. In the three localities concerned, it appears that only one species of *Tolype* occurs in each place—almost certainly so in the case of "*SW. CALIF. (A)." In that locality I resided for 20 years, and undertook serious collection and observation of Lepidoptera there from about 1946–1958. It took repeated trials, over several years, to discover *any* foodplant acceptable to the local *Tolype*; I therefore feel that this is valuable and hard-earned information—even though the moth involved has not been identified to species with certainty! There is no other moth with which it could be confused in the locality named.

Another example and perhaps the most extreme of these cases is the noctuid, "*Callierges tropicalis* Schaus?" (my N.55). In view of its *most* distinctive preference for *Hypericum perforatum*, an important weed in some districts, the record seems of particular value to bring to the attention of other workers. Positive identification of this moth could no doubt eventually be clarified by anyone sufficiently interested. (Specimens have been sent to several taxonomists since 1962, with little agreement forthcoming as to the correct identity! It is a fairly common insect in the locality named.)

Some of the foodplant genera reported here are already well-known records; such records are included only where I have been able to provide the *additional* information of identified foodplant species (for specific localities) which warrant reporting (Shields, et al., 1970). When the foodplant could not be *fully* identified, the records were (mostly) omitted, except for a few where it seemed of considerable interest to

report merely the foodplant genus. None of the foodplants named in this paper were collected and deposited in herbaria (as was wisely recommended by Shields, et al.). However, I am willing to provide (where possible), through correspondence, whatever additional information might be needed by other workers to facilitate continuing work on any of the larvae or foodplants mentioned in this paper.

In our rapidly-deteriorating environment it is becoming ever more urgent that all lepidopterists having unpublished life history knowledge should get busy (soon!) and make known, through publication, at least their accurate foodplant records or brief habitat notes, thus rendering this information quickly *available to others*, instead of merely storing it up to carry to the grave! (I realize that such admonitions do not apply to all, but there are few among us who cannot name cases where they most definitely do apply.) ANY clues to larval foodplants are tremendous aids and a great encouragement to the continuing advancement of life history investigations. Entire habitats are in the process of disappearing. Others are now mere remnants. The chances for studying (or even revisiting) some of these places can already (1973), be classed as opportunity irreversibly lost.

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