

**PRELIMINARY ASSESSMENT OF LEPIDOPTERA DIVERSITY  
ON THE PENINSULA OF BAJA CALIFORNIA, MEXICO,  
WITH A LIST OF DOCUMENTED SPECIES**

**JOHN W. BROWN**

Systematic Entomology Laboratory, Plant Sciences Institute  
Agricultural Research Service, U.S. Department of Agriculture  
Smithsonian Institution, P.O. Box 37012  
National Museum of Natural History  
Washington, D.C. 20013-7012

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**ABSTRACT.** Relatively thorough taxonomic treatments or inventories have been compiled for only 11 families of Lepidoptera from Baja California: Ethmiidae (currently recognized as Ethmiinae, Elachistidae) (n= 5 species), Sesiidae (n= 15), Hesperidae (n= 52), Papilionidae (n= 8), Pieridae (n= 28), Lycaenidae (n= 42), Riodinidae (n= 7), Nymphalidae (n= 37), Sphingidae (n= 26), Saturniidae (n= 12), and Arctiidae (n= 38). Although these families comprise only about 10% of the Lepidoptera fauna, a few general patterns are apparent. (1) Endemism is moderate to low and expressed solely at lower taxonomic levels, *i.e.*, there are no endemic genera, and endemism at the specific level is about 5%. (2) Species richness in most lepidopteran groups is high at the northernmost and southernmost extremities of the peninsula and lowest in the middle. (3) Total species richness is estimated to be about 2,486 species. An Appendix to this paper provides a preliminary list of 803 species of Lepidoptera documented from Baja California.

**KEY WORDS:** Lepidoptera, Mexico, Baja California, endemism, species richness, inventory, biogeography.

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**RESUMEN.** Tratados o inventarios taxonómicos relativamente cuidadosos han sido recopilados solamente para 11 familias del orden Lepidoptera en Baja California: Ethmiidae (reconocida actualmente como Ethmiinae, Elachistidae) (n= 5 especies), Sesiidae (n= 15), Hesperidae (n= 52), Papilionidae (n= 8), Pieridae (n= 28), Lycaenidae (n= 42), Riodinidae (n= 7), Nymphalidae (n= 37), Sphingidae (n= 26), Saturniidae (n= 12), y Arctiidae (n= 38). Aunque estas familias abarcan cerca del 10% de la fauna del orden Lepidoptera conocida, algunos patrones generales son evidentes. (1) El endemismo es de moderado a bajo y es solamente expresado en niveles taxonómicos bajos, es decir, no hay géneros endémicos, y el endemismo es sólo a nivel específico cerca del 5%. (2) La riqueza de las especies en la mayoría de los grupos de los lepidópteros es alta en los extremos situados al norte y el sur de la península y es más baja al centro de la misma. (3) La riqueza total de las especies de lepidópteros se estima en alrededor de 2,486 especies. Se incluye un apéndice que proporciona una lista preliminar de 803 especies de Lepidoptera documentadas en Baja California.

**PALABRAS CLAVE:** Lepidoptera, México, Baja California, endemismo, riqueza de especies, inventario, biogeografía.

This paper was originally presented at a symposium on the entomofauna of Baja California, Mexico, held at the Annual Meeting of the Entomological Society of America in Las Vegas, Nevada, in December 1998. It was intended to provide a general overview of our knowledge of the Lepidoptera of the peninsula to complement and compare these data with our knowledge of other insect orders. The symposium was to be published as a proceedings volume; unfortunately, a number of factors contributed to inhibit this. While the information presented in this paper may be preliminary and slightly out of context, it does represent a foundation upon which additional knowledge of the Lepidoptera fauna of Baja California can be built.

Owing to its geographic position, its nearly north-south orientation, and its approximately 1,300 km length, the peninsula of Baja California embraces the transition between two major biotic realms, the northern temperate or Nearctic, represented on the peninsula primarily by elements of the adjacent Californian Floristic Province, and the southern tropical or Neotropics, represented primarily by elements of mainland Mexican origin. For most families of Lepidoptera the relative contribution of each of these two components is nearly equal, *i.e.*, there are about the same number of temperate and tropical species. Despite the presence of well developed temperate and tropical components, the overall Lepidoptera fauna of Baja California is relatively depauperate. Our knowledge of the fauna is poor; only about 15% of the species has been listed in published or unpublished studies, and an additional 15% are identified in collections. Nonetheless, from these limited data, a few general patterns emerge. The purpose of this paper is to identify the primary published and unpublished family-level treatments or inventories of Baja Californian Lepidoptera and evaluate levels of endemism based on these studies, briefly summarize general patterns of species richness and geographic distri-

bution, and provide a rough estimate of the total number of species present. In addition, an Appendix to the paper presents a lists of all the species reported from Baja California based on a review of the scientific literature, augmented by identified specimens from several major insect collections. The list probably includes only about one-third of the actual fauna, but represents a summary of our current knowledge.

## REVIEW OF PREVIOUS STUDIES, WITH A FOCUS ON ENDEMISM

Complete inventories or checklists have been compiled for 11 families of Lepidoptera (Table 1): Ethmiidae (currently recognized as Ethmiinae, Elachistidae), Sesiidae, Hesperidae, Papilionidae, Pieridae, Lycaenidae, Riodinidae, Nymphalidae (including Libytheidae), Sphingidae, Saturniidae, and Arctiidae. Together these families probably represent about 10% of the entire Lepidoptera fauna. *i.e.*, about 270 species. For other families of Lepidoptera, the literature consists of reports of specific collecting trips (*e.g.*, Braun, 1923; Wright, 1923; Patterson and Powell, 1959; Rindge, 1969); isolated descriptions of new taxa (*e.g.*, Lemaire, 1993; Brown and Faulkner, 1997; Powell and Brown, 1998); studies on distributions or life histories (*e.g.*, Powell, 1976, 1977; Powell, Comstock and Harbison, 1973; Cordero *et al.*, 2000); and the mention of taxa from Baja California in systematic treatments (*e.g.*, Buckett, 1971; Powell, 1980, 1991; Poole, 1987; Pogue, 1988; Lemaire, 1978, 1988; Pogue and Laughlin, 2002) (see Table 2). These sources document an additional 127 or so species from the peninsula. Although these studies combined document only about 15% of the fauna, trends in endemism and replicated distribution patterns are apparent.

## ENDEMISM

Endemism is generally high in insular and peninsular regions owing to reproductive isolation, potentially leading to genetic divergence. Howe-

**Table 1**  
Endemicity of Lepidoptera families inventoried for Baja California

TAXON	AUTHOR AND YEAR	# SPECIES	# ENDEMIC TAXA	% ENDEMICITY
Ethmiidae	Powell, 1973	5 species	1 species 0 subspecies	20.0% 0.0%
Sesiidae	Eichlin, 1992	15 species	4 species 0 subspecies	26.7% 0.0%
Hesperiidae	Brown <i>et al.</i> , 1992	52 species	2 species 5 subspecies	3.8% 9.6%
Papilionidae	Brown <i>et al.</i> , 1992	8 species	0 species 0 subspecies	0.0% 0.0%
Pieridae	Brown <i>et al.</i> , 1992	28 species	0 species 2 subspecies	0.0% 7.1%
Lycaenidae	Brown <i>et al.</i> , 1992	42 species	1 species 4 subspecies	2.3% 9.5%
Riodinidae	Brown <i>et al.</i> , 1992	7 species	1 species 3 subspecies	14.3% 42.9%
Nymphalidae	Brown <i>et al.</i> , 1992	37 species	0 species 1 subspecies	0.0% 2.7%
Sphingidae	Brown & Donahue, 1989	26 species	1 species 3 subspecies	3.8% 11.5%
Saturniidae	Tuskes & Brown (unpub.) Lemaire 1978, 1988, 1993	12 species	3 species 3 subspecies	25.0% 25.0%
Arctiidae	Donahue (unpubl.)	38 species	0 species	0.0%
<b>TOTAL</b>		<b>270 species</b>	<b>13 species</b> <b>18 subspecies</b>	<b>4.8%</b> <b>6.7%</b>

ver, according to Wiggins (1980), the flora of Baja California includes significantly fewer endemic plants than does the adjacent California Floristic Province: only 2.2% at the generic level and 23.2% at lower taxonomic levels. In their treatment of the grasses of Baja California, Gould and Moran (1981) recognized 7 species and 1 variety as endemic of a flora that includes 274 species. In contrast, Villaseñor, Ibarra and Ocana (1998) identified Baja California Norte as the most important region in all of Mexico for the conservation of endemic Asteraceae at the generic level.

Truxal (1960) concluded that insect endemism at both the generic and specific levels was limited primarily to the Cape Region. In contrast, he stated that for certain flightless insects (and related arthropods), the Sonoran fauna (*i.e.*, the Central Desert Province) may be considerably richer in endemics as a consequence of isolation. Studies by Williams (1980) on scorpions corroborate this hypothesis. However, for insects with relatively high vagility, such as butterflies and most macrolepidoptera, the geographic context and geologic

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history of the peninsula apparently have not fostered endemism in these groups. For each of the families of Lepidoptera that has been studied in Baja California (Table 1), endemism is moderate to low and expressed primarily at lower taxonomic levels - there are no endemic genera and endemism averages about 5% at the species level. Lepidopteran taxa endemic to Baja California are identified by an asterisk (\*) in the list included in the Appendix. In Table 1, percent species endemism is calculated by dividing the number of species in the family assumed to be restricted to the peninsula by the number of species of a given family present on the peninsula. Percent subspecies endemism is calculated by dividing the number of endemic subspecies present on the peninsula by the number of species in that family.

The Ethmiidae (currently recognized as a Ethmiinae, Elachistidae) are represented in Baja California by 5 species (Powell, 1973), one (20%) of which is endemic. Of the 11 families of Lepidoptera studied so far, Sesiidae exhibit the highest endemism at the species level - there are four endemics (26.7%) out of a total of 15 species; all of the endemics were described by Eichlin (1992). Among the 174 species of Papilionoidea (butterflies and skippers) are 4 marginally differentiated, endemic species (2.3%) and 15 endemic subspecies (8.6%); most of the latter are confined to the Cape Region Province (MacNeill, 1962; Miller and MacNeil, 1969; Brown *et al.*, 1992). In addition, there apparently is a complex of endemic *Agave*-borers in the genus *Agathymus* (Hesperiidae) associated with the endemic spe-

**Table 2**

Publications citing species of Lepidoptera in Baja California (not treated in "complete" family inventories), listed by family

FAMILY	REFERENCES
TINEIDAE	Braun, 1923
ACROLOPHIDAE	Hasbrouck, 1964
DOUGLASHIIDAE	Gaedike, 1990
XYLORYCTIDAE	Landry, 1991
COLEOPHORIDAE	Braun, 1923; Hodges, 1966; Powell, 1976
HELIODINIDAE	Powell, 1991; Hsu & Powell, 2004
GELECHIIDAE	Braun, 1923; Patterson & Powell, 1959
OEOPHORIDAE	Hodges, 1974
YPONOMEUTIDAE	Powell <i>et al.</i> , 1973
TORTRICIDAE	Patterson & Powell, 1959; Powell, 1980, 1983; Razowski, 1984, 1985a, b, 1986a, b, 1990, 1991, 1994; Pogue, 1988; Powell & Brown, 1998
CRAMBIDAE	Patterson & Powell, 1959; Munroe, 1959, 1972; Powell, 1977
PYRALIDAE	Patterson & Powell, 1959
GEOMETRIDAE	Wright, 1923; Patterson & Powell, 1959; Rindge, 1966, 1969, 1970, 1973a, b, 1976a, b; Buckett, 1971; Poole, 1987
NOCTUIDAE	Barnes & Benjamin, 1923; Patterson & Powell, 1959; Hogue, 1963; Lafontaine & Poole, 1991; McCabe, 1992; Brown & Faulkner, 1997; Cordero <i>et al.</i> , 2000; Pogue & Laughlin, 2002

cies of *Agave* (Agavaceae) of the Cape Region Province - the group has been studied but the results are not yet published (see Brown *et al.*, 1992). Sphingidae ( $n = 26$ ), which are large and highly vagile insects, include one endemic species (3.8%) and 3 endemic subspecies (11.5%), all of which are confined to the Cape Region (Cary, 1963; Brown and Donahue, 1989). Saturniidae are represented on the peninsula by 12 species, including 3 endemic species (25%) and 3 endemic subspecies (25%) (Rindge, 1966; Lemaire, 1978, 1988, 1993; Tuskes and Brown, unpubl.). The arctiid fauna of Baja California includes 38 species (Donahue, unpubl.), with no described endemic taxa; however, it is highly likely that one or more of the resident species (*e.g.*, *Lophocampa* sp. from Cedros Island) are undescribed endemics (Donahue, pers. comm.). With 15 endemic species of a total of 270 species, overall endemism at the species level is 4.8% for the families listed above (but the addition of one or two Arctiidae would increase this number to about 5%).

