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NEWS OF THE LEPIDOPTERISTS' SOCIETY

Volume 42, Number 1 Spring 2000

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NEWS OF THE LEPIDOPTERISTS' SOCIETY

Volume 42, No. 1 Spring 2000

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Cover: 1999 Photo Contest Best in Show: *Papilio oregonius* by Leroy Simon.

The Lepidopterists' Society is a non-profit educational and scientific organization. The object of the Society, which was formed in May 1947 and formally constituted in December 1950, is "to promote internationally the science of lepidopterology in all its branches; to further the scientifically sound and progressive study of Lepidoptera, to issue periodicals and other publications on Lepidoptera; to facilitate the exchange of specimens and ideas by both the professional worker and the amateur in the field; to compile and distribute information to other organizations and individuals for purposes of education and conservation and appreciation of Lepidoptera; and to secure cooperation in all measures" directed towards these aims. (Article II, Constitution of The Lepidopterists' Society.)

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New Records of Lepidoptera from Texas and the USA, and Illustrations of Other Interesting Species

Charles Bordelon Jr. & Ed Knudson

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The following pages document 29 taxa which are new Texas records, of which 16 are previously unreported (except in the Lepid. Soc. Season Summary) from the USA. The remainder are species that have not been previously illustrated in color, or are not widely known from Texas. Many of these taxa do not appear in the Hodges et. al., 1983 Check List and a few others that do appear were included on the basis of museum specimens, which we include here, when known. All of the taxa included here also appear in Bordelon & Knudson, 1998, Knudson & Bordelon, 1999, 2000. Texas Lepidoptera Survey (Pubs. 1-6), Houston, (privately published).

As of this writing, there are about 4800 described species of Lepidoptera known from Texas and many more that are undescribed or unidentified in various collections. This paper does not exhaust the list of new Texas or US records, many of which are rather small, obscure species, unsuitable for illustration. We have chosen to include a few species here, which are still tentatively identified; clearly stated in the text; in the hope that the illustrations may aid in a more conclusive determination.

Zygaenidae

Neoprocris prunivora Tarmann. (Pl. 2, fig. 1): This, and the next species, were described by Tarmann, 1984, mainly from material collected by R. O. & C. A. Kendall. Unfortunately, the types were subsequently destroyed in a flood in Vienna. They have not been illustrated in any American publication as yet. The adults are diurnal and superficially resemble the common eastern moth, *Urodus parvula*. The specimen shown in fig. 1 was collected in Brewster Co., TX., 10 miles S. of Alpine, 4-VII-77 (Knudson). Bordelon & Knudson collected several adults in Green Gulch, Big Bend Natl. Pk., 6-V-97. The moths were found about noon, resting on grass blades.

Neoilliberis kendalli Tarmann. (Pl.2, fig. 2): The specimen shown is from Marion, Guadalupe Co., TX, 15-IV-99; where about 20 specimens were collected by the authors, nectaring on *Phacelia* (Hydrophyllaceae). The smoky wings lack the metallic sheen of the preceding species.

Limacodidae

Paleophobetron perornata (Dyar). (Pl.2, fig. 3): This species was collected in Cameron Co., Brownsville, 8-V-67, by Andre Blanchard, and identified by Dr. Franclemont. The illustrated example is from Hidalgo Co., TX, Santa Ana NWR, 4-V-84, collected by Paul Tuskes and given to Knudson. We know of no other records from Texas. Formerly in the genus *Epiperola*.

Pyralidae

Maracayia chlorisalis (Wlk.) (Pl. 2, fig. 5): Rarely collected in extreme S. TX., not previously illustrated. The specimen shown is from the Audubon Sabal Palm Sanctuary, Cameron Co., TX, 20-IV-98.

Diaphania elegans (Moschler). (Pl. 2, fig. 4): This species resembles several other Texas species of *Diaphania*, but can be distinguished by the yellow streak along the inner margin of the FW and by the black discal dot on the HW. The data on the specimen shown is: Hidalgo Co., TX., Santa Ana NWR, 18-XI-84 (Knudson). Knudson also has collected it in Culberson Co., TX., Guadalupe Mts. Nat. Park, 8-IX-91. The specimen shown was identified by E. G. Munroe.

La cerveza B. Landry. (Pl. 2, fig. 6): This crambine was recently described by Landry in a monograph on the Crambinae. It is known only from Big Bend Nat. Park., TX, the specimen figured is from Green Gulch, 8-IX-91 (Knudson). We show it partly because of its curiously appropriate name and the fact that many may not be aware of this fine 1995 book by Bernard Landry.

Geometridae

Phrygionis privignaria (Guenee). (Pl. 2, fig. 7): There are two records of this species from TX, and the USA, the first by Andre Blanchard, Brown Co., TX., Lake Brownwood St. Pk., 15-X-65; the second (shown), by Charles Ely, Nacogdoches Co., Nacogdoches, 12-VII-93. Determination by Dr. Rindge.