In a recent review of North American Heliodinidae, Hsu and Powell (2004) reported 10 species from Baja California, 7 of which they described as new (about half are likely to be endemic to Baja California). These findings suggest that isolation and subsequent divergence may be a more common scenario in smaller moths with putatively limited vagility, especially when compared to butterflies, sphingids, and many other macro-moths. Hence, endemism may indeed be higher in families not yet studied.

## PATTERNS OF SPECIES RICHNESS AND GEOGRAPHIC DISTRIBUTION

### SPECIES RICHNESS

In most lepidopteran groups, species richness is high at the northernmost and southernmost extremities of the peninsula and lowest in the middle. This can be demonstrated by dividing the penin-

sula into 10 subdivisions of 1 degree of latitude (Fig. 1) and tallying the number of species recorded from each subdivision (see Brown, 1987; Schwartz, 1988; Brown and Opler, 1990 for details of this methodology). The butterflies best illustrate this bimodal pattern (Fig. 2) with highest species richness in the north, lowest in the Central Desert, and high again at the southern tip (Brown, 1987; Brown *et al.*, 1992); Sphingidae also illustrate a comparable pattern (Brown and Donahue, 1989). If we examine species richness for the tropical and temperate components independently, different but predictable patterns emerge. The temperate component (Fig. 3) has its highest species richness at the northern base of the peninsula, attenuating southward, exhibiting a relatively convincing "peninsular effect." In contrast, the tropical component has its highest species richness at the distal tip of the peninsula, attenuating northward (Fig. 4), illustrating an inverse peninsular effect. Owing to the fact that Lepidoptera are phytophagous and many are fairly host specific, it is likely that these patterns of richness are the result of community complexity driven primarily by floral richness, which may be intimately related to elevational or topographic diversity. Unfortunately, there are no specific vegetation data to support this hypothesis, *i.e.*, data on gradients of plant species richness in Baja California are unavailable (but see Brown and Opler, 1990, for a comparable study on peninsular Florida).

### GEOGRAPHIC DISTRIBUTION

Biologists are in general agreement regarding the principal biotic provinces of Baja California. Despite different terminology, the major subdivisions proposed by Shreve (1951), Wiggins (1960, 1980), and Roberts (1989) for plants, Savage (1960) for reptiles and amphibians, Truxal (1960) for insects, and Rindge (1948) for butterflies, are fundamentally the same. All show a Californian Province in the northwest; an extensive

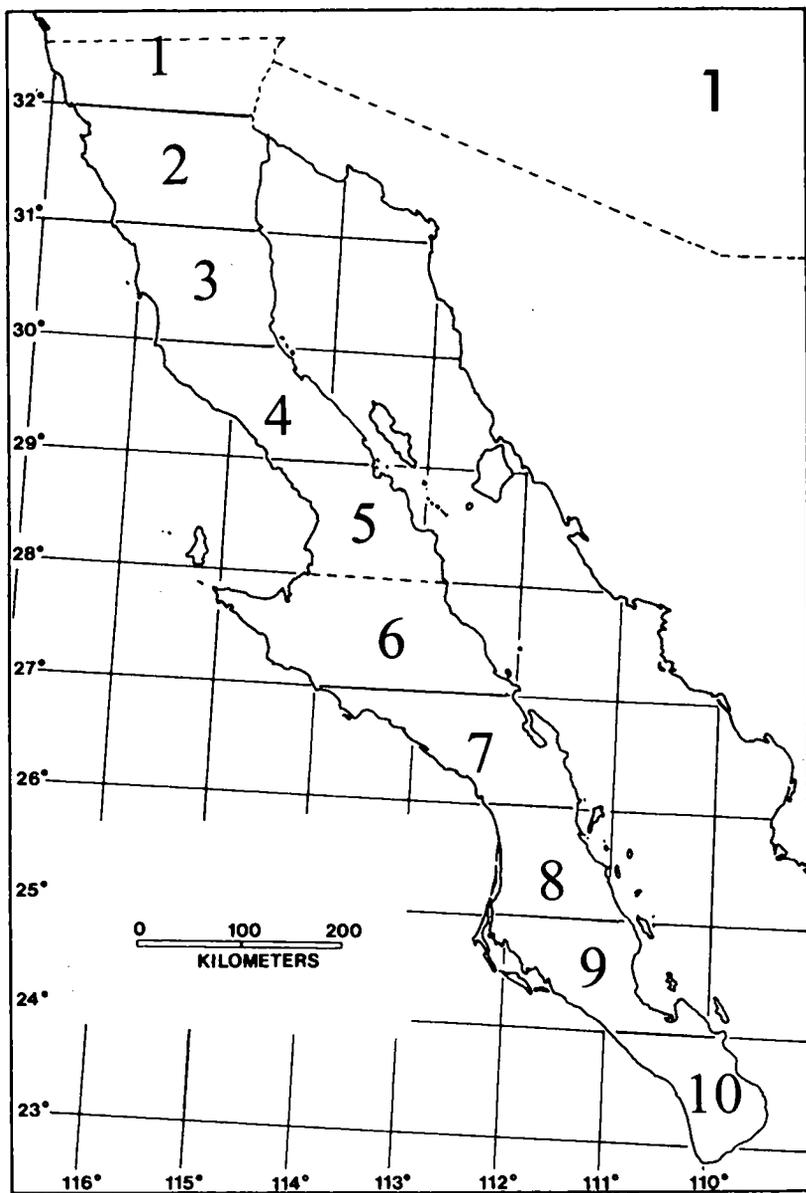
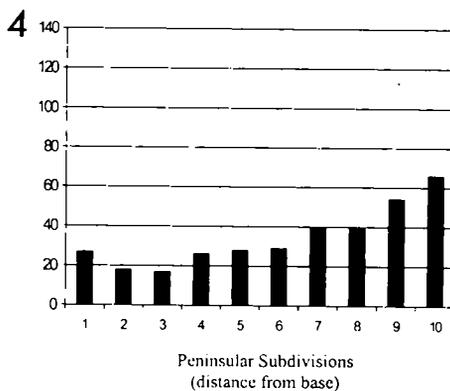
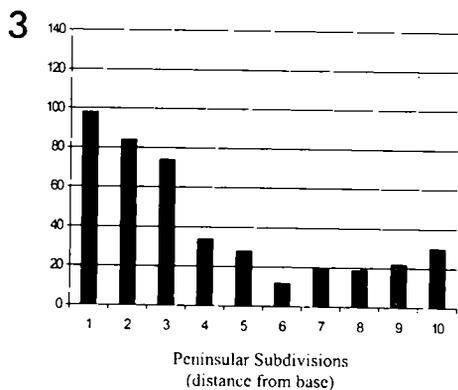
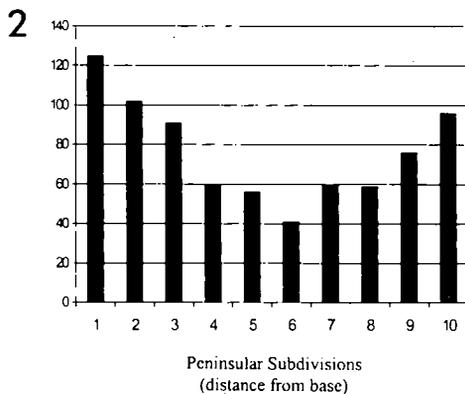


FIGURE 1. Map of Baja California with subdivisions of one degree of latitude.



FIGURES 2-4. Species richness histograms for total species of Papilionoidea (Fig. 2) and for temperate (Fig. 3) and tropical (Fig. 4) components for each latitudinal zone illustrated in Fig. 1. [x-axis = peninsular subdivisions/distance from base; y-axis = number of species].

Central Desert Province (usually subdivided into the Colorado Desert, Viscaino Desert, and Magdalena Plain); and a Cape Region Province, extending from the southern tip north along the eastern side of the peninsula to about Mulegé (Fig. 5). Although the boundaries are indefinite and debatable, these divisions are both natural and useful.

Most species of Lepidoptera on the peninsula exhibit one of two major patterns of geographic distribution, with some minor variations; fewer species illustrate one of several minor patterns. Most of the species' distributions are highly consistent with the biotic provinces described above.

The first major pattern is exhibited by species of temperate origin, most of which are confined to the Californian Province, ranging from southern California south to about El Rosario, and from the Pacific coast to the eastern escarpment of the Sierra de Juarez and Sierra San Pedro Mártir. Variations of this pattern include a "Vancouverian Distribution," an "Extended Californian Province," and a "Californian Disjunct Distribution" (see Brown *et al.*, 1992).

A Vancouverian Distribution (Truxall 1960) is illustrated by a few montane species confined to the Sierra de Juarez and the Sierra San Pedro Mártir of the Californian Province (e.g., *Choristoneura lambertiana* (Busck), *Hesperia colorado* Scudder, *Epargyreus clarus* (Cramer), *Speyeria coronis* (Behr), *Hemaris diffinis* (Boisduval), *Pandora doris* Barnes, *Saturnia albofasciata* (Johnson), and a few others). These species range throughout the Peninsular Ranges of adjacent southern California, reaching their southernmost limits in the mountains of northern Baja California. An Extended Californian Province is exhibited by several temperate species that range beyond the usual southern boundary of the Californian Province into the northern portion of the Viscaino Desert, some as far south as Isla de Cedros (Brown and Faulkner, 1990; Smith and Wells, 1993) (e.g., *Anthocharis sara* Lucas, *Phi-*

*lotes sonorensis* (Felder & Felder), *Euphilotes bernardino* (Barnes & McDunnough), *Hyalophora euryalus* (Boisduval)). The distributions of these species are most likely the result of larval host plant availability. A Californian Disjunct Distribution is exhibited by a few temperate species that occur throughout the California Province and have isolated "outposts" (some of which are recognized as subspecies) in the mountains of the Cape Region Province (e.g., *Erynnis tristis* (Boisduval), *Thorybes pylades* (Scudder), *Poanes melane* (Edwards), *Glaucoopsyche lygdamus* (Doubleday), *Pachysphinx occidentalis* (Edwards)). The disjunct southern populations in the Sierra de la Laguna most likely represent Pleistocene relicts, long isolated by desertification of the central portion of the peninsula (Raven and Axelrod, 1977).