Arctiidae

Phaloesia saucia Wlk. (Pl. 1, figs. 15a (male); 15b (female)): This diurnal species was first reported and illustrated from Texas and the US by Roy Kendall, 1970. It was seldom seen again, until the late 1990s, when the authors found them in Cameron and Hidalgo counties. In Santa Maria National Wildlife Refuge, Cameron Co., TX, they were quite abundant on 15,16-IV-1999 (specimens shown). The male is a fairly rapid flier, often seen across open terrain and in the canopy; while the female tends to fly slower and lower, usually in dense forest. One male, from the Audubon Sabal Palm Sanctuary, was collected on blossoms of *Acacia wrighti*, on 21-IV-97, by Bordelon.

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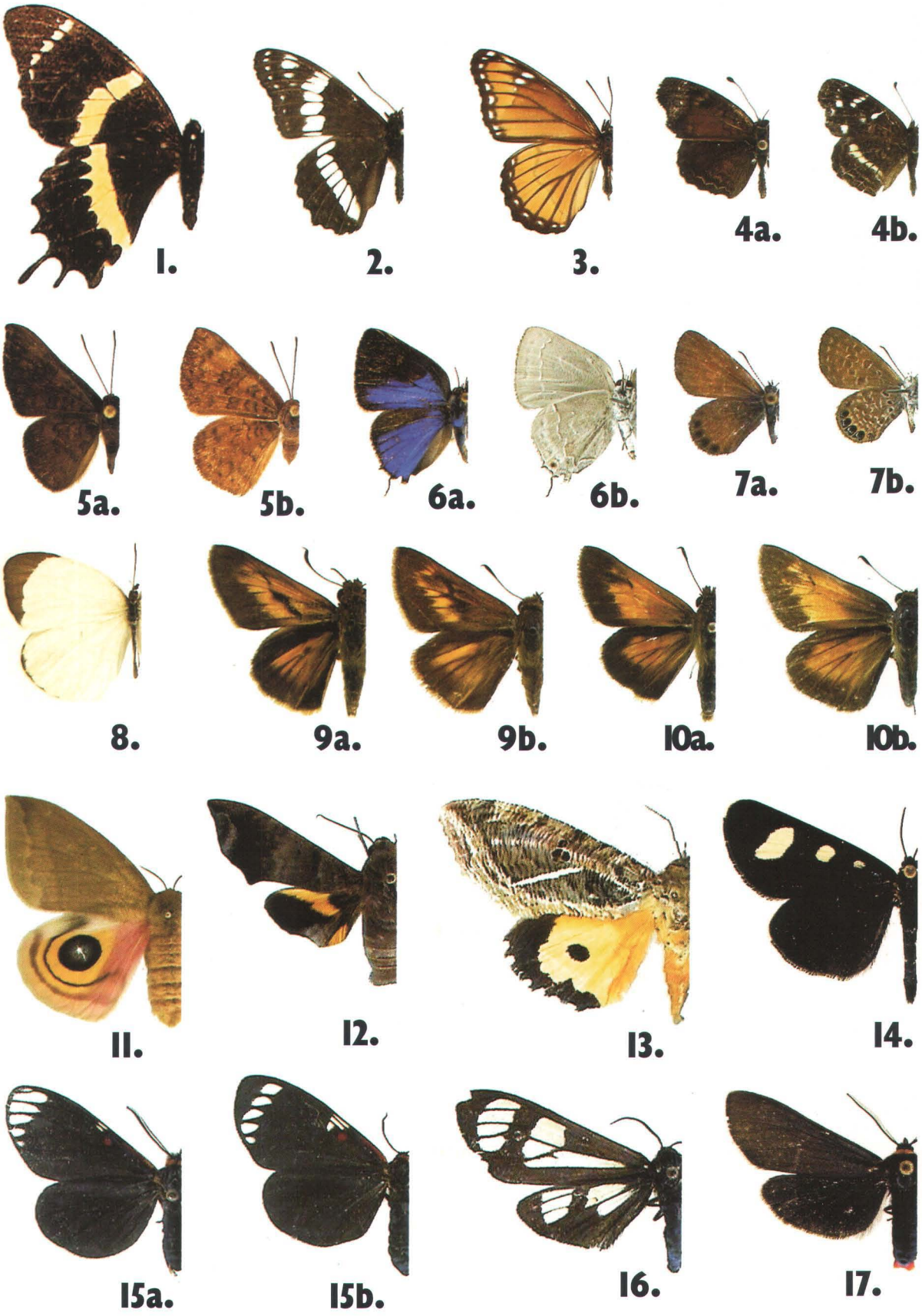
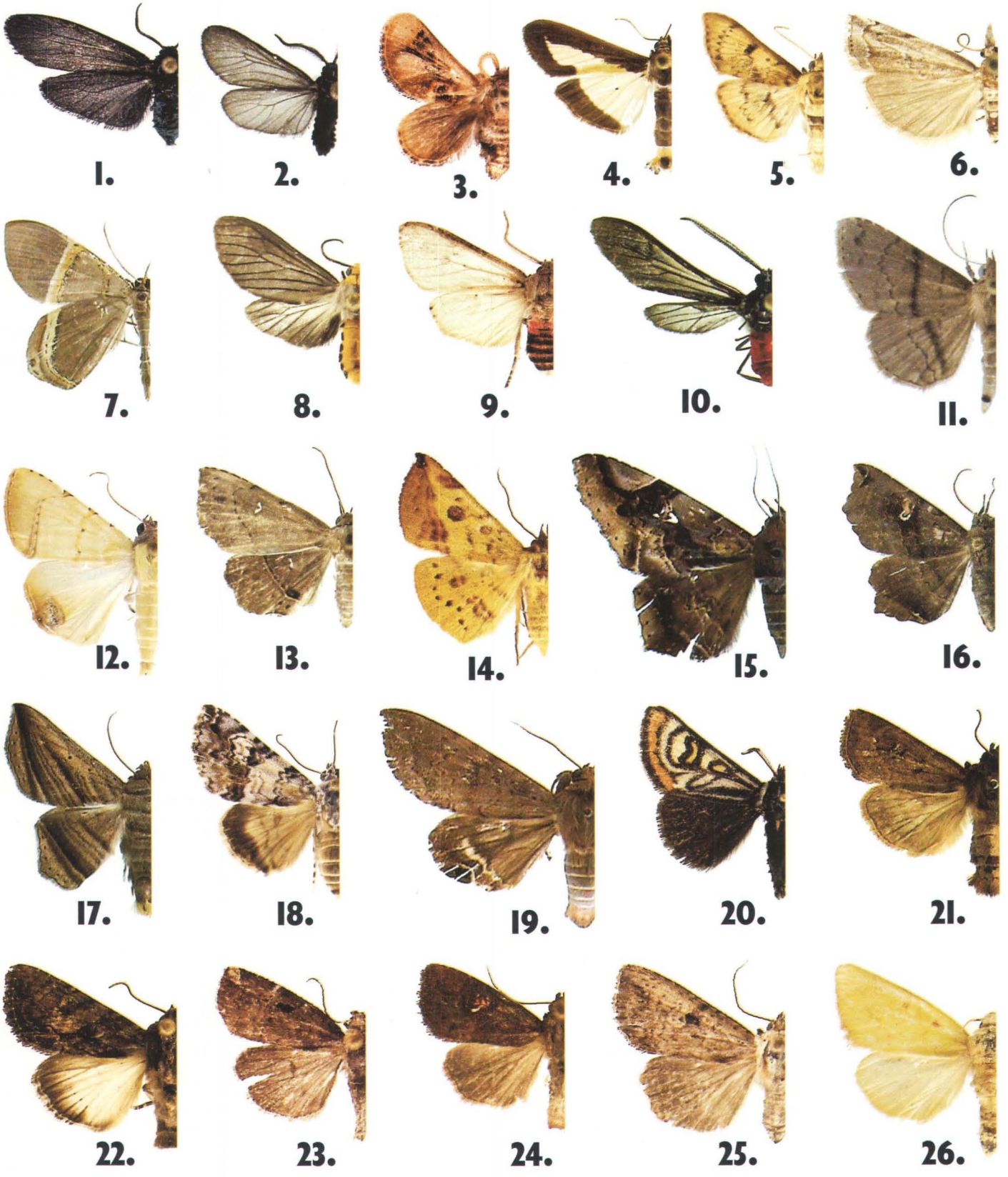
Bordelon & Knudson: New Records of Texas Lepidoptera Plate I