The second major distribution pattern is illustrated by species of tropical origin, most of which are confined to the Cape Region Province, ranging northward from the southern tip primarily along the eastern side of the peninsula to Loreto or Mulegé. Among the many species exhibiting this pattern are the endemic sphingids, *Sphinx xantus* Cary and *Callionima falcifera guaycura* Cary, skippers in the genera *Urbanus*, *Chioides* and *Cogia*, the swallowtails *Papilio cresphontes* Cramer and *P. astyalus bajaenesis* Brown and Faulkner, two species of *Anteos*, the endemics *Hypostrymon critola festata* (Weeks), *Apodemia mormo maxima* (Weeks), and *Myscelia cyananthe strecker* (Skinner), *Anaea aidea* (Guérin-Ménéville), several others. Several tropical species illustrate an "Extended Cape Region" pattern, occurring beyond the usual boundaries of this biotic province, primarily in the Magdalena Plain, although a few range into the southern portion of the Viscaino Desert as well. These include species such as *Chlorostrymon simaethis sarita* (Skinner), *Chiomara asychis pelagica* (Weeks), *Heliopetes laviana laviana* (Hewitson), and *Phyciodes texana texana* (Edwards) among others.

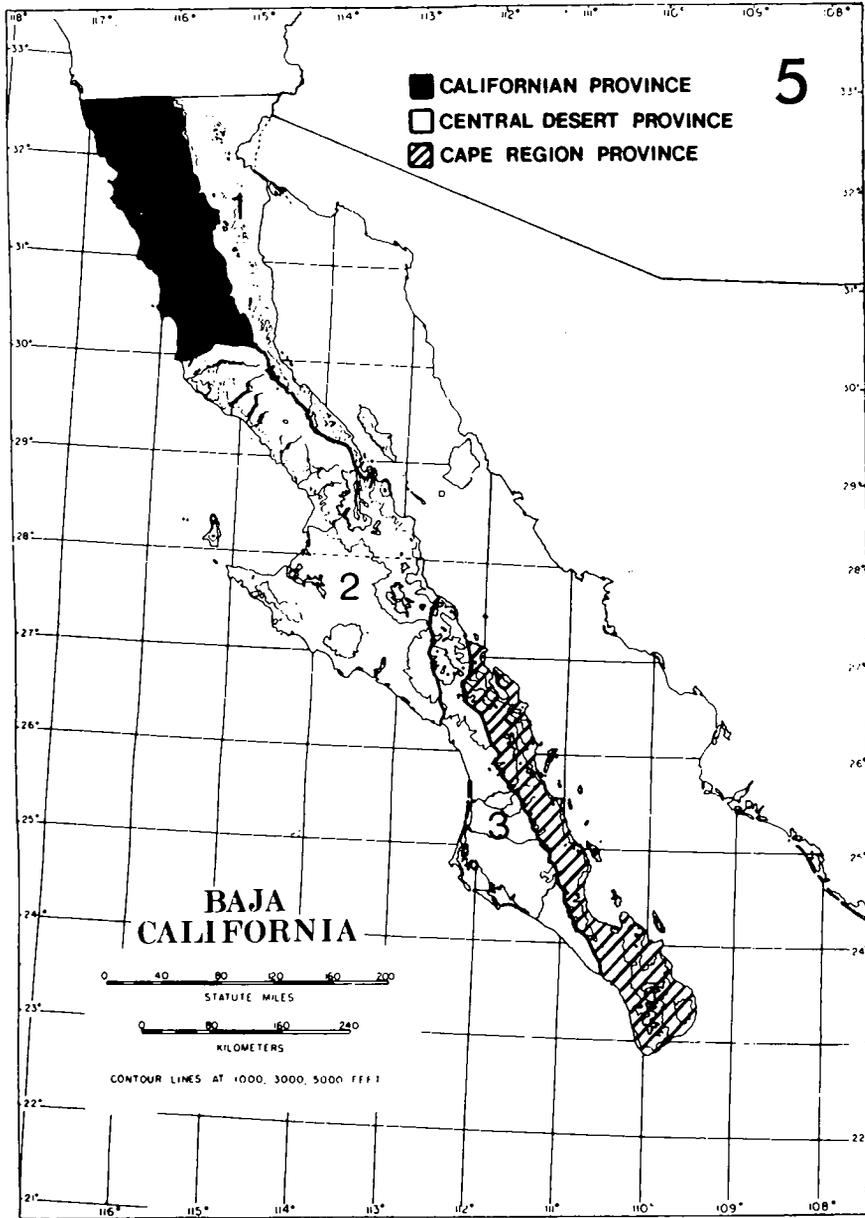


FIGURE. 5. Biotic Provinces of Baja California, Mexico. Black = Californian Province; hatched = Cape Region Province; unmarked = Central Desert Province with the following subdivisions: 1, Colorado Desert; 2, Viscaino Desert; 3, Magdalena Plain.

Given the conflicting hypotheses regarding the geologic origin of the peninsula, Cape Region species may represent the descendants of species that survived an ancient vicariant event or the results of more recent long-distance colonizers. It is likely that the tropical fauna of the Cape Region has been influenced by both.

A minor pattern, the "Sonoran Desert Distribution," is exhibited by a few species that extend southward from the adjacent Colorado Desert of southern California along the eastern half of the peninsula (e.g., *Agathymus stephensi* (Skinner), *Hesperopsis libya* (Scudder), *Hesperopsis graciae* (MacNeill), *Systasea zampa* (Edwards), *Callophrys gyneus loki* (Skinner)). A few desert species such as *Hemileuca peninsularis* Lemaire, a Baja California endemic occurring mostly in Viscaïno Desert but ranging south into the Cape Region, have affinities with elements of the Arizonan fauna (i.e., *H. peninsularis* is most likely the sister species of *H. tricolor* (Packard)).

Minor patterns that deviate from the biotic provinces include a "Maritime Distribution" and a "Peninsula-wide Distribution." The Maritime Distribution is exhibited by species that have an affinity with coastal habitats, occurring wherever estuaries or coastal salt marshes are found. For example, *Panoquina errans* (Skinner) ranges from Tijuana to Cabo San Lucas on the west side of the peninsula, and along the east side to near the mouth of the Colorado River, but only in association with salt marshes. *Ascia monuste* (L.) occupies the lower two-thirds of the peninsula (and many adjacent islands), but is found almost exclusively along the coast. Fidelity to coastal habitats is almost certainly the result of host plant availability - *Distichlis spicata* (Poaceae) for *P. errans* and *Batis maritima* (Batidaceae) for *A. monuste*.

Species exhibiting a Peninsula-wide Distribution are primarily weedy, opportunistic species, such as *Pyrgus albescens* Plötz, *Hylephila phyleus* (Drury), *Colias eurytheme* Boisduval, *Pon-*

*tia protodice* (Boisduval & LeConte), *Vanessa cardui* (Linnaeus), and *Hyles lineata* (Fabricius). Most of these range throughout temperate North America in urban as well as native situations. While these species may be considered polyphagous, most are restricted to a single plant family (e.g., Malvaceae for *P. albescens*; Poaceae for *H. phyleus*; Fabaceae for *C. eurytheme*; Brassicaceae for *P. protodice*). A very few other species (or species complexes) occur nearly the length of the peninsula, replaced north to south by closely related congeners or subspecies. For example, *Apodemia mormo* (Felder & Felder) ranges from the California border to the southern tip of the peninsula as a series of allopatric or parapatric subspecies (some of which may represent distinct species). *Apodemia palmeri* (Edwards), a species of the northern desert region, is replaced in the Cape Region by the endemic *A. murphyi* Austin; and *Papilio polyxenes* (Fabricius) is represented by *P. polyxenes coloro* Wright in the northern desert and *P. polyxenes asterius* Stoll in the Cape Region.

## ESTIMATES OF TOTAL SPECIES RICHNESS

Based on Lepidoptera inventories conducted throughout the western U.S., particularly in California, butterflies typically represent about 7% of the total fauna at any site (Powell, 1995; Brown and Bash, 2001). Because there is an accurate count of the number of butterflies of Baja California ( $n = 174$ ), it can be extrapolated that there may be about 2,486 species of Lepidoptera on the peninsula. Not surprisingly, this estimate is considerably below the number of species recorded from California (Richers, Leuschner & Powell, unpubl.). Based on unpublished studies (e.g., Saturniidae, Sphingidae) and museum specimens from Sonora and Sinaloa, an area of comparable size and longitudinal gradient to Baja California along the western coast of mainland Mexico may support 2-3 times as many species of

Lepidoptera as the peninsula. For example, Llorente *et al.* (unpublished) have documented about 435 species of butterflies from Sinaloa (with an estimated total of about 500) and 345 species from Sonora (with an estimated 380), compared with 174 species from Baja California.

#### **STATUS OF A COMPLETE LEPIDOPTERA INVENTORY**

The enforcement of federal regulations by the U.S. Fish and Wildlife Service regarding the "importation" of specimens from Mexico should not discourage U.S. scientists interested in the Lepidoptera of Baja California because there are large holdings already available for study in several U.S. institutions. For example, there are approximately 20,000 specimens of Baja Californian Lepidoptera in the collection of the San Diego Natural History Museum (SDNHM); approximately 17,000 specimens at the Los Angeles County Museum of Natural History (LACM); and at least 15,000 specimens at the Carnegie Museum of Natural History (CMNH). There also are considerable holdings at the California Academy of Sciences and the American Museum of Natural History, with lesser amounts at the Essig Museum of Entomology at the University of California, Berkeley, and the Bohart Museum of Entomology at the University of California, Davis. While the majority of specimens at SDNHM and CMNH are butterflies, other families of macrolepidoptera are well represented in these and other institutions, especially LACM. On the other hand, there is little doubt that the material represented in these and other depositories falls well short of a complete inventory of Baja Californian Lepidoptera, and considerable collecting efforts are still necessary. Shortcomings in the existing material include the quality and quantity of specimens of some families, particularly microlepidoptera, and inadequate seasonal coverage for most regions of the peninsula. Nonetheless, the greatest challenge to the study of the Lepidoptera

of Baja California is not the obstacle of federal regulations or the absence of funds to support field work; it is the paucity of taxonomists interested in working on the Lepidoptera of this unique region. In the face of continuing habitat modification and the increased potential for the introduction of non-native species, additional field work on the peninsula should be strongly encouraged, as should collaboration among U.S. and Mexican scientists.

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## APPENDIX

### PRELIMINARY LIST OF THE LEPIDOPTERA OF BAJA CALIFORNIA, MEXICO

This list is based on published literature, unpublished studies, and identified specimens at the Los Angeles County Museum of Natural History (LACM), San Diego Natural History Museum (SDNHM), Essig Museum of Entomology, University of California, Berkeley (UCB), and National Museum of Natural History, Smithsonian Institution, Washington (USNM). It is far from complete (it is likely that it includes only about 30% of the fauna) and is intended primarily as a starting point. A literature citation or depository of specimen(s) examined is provided for each species documented from Baja California. The supporting bibliography accompanies the preceding paper. Endemic taxa are indicated by an asterisk (\*). The sequence of families, genera, and species follows Hodges (1983), with a few modifications based on the recently published Handbook of Zoology (Kristensen 1999). The abbreviation "cf." is use where the species identification is not certain.