Bordelon & Knudson: New Records of Texas Lepidoptera Plate 2



Texas...*continued from pp. 3*

Gnophaela aequinoctialis (Wlk.) (Pl. 1, fig. 16): This diurnal species was first recorded from the USA by Kendall, 1974, based on a specimen collected by W. W. McGuire in New Braunfels, Comal Co., TX on 9-IV-72. The illustrated example was collected by J. F. Doyle III in Uvalde Co., TX, 13 mi. north of Concan, along US 83, on 4-IV-82.

Pygoctenucha pyrrhoura (Hulst) (Pl. 1, fig. 17) The specimen shown was collected in Dog Canyon, Guadalupe Mts. National Park, Culberson Co., TX, on 28-VI-92, by Knudson. Although mainly diurnal, the species may come to lights, as it was found beneath a black-light in the early morning. This species, which was described from New Mexico, differs from *P. terminalis* (Wlk.), by the whitish fringes on the wings.

Biturix venosata Wlk. (Pl. 2, fig. 8): This small arctiid was first found in Texas (and the USA), at the Audubon Sabal Palm Sanctuary, 9-IX-97, where two males were found at black-light. It was also found later that year by Don Bowman, at the same location. It has persisted, and has been found in small numbers in 1998 and 1999 at the same place. The illustrated specimen was collected on 17-X-98, by Knudson, resting near a cocoon on *Randia rhagocarpa*. However, we have not been able to find any other evidence of immature stages. It was most recently collected on 6-XI-99 at the above locality, by Bordelon. The specimens were determined by Julian Donahue and Doug Ferguson.

Purius superpulverea (Dyar). (Pl. 2, fig. 9): This specimen was collected at Yturria NWR, Hidalgo Co., TX, on 8-III-99, in a light trap, by Knudson. The forewings had lost most of the dark scaling, which is characteristic of the species. The tentative determination is by Julian Donahue, and it will, when confirmed, represent a new US record. The genus was formerly *Spodarctia* but placed in *Purius* in Watson & Goodger, 1986.

Apeplopoda mecrida (Druce) (Pl. 2, fig. 10): This specimen, which is a new Texas record, was collected at Salineno, Starr Co., TX., on 14-XI-98, by Bordelon, while nectaring on *Eupatorium odoratum*. It was first reported from the US by Donahue, 1993 (from Arizona).

Saturniidae

Automeris louisiana Fgn. & Brou (Pl. 1, fig. 11): This species was first discovered in Texas by Mike Rickard, who found a late instar larva on *Scirpus* sp., at Sabine Pass, Jefferson Co., TX, in April 1994. The larva was successfully reared to the adult female (shown), which emerged on 8-V-94; by Bordelon. Subsequently, the moths were collected by both authors at light in Sabine Pass and McFaddin NWR. As in Louisiana, this species appears to be restricted to coastal salt marsh. Jeff Slotten of Gainesville, FL, has succeeded in crossing *A. louisiana* with *A. io* (*lilith*) in the lab, producing intermediate forms. It is not yet known whether these are fertile. *(Note: see pp. 12 in this issue of the* ***News*** *for Jeff Slotten's report on this cross – Ed.).*

Sphingidae

Perigonia lusca (F.) (Pl. 1, fig. 12): This specimen was collected near Falcon State Park, Zapata Co., TX, on 7-V-94, by Don Bowman. This is the first known capture of this sphingid in Texas.

Noctuidae

Carteris lineata Druce (Pl. 2, fig. 11): The illustrated specimen was collected at Santa Ana NWR, Hidalgo Co., TX, 16-XI-84, by Knudson. It was determined by Robert Poole, and is new for the US.

Eulepidotis micca (Druce) (Pl. 2, fig. 12): This species was recorded from San Benito, TX, many years ago, and more recently collected at N. Padre Isl., Nueces Co., TX, 10-VI-78, by James Gillaspy. The male specimen shown was collected by Knudson at the Audubon Sabal Palm Sanctuary, on 16-IV-99.

Remodes curviluna Druce (Pl. 2, fig. 13): The single known US record is from Bentsen State Park, Hidalgo Co., TX, collected by Knudson on 20-X-84. It was determined by Poole.

Epitausa coppryi (Gn.) (Pl. 2, fig. 14): The only known US record (shown), is a female specimen, collected by Knudson at Roma, Starr Co., TX, on 23-X-95. The determination was confirmed by Ferguson.

Euclystis guerini (Gn.) (Pl. 2, fig. 15): The illustrated specimen was collected by Gillaspy in the Brackenridge Field Lab, Univ. of Texas, Austin, Travis Co., TX, on 30-VII-92. A related species, *E. sytis* (Gn.) , was collected in Cameron Co., TX, 30-VI-64, by Perry Glick. *Euclystis sytis* is similar in size and wing shape, but is an obscurely marked dark brown moth. Glick probably collected both species in the Brownsville area.

Euclystis insana (Gn.) (Pl. 2, fig. 16): This specimen was collected by Knudson in a bait trap at Fronton, Starr Co., TX, on 23-X-95. The determination is tentative (Ferguson, Leuschner), as this is either a highly variable species, or species complex. In either case, it is new for the USA.

Itomia opisthographa (Gn.) (Pl. 2, fig. 17): This species was collected in moderate numbers in Cameron Co., TX, by the authors at Audubon Sabal Palm Sanctuary, 4,5-XII-94, 10,11-X-96 (shown), 16-XI-98, and at Santa Maria NWR, 13-VII-99, by both authors. Most specimens were collected at fermenting baits. It was previously not known to occur north of Mexico, but now seems fairly well established in extreme south Texas.

Coenipeta medina Gn. (Pl. 2, fig. 18): This specimen was collected at Fronton, Starr Co., TX, 23-X-95, at bait, by Knudson. This new US record was determined by Ferguson. A similar species *C. bibitrix* (Hbn.), is not rare in southeast Texas and also occurs in Florida. *Coenipeta bibitrix* is smaller and differs in pattern.

Litoprosopus confligens (Wlk.) (Pl. 2, fig. 19): This large species was collected at bait at the Audubon Sabal Palm Sanctuary on 5-XII-94, by Knudson, and subsequently found there on sev-

eral other occasions in 1998 and 1999, by both authors. It flies with a much smaller, grayer species of *Litoprosopus*, which is closer to *L. futilis* (G&R), but is probably an undescribed species. True *L. futilis* occurs in Florida, along the gulf coast, to Houston, TX. All utilize palms as larval hostplants, and can be damaging.

Eupseudomorpha brillians (Hy. Edw.) (Pl. 2, fig. 20): This species was originally described from Texas material, but the type locality is unclear. It occurs in Oklahoma (Chuck Harp, pers. comm.); and the illustrated specimen was collected by J. B. Lombardini at J. B. Thomas Lake nr. Snyder, Scurry Co., TX, on 20-III-97. The species is diurnal and somewhat resembles a dark skipper in flight.

Eudocima materna (L.) (Pl. 1, fig. 13): There are a few records of this tropical stray from Texas, including: Longview, Gregg Co., TX, 29-IX-76, by Bordelon, and Port Aransas, Aransas Co., TX, on 29-VI-95 (shown), by Charlie Sassine.

Alypiodes bimaculata (H-S) (Pl. 1, fig. 14): This diurnal species was collected at Guadalupe Mts. National Park, Culberson Co., TX, 10-VIII-91, by Knudson. Bordelon collected another specimen at Madera Canyon, Davis Mts., Jeff Davis Co., TX, on 10-VIII-99.