#### INCURVARIIDAE

*Tegeticula maculata* (Riley) - SDNHM  
*Prodoxus coloradensis* Riley - LACM  
*Adela punctiferella* Walsingham - SDNHM

#### TINEIDAE

*Diachorisa velatella* Clemens - SDNHM  
*Xylesthia albicans* Braun - SDNHM  
*Myrmecozela erecta* Braun - Braun 1923  
*Tinea occidentella* Chambers - SDNHM

#### ACROLOPHIDAE

*Acrolophus laticapitanus leopardus* (Busck) -

#### SDNHM

*Acrolophus pseudohirsutus* Hasbrouke -  
Hasbrouck 1964  
*Acrolophus pyramellus* (Barnes & McDunnough)  
- Hasbrouck 1964  
*Acrolophus kearfotti* (Dyar) - LACM  
*Acrolophus variabilis* (Walsingham) group -  
LACM  
*Acrolophus* sp. 1 - SDNHM  
*Acrolophus* sp. 2 - SDNHM  
*Acrolophus* sp. 3 - SDNHM  
*Acrolophus* spp. - Braun 1923  
*Amydria* sp. 1 - SDNHM

### ELACHISTIDAE

- Depressariodes cf. thoracefasciella* (Chambers) -  
Patterson & Powell 1959  
*Martyrhilda nechlys* Hodges - Hodges 1974  
*Ethmia arctostaphylella* (Walsingham) - Powell  
1973  
*Ethmia discostrigella* (Chambers) - Powell 1973  
*Ethmia phoenicura* Meyrick - Powell 1973  
*Ethmia papiella* Powell - LACM  
*Ethmia hodgesella* Powell - Powell 1973  
\**Ethmia baja* Powell - Powell 1973  
*Brymblia quadrimaculella* (Chambers) - Hodges  
1974  
*Pleurota albastrigulella* (Kearfott) - Patterson &  
Powell 1959; Hodges 1974  
*Antaeotricha* sp. 1 - SDNHM

### COSMOPTERIGIDAE

- Antequera acertella* (Busck) - SDNHM  
*Walshia cf. amorphella* Clemens - SDNHM

### XYLORYCTIDAE

- Arotrura divaricata* (Braun) - Landry 1991  
*Arotrura hymenata* Landry - Landry 1991  
*Arotrura longissima* Landry - Landry 1991  
*Arotrura sponsella* (Busck) - Landry 1991  
*Scythris* sp. 1 - SDNHM  
*Scythris* sp. 2 - LACM

### COLEOPHORIDAE

- Batrachedra linaria* Clarke - Hodges 1966  
*Holococera gigantella* (Chambers) - Braun 1923;  
Powell 1976

### GELECHIIDAE

- Isophrictis* sp. 1 - SDNHM  
*Aristotelia elegantella* (Chambers) - SDNHM  
*Aristotelia howardi* Walsingham - Braun 1923  
*Aristotelia pulvera* Braun - Braun 1923  
*Telphusa nigrimaculata* Braun - Braun 1923  
*Pseudochelaria cf. scabrella* (Busck) - SDNHM  
*Gelechia elaboratella* Braun - Braun 1923  
*Gelechia intermedia* Braun - Braun 1923

- Gnorimoschema triocellella* (Chambers) - Braun  
1923  
*Chionodes* sp. 1 - SDNHM  
*Chionodes cf. notandella* (Busck) - SDNHM  
*Chionodes cf. kincaidella* (Busck) - SDNHM  
*Chionodes sistrella* (Busck) - Braun 1923,  
SDNHM  
*Aroga morenella* (Busck) - SDNHM  
*Aroga paulella* (Busck) - Patterson & Powell  
1959  
*Aroga* sp. 1 - SDNHM  
*Aroga* sp. 2 - SDNHM  
*Filatima albipectus* Walsingham - Braun 1923  
*Faculta inaequalis* Busck - Braun 1923  
*Anacamptis triangularis* Braun - Braun 1923  
*Dichomeris mexicana* Walsingham - Braun 1923

### PLUTELLIDAE

- Plutella xylostella* (Linnaeus) - SDNHM  
*Ypsolopha cf. angelicella* (Busck) - SDNHM  
*Ypsolopha cf. gerdanella* (Busck) - SDNHM  
*Ypsolopha cf. delicatella* (Busck) - SDNHM  
*Ypsolopha cf. striatella* (Busck) - SDNHM  
*Ypsolopha* sp. 1 - SDNHM  
*Ypsolopha* sp. 2 - SDNHM

### YPONOMEUTIDAE

- Atteva exquisita* Busck - Powell, Comstock &  
Harbison 1973

### DOUGLASHIIDAE

- Tinagma mexicanum* Gaedike - Gaedike 1990

### HELIODINIDAE

- Neoheliodines* n. sp. 1 - Hsu & Powell 2004;  
UCB  
*Neoheliodines* n. sp. 2 - Hsu & Powell 2004;  
UCB  
*Embola* n. sp. 1 - Hsu & Powell 2003; UCB  
*Euheliodines* n. sp. 1 - Hsu & Powell 2004; UCB  
*Aetole bella* Chambers - Hsu & Powell 2004;  
UCB  
*Aetole unipunctella* (Walsingham) - Hsu &

Powell 2004; UCB

*Aetole* n. sp. 1 - Hsu & Powell 2004; UCB

*Aetole* n. sp. 2 - Hsu & Powell 2004; UCB

*Aetole* n. sp. 3 - Hsu & Powell 2004; UCB

*Lithariapteryx abroniaella* Chambers - Powell  
1991; SDNHM

### SESIIDAE

*Sophona snellingi* Eichlin - Eichlin 1992

*Zenodoxus mexicanus* Beutenmüller - Eichlin  
1992

*Zenodoxus palmii* (Neumoegen) - Eichlin 1992

*Paranthrene robiniae* (Edwards) - Eichlin 1992

*Melittia gloriosa* Edwards - Eichlin 1992

*Melittia magnifica* Beutenmüller - Eichlin 1992

\**Melittia gilberti* Eichlin - Eichlin 1992

\**Melittia faulkneri* Eichlin - Eichlin 1992

*Synanthedon bibionipennis* (Boisduval) - Eichlin  
1992

*Synanthedon polygona* (Edwards) - Eichlin 1992

*Synanthedon resplendens* (Edwards) - Eichlin  
1992

\**Carmenta andrewsi* Eichlin - Eichlin 1992

\**Carmenta erici* Eichlin - Eichlin 1992

*Penstemonia henei* Engelhardt - Eichlin 1992

*Hymenoclea palmii* (Beutenmüller) - Eichlin  
1992

### CHOREUTIDAE

*Tebenna gemmalis* (Hulst) - SDNHM

*Tortyra* sp. 1 - SDNHM

### COSSIDAE

*Hypopta palmata* Barnes & McDunnough -  
SDNHM

*Givira* cf. *marga* Barnes & McDunnough -  
SDNHM

*Givira mucida* (Edwards) - LACM

*Givira* cf. *carla* Dyar - LACM

*Comadia polingi* Barnes & Benjamin - LACM

*Fania nana* (Strecker) - LACM

*Prionoxystus robioniae* (Peck) - LACM

### TORTRICIDAE

*Endothenia hebesana* (Walsingham) - Patterson  
& Powell 1959; USNM

*Bactra verutana* Zeller - USNM

*Petrova albicapitana* (Busck) - SDNHM

*Eucosma* cf. *pulveratana* (Walsingham) -  
SDNHM

*Eucosma* cf. *hazelana* Klots - SDNHM

*Eucosma ridingsana* (Robinson) - SDNHM

*Eucosma morrisoni* (Walsingham) - SDNHM;  
USNM

*Eucosma* sp. 1 - SDNHM

*Petrova* sp. 1 - LACM

*Pelochrista* sp. 1 - SDNHM

*Epiblema* sp. 1 - SDNHM

*Epiblema* sp. 2 - SDNHM

*Crociosema plebejana* Zeller - SDNHM

*Crociosema* cf. *lantana* Busck - SDNHM;  
USNM

*Grapholita vitrana* Walsingham - SDNHM

*Ofatulena luminosa* Heinrich - SDNHM

*Ofatulena duodecimstriata* (Walsingham) -  
LACM

*Cydia piperana* Kearfott - SDNHM; LACM

*Cydia membroza* (Heinrich) - SDNHM; LACM

*Cydia latiferreanus* (Walsingham) - SDNHM

*Epinotia biangulana* (Walsingham) - SDNHM

*Epinotia subplicana* (Walsingham) - Patterson &  
Powell 1959

*Ethelgoda texana* (Walsingham) - USNM

*Decodes johnstoni* Powell - Powell 1980

*Decodes fragarianus* (Busck) - SDNHM

*Decodes helix* Powell & Brown - Powell &  
Brown 1998

*Anopina triangulana* (Kearfott) - SDNHM

*Argyrotaenia niscana* (Kearfott) - Patterson &  
Powell 1959; Powell 1960

*Argyrotaenia franciscana/citrana* (complex) -  
SDNHM

*Choristoneura rosaceana* (Harris) - SDNHM

*Choristoneura lambertiana* (Busck) - SDNHM

*Sparganothis senecionana* (Walsingham) -  
SDNHM

- Platynota larreana* (Comstock) - SDNHM  
*Platynota stultana* Walsingham - Powell 1983  
*Platynota labiosana* (Zeller) - SDNHM  
*Platynota rostrana* (Walker) - SDNHM  
*Platynota* sp. 1 - SDNHM  
*Amorbia cuneana* (Walsingham) - SDNHM; UCB  
*Amorbia* sp. 1 - LACM  
*Lorita scarifera* Meyrick - Pogue 1988  
\**Henricus hemitelius* Razowski - Razowski 1994  
\**Eugnosta sebasta* Razowski - Razowski 1994  
\**Eugnosta mitis* Razowski - Razowski 1994  
\**Eugnosta californica* (Razowski) - Razowski 1994  
*Eugnosta busckana* (Comstock) - Razowski 1994  
\**Platyphalonia californica* Razowski - Razowski 1994  
\**Rudenia paupercula* Razowski - Razowski 1985  
\**Rudenia immanis* Razowski - Razowski 1994  
\**Rudenia nigrans* Razowski - Razowski 1985  
\**Mimcochylis planola* Razowski - Razowski 1994  
\**Cochylis insipida* Razowski - Razowski 1994  
\**Cochylis eutaxia* Razowski - Razowski 1994  
\**Cochylis flabilis* Razowski - SDNHM  
*Cochylis yuccatana* Busck - SDNHM  
*Cochylis pimana* Busck - SDNHM
- HESPERIIDAE**  
*Epargyreus clarus californicus* MacNeill - Brown et al. 1992  
*Chiodon catillus albofasciatus* (Hewitson) - Brown et al. 1992  
*Urbanus proteus proteus* (Linnaeus) - Brown et al. 1992  
\**Urbanus dorantes calafia* (Williams) - Brown et al. 1992  
*Achalarus albociliatus albociliatus* (Mabile) - Brown et al. 1992  
*Thorybes pylades* (Scudder) - Brown et al. 1992  
*Codatractus mysie* Dyar (formerly misidentified as *Thorybes valeriana*) - Burns 1996  
\**Cogia hippalus peninsularis* Miller & MacNeill - Brown et al. 1992  
*Staphylus ceos* (Edwards) - Brown et al. 1992  
*Systasea zampa* (Edwards) - Brown et al. 1992  
\**Chiomara asychis pelagica* (Weeks) - Brown et al. 1992  
*Erynnis brizo lacustra* (Wright) - Brown et al. 1992  
*Erynnis propertius* (Scudder & Burgess) - Brown et al. 1992  
*Erynnis tristis tristis* (Boisduval) - Brown et al. 1992  
\**Erynnis tristis pattersoni* Burns - Brown et al. 1992  
*Erynnis pacuvius callidus* (Grinnell) - Brown et al. 1992  
*Erynnis funeralis* (Scudder & Burgess) - Brown et al. 1992  
*Erynnis afranius* (Lintner) - Brown et al. 1992  
*Pyrgus scriptura* (Boisduval) - Brown et al. 1992  
*Pyrgus albescens* Plötz - Brown et al. 1992; Burns 2000  
*Pyrgus oileus oileus* (Linnaeus) - Brown et al. 1992  
*Pyrgus philetas* (Edwards) - Brown et al. 1992  
*Heliopetes domicella domicella* (Erichson) - Brown et al. 1992  
*Heliopetes ericetorum* (Boisduval) - Brown et al. 1992  
*Heliopetes laviana laviana* (Hewitson) - Brown et al. 1992  
*Pholisora catullus* (Fabricius) - Brown et al. 1992  
*Hesperopsis libya libya* (Scudder) - Brown et al. 1992  
*Hesperopsis graciellae* (MacNeill) - Brown et al. 1992  
*Synapte syraeces* (Godman & Selvin) - Brown et al. 1992  
*Nastra julia* (Freeman) - Brown et al. 1992  
*Nastra neamathla* (Skinner & Williams) - Brown et al. 1992  
*Lerema accius* (Smith) - Brown et al. 1992  
*Copaodes aurantiacus* (Hewitson) - Brown et