Luperina passer (Gn.) (Pl. 2, fig. 21): This well known northern species was collected in Texas for the first time at Caprock Canyons State Park, Briscoe Co., TX, 10-V-96, by Bordelon. We show it mainly for economic interest, as it is known to be a pest in some areas.

Acroria terens (Wlk.) (Pl. 2, fig. 22): This species was collected by Knudson at Audubon Sabal Palm Sanctuary, 4,5-XII-94. It has green scales in the reniform and orbicular spots. This new US record was determined tentatively by Pogue. It closely matches Dominican specimens at Texas A&M University Insect Coll., as noted by Knudson.

Elaphria devara (Druce) (Pl. 2, fig. 23): A male specimen (shown) was collected in a bait trap at Bentsen State Park on 7-XII-98; and a female specimen was collected at Audubon Sabal Palm Sanctuary on 17-IV-99, both by Knudson. It is closely similar to the eastern species *E. versicolor* (Grt.), but the males differ in the color and form of the scent scales on the underside of the forewing. Pogue confirmed this character. It is also new for the US, but should be looked for in Florida collections.

Condica pyromphalus Dyar. (Pl. 2, fig. 24): The male specimen illustrated was collected by Knudson at Audubon Sabal Palm Sanctuary on 11-X-96. Two more specimens (a pair), were collected by both authors at the same locality on 16-X-98. This new US record was tentatively determined by Pogue, who remarked that it might represent a new species.

Perigea berinda Druce (Pl. 2, fig. 25): This specimen was collected at Guadalupe Mts. National Park, Culberson Co., TX, on 10-VIII-91, by Knudson. It was determined by Poole, as a new US record.

Nocloa aliaga (Barnes) (Pl. 2, fig. 26): This Arizona species was collected in Chisos Basin, Big Bend National Park, Brewster Co., TX, on 12-VIII-99 , by Knudson.

Papilionidae

Papilio garamas abderus (Hopffer) (Pl. 1, fig. 1): The illustrated male specimen was collected nr. San Benito, Cameron Co., TX, late IX-early X, 1967 (after Hurricane Beulah), by Bryan Findley, and deposited in the collection of Jack & Betty Prentiss. It was given to Roy Kendall in 1995, who determined it, as above, and has donated the specimen to Texas A&M University. According to Kendall (pers. comm.), a host in Mexico is Avocado. Kendall also speculated that it might feed on *Persea borbonia* (Red Bay). Avocado is commercially grown on a small scale, in the lower Rio Grande Valley of Texas, so it is possible that this species might occasionally appear, and even breed temporarily, but at present, it must be considered as a hurricane waif.

Basilarchia weidemeyeri angustifascia Barnes & Benjamin (Pl.1, fig. 2): The illustrated male specimen was given to Knudson by Richard Worthington of the University of Texas at El Paso. The label bears the following data: El Paso Co., TX, 27-X-74, D. Busk. No additional data is known. Since this butterfly does occur about 50 miles north of El Paso in the Sacramento Mts. of New Mexico, it probably represents a stray in Texas, but could possibly occur in the higher elevations of the Davis or Guadalupe Mts. The specimen has been donated to Texas A&M University.

Basilarchia archippus hoffmani Cherm. (Pl. 1, fig. 3): The Mexican subspecies of the Viceroy was first collected by Bordelon at Bentsen State Park, Hidalgo Co., TX , on 7-VI-77. The specimen shown is a female; the determination confirmed by Kendall as a new US record. A male of this subspecies was collected at Harlingen, Cameron Co., TX, in Oct. 1978, by Prentiss. *B. archippus watsoni* Dosp is widespread in Texas, but not found in the lower Rio Grande Valley. The subspecies *hoffmani* mimics the Danaid, *Danaus eresimus montezuma* Talb., rather than *D. gilippus strigosus* (Bates). Another species in this genus, *Basilarchia arthemis arizonensis* (Edw.), has also recently been found in the lower Rio Grande Valley, where this species was previously unknown. A female of this subspecies was collected by Bordelon at Salineno, Starr Co., TX on 14-XI-98.

Anthanassa argentea (Godm. & Salv.). (Pl. 1, figs. 4a (male), 4b (female)): This species was reported from Texas and the USA for the first time by Chuah & Cushing, 1995, from a male collected by Ho Chuah 1.6 km. South of Penitas, Hidalgo Co., TX, 14-XI-93. According to Kendall (pers. comm.), this species was collected previously in Texas by J. Bolling Sullivan, who found a male at Relampago, Hidalgo Co., TX, on 19-III-70. This specimen, which was taken from an assassin bug, was subsequently lost. Two more females were collected by both authors at Penitas, TX on 7-XII-94. Bordelon's specimen

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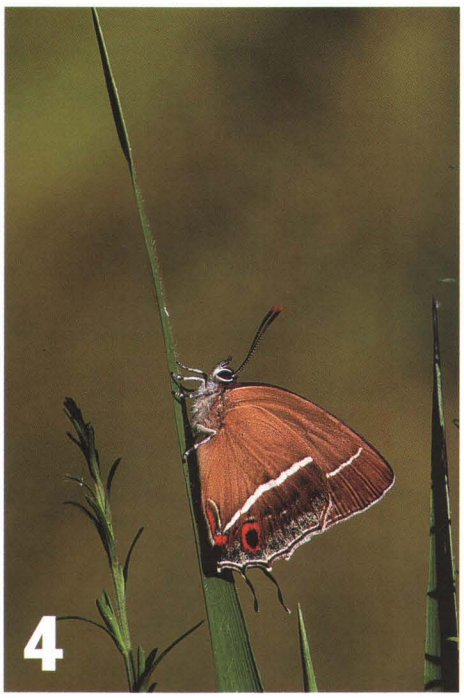