- al. 1992  
*Hylephila phyleus* (Drury) - Brown et al. 1992  
*Hesperia juba* (Scudder) - Brown et al. 1992  
*Hesperia colorado leussleri* (Lindsey) - Brown et al. 1992  
*Hesperia pahaska* cf. *williamsi* Lindsey - Brown et al. 1992  
*Polites sabuleti sabuleti* (Boisduval) - Brown et al. 1992  
\**Polites sabuleti margaretae* Miller & MacNeill - Brown et al. 1992  
*Polites sonora sonora* (Scudder) - Brown et al. 1992  
*Atalopedes campestris campestris* (Boisduval) - Brown et al. 1992  
*Ochlodes sylvanoides sylvanoides* (Boisduval) - Brown et al. 1992  
*Ochlodes agricola agricola* (Boisduval) - Brown et al. 1992  
*Poanes melane melane* (Edwards) - Brown et al. 1992  
*Amblyscirtes tolteca* Scudder - Brown et al. 1992  
*Lerodea eufala eufala* (Edwards) - Brown et al. 1992  
*Lerodea arabus* (Edwards) - Brown et al. 1992  
*Panoquina errans* (Skinner) - Brown et al. 1992  
*Nyctelius nyctelius* (Latreille) - Brown et al. 1992  
*Calpodus ethlius* (Stoll) - Brown et al. 1992  
*Agathymus stephensi* (Skinner) - Brown et al. 1992  
\**Agathymus comstocki* (Harbison) - Brown et al. 1992  
\**Agathymus dawsoni* Harbison - Brown et al. 1992  
*Megathymus coloradensis martini* Stallings & Turner - Brown et al. 1992
- PAPILIONIDAE**  
*Battus philenor philenor* (Linnaeus) - Brown et al. 1992  
*Papilio polyxenes asterius* Stoll - Brown et al. 1992  
*polyxenes coloro* Wright - Brown et al. 1992  
*Papilio zelicaon* Lucas - Brown et al. 1992  
*Papilio indra pergamus* Edwards - Brown et al. 1992  
*Papilio cresphontes cresphontes* Cramer - Brown et al. 1992  
*Papilio astyalus bajaensis* Brown & Faulkner - Brown et al. 1992  
*Papilio rutulus rutulus* Lucas - Brown et al. 1992  
*Papilio eurymedon* Lucas - Brown et al. 1992
- PIERIDAE**  
*Pontia beckerii* (Edwards) - Brown et al. 1992  
*Pontia sisymbrii sisymbrii* (Boisduval) - Brown et al. 1992  
*Pontia protodice* (Boisduval & LeConte) - Brown et al. 1992  
*Pieris rapae* (Linnaeus) - Brown et al. 1992  
\**Ascia monuste raza* Klots - Brown et al. 1992  
*Ganyra howarthi* (Dixey) - Bailowitz 1988; Brown et al. 1992  
*Euchloe hyantis lotta* Beutenmüller - Brown et al. 1992  
*Anthocharis cethura cethura* Felder & Felder - Brown et al. 1992  
*Anthocharis sara sara* Lucas - Brown et al. 1992  
*Anthocharis lanceolata australis* (Grinnell) - Brown et al. 1992  
*Colias eurytheme* Boisduval - Brown et al. 1992  
*Colias harfordii* Edwards - Brown et al. 1992  
*Colias eurydice* Boisduval - Brown et al. 1992  
*Colias cesonia cesonia* (Stoll) - Brown et al. 1992  
*Anteos clorinde nivifera* (Frustorfer) - Brown et al. 1992  
*Anteos maerula lacordairei* (Boisduval) - Brown et al. 1992  
*Phoebis sennae marcellina* (Cramer) - Brown et al. 1992  
*Phoebis philea philea* (Johansson) - Brown et al. 1992  
\**Phoebis agarithe fisheri* (Edwards) - Brown et al. 1992  
*Kricogonia lyside* (Godart) - Brown et al. 1992

- Eurema दौरा दौरा* (Godart) - Brown et al. 1992  
*Eurema boisduvaliana* (Felder & Felder) - Brown et al. 1992  
*Eurema mexicana* (Boisduval) - Brown et al. 1992  
*Eurema proterpia* (Fabricius) - Brown et al. 1992  
*Eurema lisa lisa* (Boisduval & LeConte) - Brown et al. 1992  
*Eurema nise nelphe* (Felder) - Brown et al. 1992  
*Eurema nicippe* (Cramer) - Brown et al. 1992  
*Nathalis iole* Boisduval - Brown et al. 1992
- LYCAENIDAE**
- Lycaena arota arota* (Boisduval) - Brown et al. 1992  
*Lycaena xanthoides xanthoides* (Boisduval) - Brown et al. 1992  
*Lycaena gorgon* (Boisduval) - Brown et al. 1992  
*Lycaena helloides* (Boisduval) - Brown et al. 1992  
*Lycaena hermes* (Edwards) - Brown et al. 1992  
 \**Habrodais poodiae* Brown & Faulkner - Brown et al. 1992  
*Atlides halesus corcorani* Clench - Brown et al. 1992  
*Chlorostrymon simaethis sarita* (Skinner) - Brown et al. 1992  
*Satyrium californicum* (Edwards) - Brown et al. 1992  
*Satyrium sylvinum sylvinum* (Boisduval) - Brown et al. 1992  
*Satyrium auretteum spadix* (Edwards) - Brown et al. 1992  
*Satyrium tetra* (Edwards) - Brown et al. 1992  
*Satyrium saepium saepium* (Boisduval) - Brown et al. 1992  
*Ministrymon clytie* (Edwards) - Brown et al. 1992  
*Ministrymon leda* (Edwards) - Brown et al. 1992  
*Callophrys dumetorum dumetorum* (Boisduval) - Brown et al. 1992  
*Callophrys spinetorum* (Hewitson) - Brown et al. 1992
- Callophrys gryneus nelsoni* (Boisduval) - Brown et al. 1992  
*gryneus loki* (Skinner) - Brown et al. 1992  
 \**Callophrys gryneus cedrosensis* (Brown & Faulkner) - Brown et al. 1992  
*Incisalia augustinus iroides* (Boisduval) - Brown et al. 1992  
 \**Hypostrymon critola festata* (Weeks) - Brown et al. 1992  
*Strymon melinus pudica* (Edwards) - Brown et al. 1992  
*Strymon alea* (Godman & Salvin) - Brown et al. 1992  
*Strymon istapa* (Reakirt) - Brown et al. 1992  
*Strymon cestri* (Reakirt) - Brown et al. 1992  
*Strymon bazochii* (Godart) - Brown et al. 1992  
*Brephidium exilis* (Boisduval) - Brown et al. 1992  
*Leptotes cassius striata* (Edwards) - Brown et al. 1992  
*Leptotes marina* (Reakirt) - Brown et al. 1992  
*Hemiargus ceraunus gyas* (Edwards) - Brown et al. 1992  
*Hemiargus isolus alce* (Edwards) - Brown et al. 1992  
*Everes amyntula amyntula* (Boisduval) - Brown et al. 1992  
*Celastrina ladon echo* (Edwards) - Brown et al. 1992  
*Euphilotes bernardino bernardino* (Barnes & McDunnough) - Brown et al. 1992  
 \**Euphilotes bernardino garthi* Mattoni - Brown et al. 1992  
*Euphilotes enoptes dammersi* (Comstock & Henne) - Brown et al. 1992  
*Philotiella speciosa* (Edwards) - Brown et al. 1992  
*Philotes sonorensis sonorensis* (Felder & Felder) - Brown et al. 1992  
*Glaucopsyche piasus sagittigera* (Felder & Felder) - Brown et al. 1992  
*Glaucopsyche lygdamus australis* (Grinnell) - Brown et al. 1992

- \**Lygdamus maritima* (Weeks) - Brown et al. 1992  
*Lycaeides melissa paradoxa* (Chermock) - Brown et al. 1992  
*Plebejus icarioides evius* (Boisduval) - Brown et al. 1992  
*Plebejus acmon acmon* (Westwood & Hewitson) - Brown et al. 1992  
*Plebejus lupini monticola* (Clemence) - Brown et al. 1992
- RIODINIDAE**  
*Calephelis nemesis californica* McAlpine - Brown et al. 1992  
 \**Calephelis nemesis bajaensis* McAlpine - Brown et al. 1992  
*Calephelis wrightii* Holland - Brown et al. 1992  
*Melanis acroleuca* (Felder) - Brown et al. 1992  
 \**Apodemia mormo maxima* (Weeks) - Brown et al. 1992  
*mormo virgulti* (Behr) - Brown et al. 1992  
*mormo deserti* Barnes & McDunnough - Brown et al. 1992  
 \**Apodemia mormo dialeuca* Opler & Powell - Brown et al. 1992  
 \**Apodemia murphyi* Austin - Brown et al. 1992  
*Apodemia palmeri* (Edwards) - Brown et al. 1992  
*Apodemia hepburni* Godman & Salvin - Brown et al. 1992
- NYMPHALIDAE**  
*Libytheana bachmanii larvata* (Strecker) - Brown et al. 1992  
*Dione vanillae incarnata* (Riley) - Brown et al. 1992  
*Euptoieta claudia* (Cramer) - Brown et al. 1992  
*Euptoieta hegesia hoffmanni* (Comstock) - Brown et al. 1992  
*Speyeria coronis semiramis* (Edwards) - Brown et al. 1992  
*Speyeria callippe comstocki* (Gunder) - Brown et al. 1992  
*Thessalia leanira wrighti* (Edwards) - Brown et al. 1992  
 al. 1992  
*Chlosyne californica* (Wright) - Brown et al. 1992  
*Chlosyne lacinia crocale* (Edwards) - Brown et al. 1992  
*Chlosyne gabii gabii* (Behr) - Brown et al. 1992  
*Dymasia dymas imperialis* (Bauer) - Brown et al. 1992  
*dymas chara* (Edwards) - Brown et al. 1992  
*Phyciodes texana texana* (Edwards) - Brown et al. 1992  
*Phyciodes phaon* (Edwards) - Brown et al. 1992  
*Phyciodes tharos distincta* Bauer - Brown et al. 1992  
*Euphydryas chalcedona chalcedona* (Doubleday) - Brown et al. 1992  
*chalcedona hennei* Scott - Brown et al. 1992  
*Euphydryas editha quino* (Behr) - Brown et al. 1992  
*Nymphalis antiopa antiopa* (Linnaeus) - Brown et al. 1992  
*Nymphalis californica* (Boisduval) - Faulkner, in litt.  
*Vanessa virginiensis* (Drury) - Brown et al. 1992  
*Vanessa cardui* (Linnaeus) - Brown et al. 1992  
*Vanessa annabella* (Field) - Brown et al. 1992  
*Vanessa atalanta rubria* (Frühstorfer) - Brown et al. 1992  
*Junonia coenia* Hübner - Brown et al. 1992  
*Junonia evarete* (Cramer) - Brown et al. 1992  
*Junonia nigrosuffusa* Barnes & McDunnough - Brown et al. 1992  
*Anartia jatrophae* (Johansson) - Brown et al. 1992  
*Basilarchia archippus archippus* (Cramer) - Brown et al. 1992  
*Basilarchia lorquini lorquini* (Boisduval) - Brown et al. 1992  
*Adelpha bredowii californica* (Butler) - Brown et al. 1992  
 \**Myscelia cyananthe streckeri* Skinner - Brown et al. 1992  
*Mestra amymone* (Menetries) - Brown et al. 1992