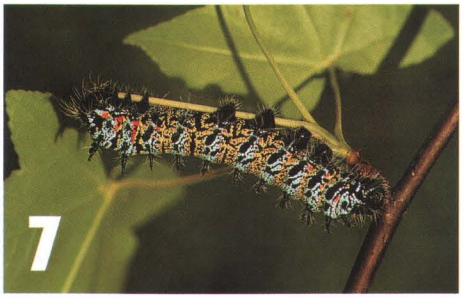

1999 Photo Contest Winners

1) First, Moths: *Adelowalkeria torresi*; **2) First, Life History:** *Anisota assimilis*; **3) Second, Life History:** *Cucullia dorsalis*; **4) First, Butterflies:** *Chryzephyrus hisamatusanus*; **5) Third, Moths:** *Hemileuca nuttalli*; **6) Second, Moths:** *Hapigia notha*; **7) Third, Life History:** *Imbrasia belina*; **8) Third, Butterflies:** *Sasakia charonda*. All photos by Leroy Simon. **Second, Butterflies:** *Polites* or *Quasimellana* sp. by Douglas Dawn, was not made available for publication. See also the **Best in Show**, *Papilio oregonius*, also by Leroy Simon, on the cover of this issue.

Committee on Scientific Names of North American Butterflies

Precis of First Meeting

[1]*John M. Burns,* [2]*Donald Lafontaine,* [3]*Paul A. Opler (Chair),* [1]*Robert K. Robbins,* [4]*Felix Sperling.*

[1]*Smithsonian Institution, Washington, D.C.,* [2]*Biosystematics Research Institute, Agriculture Canada,*
[3]*Colorado State University, Ft. Collins, Colo.,* [4]*University of Alberta, Edmonton, Canada.*

The committee met October 29, 1999 at the Department of Entomology, Smithsonian Institution, Washington, D.C. and considered a moderate agenda but also discussed protocols, species definitions, its responsibilities, communication, and future meetings.

Its decisions are summarized briefly below.

1. No evidence exists for presence of *Cephise auginulus* north of Mexico. Hence, decision on its synonymy with *Cephise aelius* was not considered.

2. John Burns presented paper by Kilian Roever that describes *Agathymus gentryi* as a new species in ***Systematics of Western North American Butterflies*** (1998) edited by T. C. Emmel. For *Agathymus gentryi*, the decision revolved around the amount of difference between *gentryi* and *baueri* being equivalent to that between sympatric species of skippers. The committee unanimously accepted *gentryi* to the list of North American butterflies.

3. Felix Sperling explained the evidence for including *Papilio joanae* on the list of North American butterflies. The evidence is that it is more allied to the *Papilio machaon* complex than to *Papilio polyxenes*, but is sufficiently distinct to merit species-level treatment. For *Papilio joanae*, the key point was not that it was "sufficiently distinct to merit species-level treatment," but rather that we should err on the side of taxonomic stability by continuing with the most common treatment. New evidence, although indicating that mtDNA shares close ancestry with *Papilio machaon*, is insufficient by itself to justify synonymy. The committee agreed unanimously.

4. Felix Sperling discussed the case for adding *Papilio garamus* to the North American list. The field summary published in the *News of the Lepidopterists' Society* previously reported the species occurrence in Texas. Communication with Ed Knudsen indicates that he plans to publish a short article documenting the species' occurrence in Texas. The committee did not consider the publication of new national records in the field summary to be sufficient documentation, and will await for the publication of the article by Ed Knudsen before adding the species to the North American list. *(See pp. 3 - Ed.)*

5. Felix Sperling presented the circumstances of the *Parnassius phoebus* complex in North America. Publication of Jon Sheppard's treatment of the species in ***Systematics of Western North American Butterflies*** (1998) edited by T.C. Emmel was discussed. Don Lafontaine related his personal field experience in northern Yukon Territory where the two species fly at the same time at different elevations with the two taxa being easily separable. For *Parnassius phoebus* and *P. smintheus*, it would be important to refer to the *published* evidence available in Layberry *et al.*, rather than to Don's personal experience, even though they are both the same event. I think it is important to keep it clear that we are concerned with evidence-based decisions, rather than rumors or authority, and it just isn't accessible evidence if it is not published. The situation of the Sierra Nevada endemic *behrii* was discussed briefly. The committee agreed by consensus to accept *Parnassius phoebus* and *Parnassius smintheus* as separate species-level taxa on the North American list, and to defer decision on *behrii* until the next meeting.

6. Status of either *Cyanophrys amyntor* or *Cyanophrys longula* north of Mexico. Bob Robbins stated that he had seen no authentic U.S. specimens of either species. The committee agreed by consensus to remove both species from the North American list until such time as authentic specimens or photos are documented.