- Anaea aidea aidea* (Guérin-Ménéville) - Brown et al. 1992
- Asterocampa leilia leilia* (Edwards) - Brown et al. 1992
- Ceonomypha tullia californica* Westwood - Brown et al. 1992
- Cercyonis sthenele silvestris* (Edwards) - Brown et al. 1992
- Opsiphanes boisduvalii* Westwood - Brown et al. 1992
- Danaus gilippus thersippus* (Bates) - Brown et al. 1992
- Danaus plexippus plexippus* (Linnaeus) - Brown et al. 1992
- LIMACODIDAE**
- Cryptophobetrion oropeso* Barnes - SDNHM; LACM
- Monoleuca occidentalis* Barnes & McDunnough - SDNHM
- Monoleuca* cf. *occidentalis* Barnes & McDunnough - SDNHM
- Euclea* cf. *obliqua* - SDNHM
- CRAMBIDAE**
- Noctueliopsis* sp. 1 - LACM
- Eudonia* cf. *rectilinea* (Zeller) - SDNHM
- Petrophila* sp. 1 (Cape Region) - SDNHM
- Petrophila* sp. 2 (Santa Inez) - SDNHM
- Petrophila* sp. 3 (Tecate) - SDNHM
- \**Gyros powelli* Munroe - SDNHM; Munroe 1959
- Eremanthe chemsaki* Munroe - SDNHM
- Pogonogenys proximalis* (Fernald) - SDNHM
- Mimoschinia rufofascialis* (Stephens) - SDNHM; LACM
- Hellula rogalis* (Hulst) - SDNHM
- Upiga virescens* (Hulst) - SDNHM; LACM
- Stegea* sp. 1 - SDNHM
- Abegesta reluctalis* (Hulst) - SDNHM
- Lipocosma albibasalis* Barnes & McDunnough - SDNHM
- Jativa castanealis* (Hulst) - LACM
- Mojavia achemonalis* (Barnes & McDunnough) - LACM
- Dicymolomia metalliferalis* (Packard) - SDNHM
- Dicymolomia* sp. 1 - SDNHM
- Chalcoela iphitalis* (Walker) - LACM
- Evergestia angustalis* (Barnes & McDunnough) - Powell 1977
- Evergestia* cf. *triangulalis* Barnes & McDunnough - SDNHM
- Cornifrons actualis* Barnes & McDunnough - SDNHM
- Saucrobotys futilalis* (Lederer) - Patterson & Powell 1959; Munroe 1959
- Mutuuraia mysippusalis* (Walker) - Munroe 1959
- Achyra rantalis* (Guenée) - Munroe 1959
- Xanthostege plana* (Grote) - LACM
- Uresiphita reversalis* (Guenée) - SDNHM
- Loxostege albiceris* (Grote) - SDNHM; LACM
- Loxostege allectalis* (Grote) - LACM
- Loxostege egregialis* Munroe - LACM
- Loxostege sticticalis* (Linnaeus) - SDNHM; LACM
- Loxostege cereralis* (Zeller) - Munroe 1959; LACM
- Pyrausta napaealis* (Hulst) - SDNHM
- Pyrausta tatalis* (Grote) - Patterson & Powell 1959; Munroe 1959
- Pyrausta perrubralis* (Packard) - Munroe 1959
- Pyrausta unifascialis* (Packard) - SDNHM
- Pyrausta semirubalis* (Packard) - LACM
- Pyrausta tyralis* (Guenée) - SDNHM; LACM
- Pyrausta laticlavata* (Grote & Robinson) - SDNHM; USNM
- Udea inquinatalis* (Zeller) - LACM
- Lineodes integra* (Zeller) - SDNHM; LACM
- Choristostigma zephyralis* (Barnes & McDunnough) - Munroe 1959
- Mecyna mustelinalis* (Packard) - Patterson & Powell 1959; Munroe 1959
- Mimorista* cf. *trimaculalis* (Grote) - SDNHM
- Epipagis disparilis* (Dyar) - SDNHM
- Nomophila neartica* Munroe - Patterson & Powell 1959; Munroe 1959

*Desmia* sp. 1 - SDNHM

*Spoladea recurvalis* (Fabricius) - SDNHM

*Spoladea* sp. 1 - SDNHM

*Antigastra catalaunalis* (Duponchel) - LACM

*Diaphania hyalinata* (Linnaeus) - SDNHM

*Palpita* cf. *quadrastigmalis* (Guenée) - SDNHM

*Palpita* cf. *gracilialis* (Hulst) - SDNHM

*Palpita* sp. 1 - SDNHM

*Terastia meticulosalis* Guenée - SDNHM

*Agathodes designalis monstralis* Guenée - SDNHM

*Diastictis fracturalis* (Zeller) - SDNHM

*Syngamia florella* (Stoll) - SDNHM; LACM

*Lygropia octonalis* (Zeller) - SDNHM

*Conchylodes ovulalis* (Guenée) - SDNHM

*Crambus hamellus/cyripidalis* - SDNHM

*Crambus* cf. *caliginosella* Clemens - SDNHM

*Euchromius californicalis* (Packard) - SDNHM

*Euchromius ocellus* (Haworth) - LACM

#### **PYRALIDAE**

*Epipaschia* sp. 1 - SDNHM

*Jocara trabalis* (Grote) - SDNHM

*Tallula fieldi* Barnes & McDunnough - SDNHM

*Galleria mellonella* (Linnaeus) - LACM

Chrysauginae sp. 1 - SDNHM

*Rhodophaea caliginella* (Hulst) - SDNHM

*Ambesia walsinghami mirabella* Dyar - SDNHM

*Phobus funerellus* (Dyar) - Patterson & Powell 1969

*Heterographis morrisonella* Ragonot - Patterson & Powell 1969

#### **THYATIRIDAE**

*Dysodia oclatana* Clemens - SDNHM

*Meskia* sp. 1 - SDNHM

#### **PTEROPHORIDAE**

*Platyptilia* sp. 1 - SDNHM

*Paraparaptila fragilis* (Walsingham) - LACM

*Oidaematophorus epileucus* Walsingham - LACM

*Oidaematophorus paranubilis* Gielis - LACM

#### **GEOMETRIDAE**

*Protitame* sp. 1 - Rindge 1976

*Itame quadrilineararia* (Packard) - SDNHM

*Itame guenearia* (Packard) - SDNHM

*Itame graphidaria* (Hulst) - SDNHM

*Itame sobriaria* Barnes & McDunnough - Rindge 1969, 1973

*Itame* spp. - Rindge 1976

*Elpiste metanemaria* Hulst - Patterson & Powell 1959

*Elpiste* spp. - Rindge 1969

*Semiothisa punctolineata* (Packard) - Rindge 1969

*Semiothisa errata* McDunnough - Rindge 1969

*Semiothisa* cf. *sublacteolata* (Hulst) - Rindge 1969

*Semiothisa pictipennata* (Hulst) - Rindge 1969

*Semiothisa californiaria* (Packard) - SDNHM

*Semiothisa colorata* Grote - Wright 1923; Rindge 1969, 1973

*Semiothisa* cf. *ocellinata* (Guenée) - SDNHM

*Semiothisa neptaria* (Guenée) - SDNHM

*Semiothisa* cf. *minuta* (Hulst) - SDNHM

*Semiothisa piccoloi* Rindge - Rindge 1969, 1976

*Semiothisa parcata* (Grossbeck) - Rindge 1969

*Semiothisa sirenata* McDunnough - Rindge 1969, 1973

*Semiothisa s-signata* (Packard) - Wright 1923

*Semiothisa cyda* (Druce) - Rindge 1969, 1973a

*Semiothisa melanderi* Sperry - Rindge 1969

*Semiothisa hypaethrata* (Grote) - Rindge 1969

*Semiothisa baegerti* Rindge - Rindge 1976

*Narraga fimetaria angelata* (Wright) - SDNHM; Wright 1923; Rindge 1973

*Hesperumia fumosaria* Comstock - Rindge 1976

*Stenoporpia pulchella coolidgearia* Dyar - Rindge 1976

*Tornos* cf. *erectarius* Grossbeck - SDNHM

*Glaucina erroraria* Dyar - Wright 1923; Rindge 1959

*Glaucina biartata* Rindge - Rindge 1959, 1973

*Glaucina epiphysaria* Dyar - Rindge 1959

*Glaucina eupetheciaria* (Grote) - Rindge 1959

- eupetheciaria osiana* (Druce) - Rindge 1969  
*Glaucina magnifica* Grossbeck - Rindge 1959  
*Glaucina semidura* Rindge - Rindge 1976  
*Glaucina ugartei* Rindge - Rindge 1973  
*Glaucina lowensis* (Cassino & Swett) - Rindge 1959, 1973  
*Glaucina anomala* Rindge - Rindge 1959, 1969  
*Synglochis perumbraria* Hulst - Rindge 1959, 1969; LACM  
*Eubarnesia ritaria* (Grossbeck) - Wright 1923  
*ritaria arida* Rindge - Rindge 1969  
*Paraglaucina hulstinoides* (Grossbeck) - Rindge 1959  
*Chesiadodes pallens* Rindge - Rindge 1973b  
*Chesiadodes daedalea* Rindge - Rindge 1969, 1973b  
*Hulstina aridata* Barnes & Benjamin - Rindge 1970  
*Hulstina grossbecki* Rindge - Rindge 1970  
*Hulstina wrightiaria* (Hulst) - Rindge 1970  
*Pterotaea crickmeri* (Sperry) - Rindge 1970, 1973a  
*Pterotaea crinigera* Rindge - SDNHM  
*Pterotaea lamiaria* (Strecker) - Rindge 1970  
*Pterotaea campestraria* McDunnough - Rindge 1970  
*Pterotaea glauca* Rindge - Rindge 1970  
*\*Pterotaea salvatierrai* Rindge - Rindge 1970, 1973a  
*Pterotaea spinigera* Rindge - Rindge 1976  
*Anacamptodes jacumbaria* (Dyar) - Rindge 1966  
*Anacamptodes pseudoherse* Rindge - Rindge 1966  
*Anacamptodes sanctissima* (Barnes & McDunnough) - Rindge 1966  
*Anavitrinelia* sp. 1 - Rindge 1969  
*Thalophaga* sp. 1 - Rindge 1986  
*Cochisea sinuaria* Branes & McDunnough - SDNHM  
*Sericosema juturnaria* (Guenée) - SDNHM  
*Drepanulatrix hulstii* (Dyar) - Patterson & Powell 1959  
*Drepanulatrix foeminarum* (Guenee) - LACM  
*Ixala klotsi* Sperry - Rindge 1969  
*Chloraspilates bicoloraria* Packard - Rindge 1969  
*Syrrhodia decrepitaria* (Hübner) - Rindge 1969  
*\*Pterospora kinoi* Rindge - Rindge 1973a  
*Stergamataea delicata dolliata* Grossbeck - Rindge 1968  
*Pero meskaria* (Packard) - Poole 1987  
*Pero radiosaria* (Hulst) - Poole 1987  
*Pero inviolata* (Hulst) - Rindge 1973  
*Pero melissa* (Druce) - Rindge 1969  
*Pero flavisaria* (Grossbeck) - SDNHM  
*Thyrinteina arnobia tephra* Rindge - Rindge 1969; LACM  
*arnobia phala* Rindge - SDNHM  
*Aethaloida packardaria* (Hulst) - SDNHM  
*Hemimorina angulsa* Rindge - Rindge 1976  
*Parexcelsa ultraria* Pearsall - SDNHM  
*Animomyia morta* Dyar - Rindge 1974  
*Sphacelodes vulneraria* (Hübner) - SDNHM  
*Philtraea elegantaria* (Edwards) - SDNHM  
*Philtraea mexicana* Buckett - Buckett 1971  
*Neoterpes edwardsata* (Packard) - Patterson & Powell 1959  
*Anacamptodes cerasta* Rindge - Rindge 1969  
*Anacamptodes fragilaria* (Grossbeck) - Rindge 1966  
*Acacamptodes jucubaria* (Dyar) - LACM  
*Nepytia lagunata* Cassino & Swett - SDNHM  
*Sicya morsicaria* (Hulst) - SDNHM  
*Plataea calcaria* (Pearsall) - Rindge 1976  
*Plataea californiaria* Herrich-Schäffer - SDNHM  
*Plataea diva* Hulst - Rindge 1976  
*Plataea personaria* (Edwards) - Rindge 1976  
*Plataea ursaria* Cassino & Swett - Patterson & Powell 1959; Rindge 1976  
*Somatolopha desolata* Rindge - Rindge 1980  
*Somatolopha simplicia* (Barnes & McDunnough) - Rindge 1980  
*Pherne subpunctata* (Hulst) - Patterson & Powell 1959  
*Synaxis cf. fuscata* Hulst - SDNHM

- Synaxis cf. hirsutaria* (Barnes & McDunnough) - SDNHM  
*Dichordaria illustraria* (Hulst) - LACM  
*Nemoria unitaria* (Packard) - SDNHM  
*Synchlora frondaria* Guenée - SDNHM  
*Chlorochlamys* sp. 1 - Wright 1923  
*Chlorochlamys appellaria* Pearsall - Patterson & Powell 1959  
*Idea basinta* (Schaus) - SDNHM  
*Idea gemmata* (Packard) - SDNHM  
*Idea* sp. 1 - Wright 1923  
*Pigia multilineata* Hulst - SDNHM  
*Cyclophora nanaria* (Walker) - Wright 1923; Patterson & Powell 1959  
*Scopula cf. limboundata* (Haworth) - SDNHM  
*Hydriomena nubilofasciata* (Packard) - SDNHM  
*Hydriomena* sp. 1 - SDNHM  
*Archirhoe neomexicana* (Hulst) - SDNHM; LACM  
*Perizoma cf. epictata* Barnes & McDunnough - SDNHM  
*Perizoma custodiana* (Guenée) - Wright 1923  
*Stamnodes albiapicata* Grossbeck - SDNHM  
*Stannoctenis similis* (Wright) - SDNHM  
*Zenophleps lignicolorata* (Packard) - SDNHM  
*Eubaphe unicolor* (Robinson) - SDNHM; LACM  
*Eupithecia appendiculata* McDunnough - Patterson & Powell 1959  
*Eupithecia palmata* C. & S. - LACM  
*Eupithecia segregata* Pearson - LACM  
*Lithostege angelicata* Dyar - Patterson & Powell 1959  
*Nasusina inferior* (Hulst) - Patterson & Powell 1959  
*Prorella ochrocarneata* McDunnough - SDNHM  
*Prophasiane* sp. 1 - Rindge 1969
- LASIOCAMPIDAE**  
*Tolype glenwoodii* Barnes - SDNHM  
*Gloveria gargamelle* (Strecker) - SDNHM
- SATURNIIDAE**  
\**Syssphinx digueti* (Bouvier) - Rindge 1966;
- Lemaire 1988  
*Coloradia pandora* Blake - LACM  
*Coloradia doris* Barnes - LACM  
\**Hemileuca peninsularis* Lemaire - Lemaire 1893; SDNHM; LACM; UCB  
*Hemileuca electra electra* Wright - Tuskes & McElfresh 1995  
\* *electra rubra* Tuskes & McElfresh 1995  
\**Hemileuca sororia* (Boisduval) - Rindge 1966; Beutelspacher 1988  
*Saturnia walterorum* Hogue & Johnson - Wolfe & Valverde 1986  
*Saturnia albofasciata* (Johnson) - Wells 1991  
\**Agapema galbina pelora* (Rindge) - Rindge 1966; Lemaire 1978  
*Rothschildia cincta cincta* (Tepper) - Lemaire 1978  
*Eupackardia calleta* (Westwood) - Rindge 1966  
*Hyalophora euryalus euryalus* (Boisduval) - Lemaire 1978; Smith & Wells 1993  
\**Hyalophora euryalus cedrosensis* Cockerell - Smith & Wells 1993
- SPHINGIDAE**  
*Agrius cingulatus* (Fabricius) - Brown & Donahue 1989  
*Manduca sexta* (Linnaeus) - Brown & Donahue 1989  
*Manduca quinquemaculata* - Brown & Donahue 1989  
*Manduca rustica rustica* (Fabricius) - Brown & Donahue 1989  
\**Manduca rustica cortesi* (Cary) - Brown & Donahue 1989  
\**Sphinx xantus* Cary - Brown & Donahue 1989  
*Sphinx chersis* Hübner - Brown & Donahue 1989  
*Sphinx libocedrus* Edwards - Brown & Donahue 1989  
*Sphinx perelegans* Edwards - Brown & Donahue 1989  
*Sphinx sequoiae engelhardti* Clark - Brown & Donahue 1989

*Smerinthus cerisyi* Kirby - Brown & Donahue 1989

*Pachysphinx occidentalis occidentalis* (Edwards) - Brown & Donahue 1989

\**Pachysphinx occidentalis peninsularis* Cary - Brown & Donahue 1989

*Erinnyis ello* (Linnaeus) - Brown & Donahue 1989

*Erinnyis crameri* (Schaus) - Brown & Donahue 1989

*Erinnyis obscura* (Fabricius) - Brown & Donahue 1989

*Pachylia syces* (Hübner) - Brown & Donahue 1989

\**Callionima falcifera guaycura* (Cary) - Brown & Donahue 1989

*Aellopos clavipes* (Rothschild & Jordan) - Brown & Donahue 1989

*Hemaris diffinis* (Boisduval) - Brown & Donahue 1989

*Eumorpha satellitia* (Linnaeus) - Brown & Donahue 1989

*Eumorpha achemon* (Drury) - Brown & Donahue 1989

*Eumorpha vitis* (Linnaeus) - Brown & Donahue 1989

*Eumorpha fasciata* (Sulzer) - Brown & Donahue 1989

*Euproserpinus phaeton* (Grote & Robinson) - Brown & Donahue 1989

*Xylophanes tersa* (Linnaeus) - Brown & Donahue 1989

*Xylophanes pluto* (Fabricius) - Brown & Donahue 1989

*Hyles lineata* (Fabricius) - Brown & Donahue 1989

#### NOTODONTIDAE

*Clostera apicalis* (Walker) - SDNHM

*Datana* sp. 1 - SDNHM

*Furcula cinerea* (Walker) - SDNHM

*Furcula scolopendrina* (Boisduval) - SDNHM

*Cargida pyrrha* (Druce) - SDNHM

*Litodonta wymola* (Barnes) - SDNHM

*Ursia noctuiformis* Barnes & McDunnough - SDNHM

#### DOIDAE

*Doa dora* Neumoegen & Dyar - Brown 1990; SDNHM; LACM

*Leuculodes lacteolaria* (Hulst) - LACM

#### ARCTIIDAE

*Dysschema howardi* (Edwards) - LACM; SDNHM; Donahue (unpubl.)

*Crambidia lithosoides* Dyar - SDNHM; Donahue (unpubl.)

*Crambidia dusca* Barnes & McDunnough - SDNHM

*Crambidia* sp. 1 - Donahue (unpubl.)

*Cisthene liberomacula* (Dyar) - Donahue (unpubl.)

*Cisthene perrosea* (Dyar) - SDNHM; Donahue (unpubl.)

*Cisthene angelus* (Dyar) - Donahue (unpubl.)

*Cisthene* sp. 1 - SDNHM; Donahue (unpubl.)

*Cisthene* sp. 2 - Donahue (unpubl.)

*Cisthene* sp. 3 - Donahue (unpubl.)

*Lycomorpha regulus* (Grinnell) - Donahue (unpubl.)

*Bruceia hubbardi* (Dyar) - SDNHM; Donahue (unpubl.)

*Utethesia* sp. 1 - SDNHM, Donahue (unpubl.)

*Leptarctia californiae* (Walker) - SDNHM

*Etigmene acrea* (Drury) - SDNHM; Donahue (unpubl.)

*Spilosoma vestalis* Packard - Donahue (unpubl.)

*Ecpantheria oslari* Roths - Donahue (unpubl.)

*Arachnis picta* Packard - SDNHM; Donahue (unpubl.)

*Apantesis hewletti* Barnes & McDunnough - LACM; Donahue (unpubl.)

*Apantesis proxima* (Guerin-Menetries) - SDNHM; Donahue (unpubl.)

*Hypocrisias minima* (Neumoegen) - Donahue (unpubl.)