7. Bob Robbins presented his argument for treating all Cupressaceae-feeding *Callophrys* (except *C. hesseli*) found north of Mexico as belonging to *Callophrys gryneus,* a superspecies. Don Lafontaine explained the situation with this complex in Canada, and Paul Opler explained why he treated all juniper-feeding members under *gryneus,* but treated the non-juniper feeding *species*, *nelsoni, muiri,* and *thornei,* separately. John W. Brown, author of *Callophrys thornei*, was called in and explained the situation in San Diego County, California, and the circumstances of his description of *thornei.* The situation with these animals is obviously very complex and contradictory, and there is evidence for broadly intergrading populations in some cases. The decision was intentionally conservative and the committee would like to see the generation of more rigorous evidence. After much discussion, the committee reached a consensus to follow Bob Robbins' recommendation. Therefore, *muiri, nelsoni,* and *thornei* were removed from the North American list.

8. Paul Opler presented the case for treating *Agriades cassiope* described by John and Tom Emmel in ***Systematics of Western North American Butter-***

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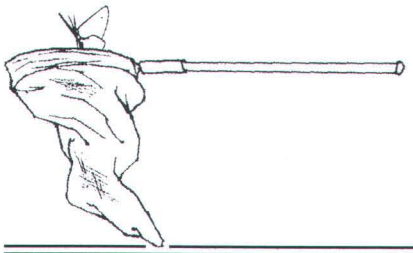

Mailbag...

Comparing Fauna...

Dear Editor:

While reading the paper "The Butterflies of Colima, Mexico," by Andrew D. Warren, Isabel Vargas Fernandez, Luis M. Armando and Llorente B. Jorge, (**Journal of the Lepidopterist Society** 52(1), 1998, 40-72), I wished to make a comparison of some families with the equivalents in Costa Rica. This is what I got:

	Total in Colima	Same in Costa Rica	Percent	Total in Costa Rica
Papilionidae	29	16	55	40
Nymphalidae	130	77	59	433
Pieridae	34	24	70	70

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The Bergamot Grows Where?

Dear Editor,

I want you to know that I thoroughly enjoyed the latest issue of "the **News**." Unfortunately, and I suspect you've heard this already, there is one major inaccuracy in Paul Manton's piece, "Where the Bergamot Grows." In 1962, the Teale's moved to Trailwood in rural Hampton, not Hamden, Connecticut. Hamden is very close to New Haven and Hampton is in the northeast corner of "the nutmeg state", not the northwest corner as the author writes. Given the research that was done for the article it is surprising that the facts of geography could have been so bungled.

Keep the faith; I'm basically a happy camper.

Ben Williams

P.O. Box 211,
Pomfret Ctr., CT 06259.

Ben: My first thought was "oh, no, I screwed up again!," likely in generating an electronic version of Mr. Manton's article via optical character recognition. But, I was somewhat relieved to find out that it was not my fault. I'm sure that it is an innocuous error. In my experience, those with a talent for the arts (e.g. writing) are notoriously bad at giving directions (or following them for that matter)... – Ed.

More Typos, But Some Support...

Dear Editor,

Don't let those letter writers get under your skin. Looks like your blood pressure is up. The Mailbag, and the whole **News**, is better and more interesting that it ever has been, and it would be horrible if you got disgusted and quit. So, don't even think about it.

Now, *I'm* going to pull your tail! I think I can still hear your teeth grinding...how do I know you were hot? Look at the typos that snuck into your replies: pp. 93, 1st column, 2nd paragraph, last 3 lines: where's the apostrophe in "recipients"? And "by" should be "be." Last two lines on that page: "demorcratic freedon"? And on pp. 121, 2nd last paragraph, line 9: it's (oh, that must be the apostrophe that fell out of recipients!)

Now that that's over, I'll say that I absolutely agree with your position on the three C's. So, go take a valium, or whatever works, and cool off! You're doing a great job with the **News** and it would be a shame if you decided not to...hang in there, and keep the **News** coming. Don't mind the grumpy old men!

On another subject: Is there any clearinghouse of information about required collecting permits, U.S. and foreign? Maybe the Society should solicit information and compile a list? Since I've got some time on my hands, I'd be glad to do it. Surely the various tour leaders of butterfly/moth expeditions know the requirements of the places that they visit, but anyone going it alone is pretty much in the dark. This information ought to be available in one updated place

Rudy de Mordaigle

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Rudy: Once again, you catch me with my "literary pants" down. I've found so many typos and other errors in the last issue that it may deserve a place on a wall of infamy someplace. Unfortunately, I can't lay the blame anywhere but on myself...I was in such a hurry to get the last issue done that I skipped what I'm quickly coming to believe is the most important step: proofreading. (Looking over my shoulder, my favorite proofreader nods her head knowingly...) - Ed.

Hey, Support is Good!

Dear Editor,

I just wish to state that you have done a superb job in editing the **News**. Your ability to deal rationally and ethically with submissions is overwhelming.

As a graduate of Communication (with plenty of emphasis on print journalism, law and ethics), I have found your judgement to always be in good faith, and not crossing the line. You've been very professional, fair and just, and you make people *think*.

You've made reading the **News** enjoyable again, and who's to say you don't have a right to your own opinion? The quality of your contribution is outstanding and creative, not to mention pensive and conscientious. As for your typos, I've found most of them amusing if nothing else!