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- Lophocampa* sp. 1 - SDNHM  
*Amelia ambigua* (Strecker) - LACM  
*Pseudohemihyalea edwardsi* (Packard) - Donahue (unpubl.)  
*Pareuchaetes insulata* (Walker) - SDNHM; Donahue (unpubl.)  
*Euchaetes antica* (Walker) - SDNHM; Donahue (unpubl.)  
*Euchaetes castalla* (Barnes & McDunnough) - Donahue (unpubl.)  
*Euchaetes fusca* (Rothschild) - Donahue (unpubl.)  
*Euchaetes perlevis* Grote - Donahue (unpubl.)  
*Euchaetes zella* (Dyar) - SDNHM; Donahue (unpubl.)  
*Ectypia clio* (Packard) - Donahue (unpubl.)  
*Pygarctia murina* (Stretch) - Donahue (unpubl.)  
*Stenucha dolens* (Druce) - SDNHM; Donahue (unpubl.)  
*Ctenucha brunnea* Stretch - SDNHM  
*Eucereon myrina* Druce - SDNHM; Donahue (unpubl.)  
*Syntomeida hamptonii* Barnes - Donahue (unpubl.)  
*Syntomeida melanthus* (Cramer) - Donahue (unpubl.)  
*Horama panthalon texana* (Grote) - SDNHM; Donahue (unpubl.)
- NOCTUIDAE**  
*Macristis bilinealis* (Barnes & McDunnough) - SDNHM  
*Dasyblemma straminea* Dyar - SDNHM  
*Phobolusia anfracta* (Edwards) - SDNHM  
*Hemeroplanis habitalis* (Walker) - SDNHM  
*Hemeroplanis finitima* (Smith) - SDNHM  
*Hemeroplanis incusalis* (Grote) - SDNHM  
\**Hypsoropha baja* McCabe - SDNHM; McCabe 1992  
\**Litoprosopus bajaensis* Brown & Faulkner - Brown & Faulkner 1997; SDNHM  
*Diphthera festiva* (Fabricius) - SDNHM; LACM  
*Euanotia semirufa* Barnes & McDunnough - SDNHM  
*Euanotia clarki* Barnes & McDunnough - SDNHM  
*Melipotis perpendicularis* (Guenée) - SDNHM; LACM  
*Melipotis indomita* (Walker) - SDNHM  
*Melipotis cellaris* (Guenée) - LACM  
*Melipotis famelica* (Guenée) - SDNHM; LACM  
*Melipotis jucunda* Hübner - SDNHM; LACM  
*Melipotis agrotoides* (Walker) - SDNHM  
*Melipotis novanda* (Guenée) - SDNHM; LACM  
*Melipotis acontoides* (Guenée) - SDNHM; LACM  
*Panula inconstans* (Guenée) - SDNHM  
*Forbesia perlaeta* (Edwards) - SDNHM  
*Bulia deducta* (Morrison) - Pogue & Laughlin 2002  
*Bulia similis* Richards - Pogue & Laughlin 2002  
*Synedoida scrupulosa* Edwards - Patterson & Powell 1959  
*Synedoida edwardsi* (Behr) - SDNHM  
*Synedoida pallescens* (Grote & Robinson) - SDNHM; LACM  
*Synedoida fumosa brunneifasciata* (Barnes & McDunnough) - LACM  
*Synedoida divergens* (Behr) - LACM  
*Synedoida pulchra* (Barnes & McDunnough) - SDNHM  
*Synedoida tejonica* (Behr) - SDNHM; LACM  
*Hypocala andremona* (Cramer) - SDNHM; LACM  
*Ascalapha odorata* (Linnaeus) - SDNHM; LACM  
*Lesmone griseipennis* (Grote) - LACM  
*Helia agna* (Druce) - SDNHM  
*Selenisa* sp. 1 - LACM  
*Heteranassa mima* (Harvey) - SDNHM; LACM  
*Heteranassa fraterna* (Smith) - SDNHM; LACM  
*Metria amella* (Guenée) - LACM  
*Toxonprucha volucris* (Grote) - SDNHM  
*Toxonprucha crudelis* (Grote) - SDNHM  
*Toxonprucha clientis* (Grote) - SDNHM; LACM

- Zaleops umbrina* (Grote) - LACM  
*Matigramma rubrosuffusa* Grote - SDNHM  
*Focillidia texana* Hampson - SDNHM  
*Caenurgia togataria* (Walker) - SDNHM  
*Mocis marcida* (Guenée) - SDNHM  
*Catocala arizonae* (Grote) - LACM  
*Trichoplusia ni* (Hübner) - SDNHM; LACM  
*Autographa biloba* (Stephens) - SDNHM; LACM  
*Autographa californica* (Speyer) - SDNHM  
*Abrostola parvula* Branes & McD. - Lafontaine & Poole 1991  
*Paectes declinata* (Grote) - SDNHM  
*Eutelina furcata* (Walker) - SDNHM  
*Characoma nilotica* (Rogenhofer) - SDNHM  
*Tripudia balteata* Smith - SDNHM  
*Tripudia flavofasciata* Grote - SDNHM  
*Tripudia limbata* (Edwards) - SDNHM  
*Cobubatha orthozona* (Hampson) - SDNHM  
*Cobubatha dividua* (Grote) - SDNHM  
*Cobubatha albiciliata* (Smith) - SDNHM  
*Ozarba aeria* (Grote) - SDNHM  
*Aleptina inca* Dyar - SDNHM  
*Metaponpneumata rogenhoferi* Moeschler - Cordero et al. 2000  
*Tarachidia semiflava* (Guenée) - SDNHM  
*Tarachidia venustula* (Walker) - SDNHM  
*Tarachidia candefacta* (Hübner) - SDNHM  
*Tarachidia cuta* (Smith) - SDNHM  
*Fruva hutsoni* (Smith) - SDNHM  
*Conochares acutus* Smith - SDNHM  
*Conochares arizonae* (Edwards) - SDNHM  
*Ponometia megocula* (Smith) - SDNHM  
*Acontia bella* (Barnes & Benjamin) - SDNHM  
*Acontia lucasi* Smith - SDNHM  
*Acontia expolita* (Grote) - SDNHM  
*Acontia arida* Smith - SDNHM  
*Acontia major* Smith - SDNHM  
*Acontia disconnecta* Smith - SDNHM  
*Acontia areli* Strecker - SDNHM  
*Acontia cretata* (Grote & Robinson) - SDNHM  
*Bagisara buxea* (Grote) - SDNHM  
*Cryphia viridata* (Harvey) - SDNHM; LACM  
*Xerociris wilsonii* (Grote) - LACM  
*Euscirrhopterus cosyra* (Druce) - LACM  
*Euscirrhopterus poeyi* Grote - LACM  
*Alypiodes geronimo* (Barnes) - LACM  
*Alypia ridingsii* Grote - SDNHM  
*Oligia marina* (Grite) - LACM  
*Xylomoia* sp. 1 - SDNHM  
*Aseptis catalina* (Smith) - SDNHM; LACM  
*Aseptis perfumosa* (Hampson) - SDNHM; Patterson & Powell 1959  
*Aseptis ethnica* (Smith) - SDNHM  
*Aseptis monica* (Barnes & McDunnough) - SDNHM  
*Andropolia aedon* (Grote) - SDNHM  
*Properigea perolivalis* (Barnes & McDunnough) - SDNHM  
*Pseudanarta crocea* (Edwards) - SDNHM  
*Magusa orbifera* (Walker) - SDNHM  
*Protoperigea anotha* (Dyar) - SDNHM  
*Micrathetis costiplaga* (Smith) - SDNHM  
*Spodoptera exigua* (Hübner) - SDNHM  
*Spodoptera ornithogalii* (Guenée) - SDNHM  
*Spodoptera latifascia* (Walker) - SDNHM  
*Spodoptera eridania* (Cramer) - SDNHM  
\**Plagiomimicus bajae* Hogue - Hogue 1963  
*Polenta tepperi* (Morrison) - SDNHM  
*Hoplolythra discistriga* (Smith) - SDNHM; LACM  
*Chalcopasta koebelei* (Riley) - SDNHM  
*Stiria dyari* Hill - SDNHM  
*Oslaria viridifera* (Grote) - SDNHM  
*Nocloa rivulosa* Smith - SDNHM  
*Nocloa pallens* (Tepper) - SDNHM  
*Cosmia calami* (Harvey) - SDNHM  
*Ptothrinax luteomedia* (Smith) - SDNHM  
*Walterella ocellata* (Barnes & McDunnough) - SDNHM  
*Escaria clauda pallens* Branes & Benjamin - SDNHM; Barnes & Benjamin 1923  
*Podagra crassipes* Smith - SDNHM  
*Axenus arvalis* Grote - SDNHM  
*Oxycnemis fusimacula* Smith - SDNHM  
*Oncoctenemis occata* (Grote) - SDNHM; LACM

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<i>Oncocnemis primula</i> Barnes & Benjamin - SDNHM	LACM
<i>Oncocnemis bakeri</i> Dyar - SDNHM	<i>Copablepharon album</i> (Harvey) - SDNHM
<i>Oncocnemis ragani</i> Barnes - SDNHM	<i>Copablepharon sanctamonicae</i> Dyar - LACM
<i>Oncocnemis singularis</i> Barnes & McDunnough - LACM	<i>Euxoa septentrionalis</i> (Walker) - SDNHM
<i>Lepipolys perscripta</i> Guenée - SDNHM	<i>Euxoa olivia</i> (Morrison) - SDNHM
<i>Stylopoda cephalica</i> Smith - SDNHM	<i>Euxoa serricornis</i> (Smith) - SDNHM
<i>Triocnemis saporis</i> Grote - SDNHM; LACM	<i>Euxoa leuschneri</i> Lafontaine - LACM
<i>Crimona pallimedia</i> Smith - LACM	<i>Euxoa albipennis</i> (Grote) - LACM
<i>Copicullia eulepis</i> (Grote) - SDNHM	<i>Euxoa dodi</i> McDunnough - SDNHM
<i>Copicullia heinrichi</i> Barnes & Benjamin - SDNHM	<i>Hemieuxoa rudens</i> (Harvey) - SDNHM
<i>Trichocosmia inornata</i> Grote - SDNHM	<i>Euxoa</i> sp. 1 ( <i>infausta</i> group) - LACM
<i>Trichocosmia drasteroides</i> (Smith) - SDNHM	<i>Euxoa</i> sp. 2 - SDNHM
<i>Discestra chartaria</i> (Grote) - SDNHM	<i>Peridroma saucia</i> (Hübner) - SDNHM; LACM
<i>Scotogramma ptilodonta</i> (Grote) - SDNHM	<i>Emarginea percara</i> (Morrison) - LACM
<i>Scotogramma megaera</i> Smith - SDNHM	<i>Spaelotis havilae</i> (Grote) - Patterson & Powell 1959; SDNHM
<i>Scotogramma gatei</i> (Smith) - SDNHM	<i>Heliothodes diminutivus</i> (Grote) - SDNHM
<i>Tridepia nova</i> (Smith) - SDNHM	<i>Helicoverpa zea</i> (Boddie) - SDNHM
<i>Trichoclea decepta</i> Grote - SDNHM	<i>Heliothis virescens</i> (Fabricius) - SDNHM
<i>Mamestra nipana</i> (Smith) - SDNHM	<i>Heliothis toralis</i> (Grote) - SDNHM
<i>Melanchra adjuncta</i> (Guenée) - SDNHM	<i>Schinia sueta</i> (Grote) - SDNHM; LACM
<i>Melanchra</i> sp. 1 - SDNHM	<i>Schinia tertia megarena</i> Smith - LACM
<i>Lacinipolia davena</i> (Smith) - SDNHM	<i>Schinia scarletina</i> (Smith) - Patterson & Powell 1959
<i>Lacinipolia vicina</i> (Grote) - LACM	<i>Schinia pulchripennis</i> (Grote) - SDNHM
<i>Lacinipolia strigicollis</i> (Wallgren) - SDNHM	<i>Schinia cupes</i> (Grote) - SDNHM; LACM
<i>Trichocerapoda comstocki</i> Benjamin - SDNHM	<i>Schinia lucens</i> (Morrison) - Patterson & Powell 1959
<i>Tirchocerapoda oblita</i> (Grote) - SDNHM	<i>Schinia separata</i> (Grote) - SDNHM; LACM
<i>Ulolonche disticha</i> (Morrison) - SDNHM	<i>Schinia oculata</i> Smith - SDNHM
<i>Agrotis vetusta</i> Walker - SDNHM	<i>Schinia luxa</i> (Grote) - SDNHM
<i>Agrotis volubilis</i> Harvey - SDNHM	<i>Heliolonche pictipennis</i> (Grote) - SDNHM; LACM
<i>Agrotis ipsilon</i> (Hufnagel) - SDNHM	<i>Grotella</i> cf. <i>tricolor</i> Barnes - SDNHM
<i>Copablepharon contrastum</i> McDunnough -	