Please keep up the good work!

Charles Bordelon

8440 Washington Blvd.,
Beaumont, TX 77707-4713

...And Still Champion!

Dear Editor,

I have just received a copy of a letter from Dr. Tom Emmel (enclosed) in support of my claim that I have a Guinness World Record for butterfly visitations. On April 15th I will begin my 24th year of observations...I believe that I will record my 4,975th visit of a Red Admiral butterfly, *Vanessa atalanta* (Nymphalidae), on that day.

We plant to move to a retirement home sometime after April so I hope to file my claim with the Guinness folks before I move. I sure hope that whoever buys my house will continue the observations for at least another year so we could reach the quarter century mark!

Henry F. Swanson

1531 Norfolk Ave.,
Winter Park, FL 32789-5518

Noctua pronuba: expansion continues...

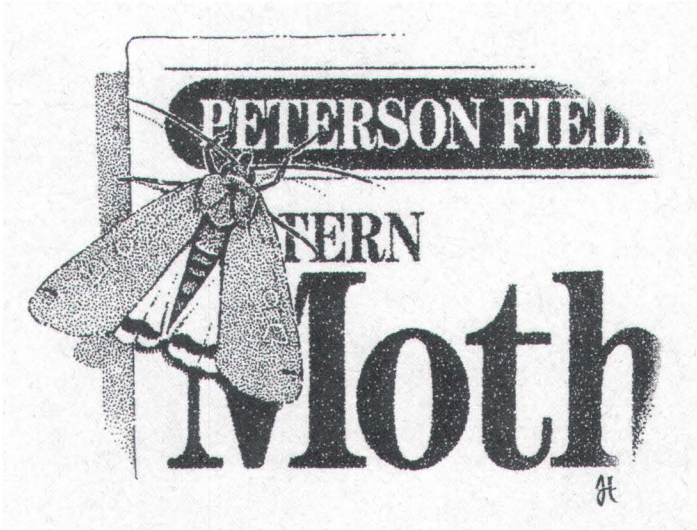
Valeriu Albu

6 Kit Rd., Charleston, West Virginia 25304

Since its first appearance on the east shores of North America in 1979, *Noctua pronuba* (L.) has been steadily expanding westwards (Passoa & Hollingsworth 1996). I was able to collect one specimen at Saranac Lake in Essex county, New York, on August 15, 1996 and one again in Illinois, near Chicago, in Will County at Joliet, on August 16, 1999. From these records and from the literature, it seemed like the species was spreading west at a considerable speed, but that it was quite sporadic, when encountered.

This impression changed radically on September 15, 1999. On that rainy morning I was able to count 12 specimens of *N. pronuba* on the walls of a gas station in Skowhegan, in Somerset county, Maine. Their forewings displayed a wide variety of colorings, from almost uniformly brown to heavily marked (Lafontaine 1998, Fibiger 1993). Three of them had been caught in spider webs and consumed, the others were resting on the wall. The gas station lights had attracted other moths also (*Nepytia* sp., *Papaipema* spp., *Crambus* sp., etc.), but *N. pronuba* was by far the most common moth at that site.

It is worrisome to watch this exotic pest gaining a strong foothold in North America. Even though larval food consists of a wide array of herbaceous plants—I reared it on plantain and cabbage on several occasions in Romania—rather than tree leaves, I know that the larva would accept weeping willow leaves also. With its strong flight and adaptive life style, the moth will probably conquer the whole North American continent, displacing autochthonous species and provoking the knee-jerk human reaction of chemical spraying.



Pen and ink drawing of Noctua pronuba, *the yellow underwing, by John Himmelman, depicts this recent immigrant against Covell's Peterson Moth guide. From the cover of* ***Journal*** *51(3).*

Literature Cited:

Passoa, S. and C. S. Hollingsworth, 1996. Distribution, identification and rate of spread of *Noctua pronuba* (Lepidoptera: Noctuidae) in the northeastern United States. Entomological News 107 (3): 151-160.

Lafontaine, J. D., 1998. Noctuoidea, Noctuidae (part) in Dominick, R. B., et al. The Moths of America North of Mexico, fasc. 27.3. The Wedge Entomological Research Foundation.

Fibiger, M., 1993. Noctuidae Europeae vol. 2: Noctuinae II. Entomological Press Soro, Denmark.

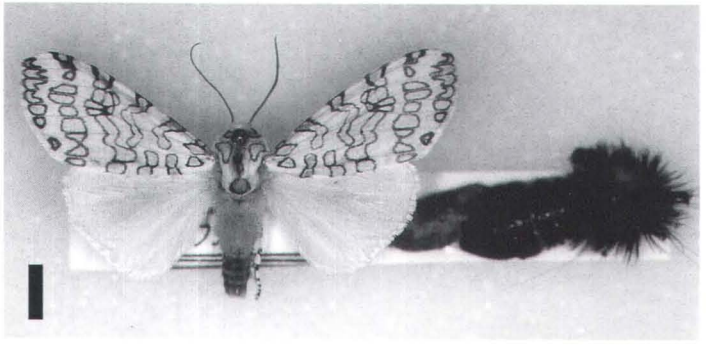
Some Interesting Rearing Records from Florida and Texas

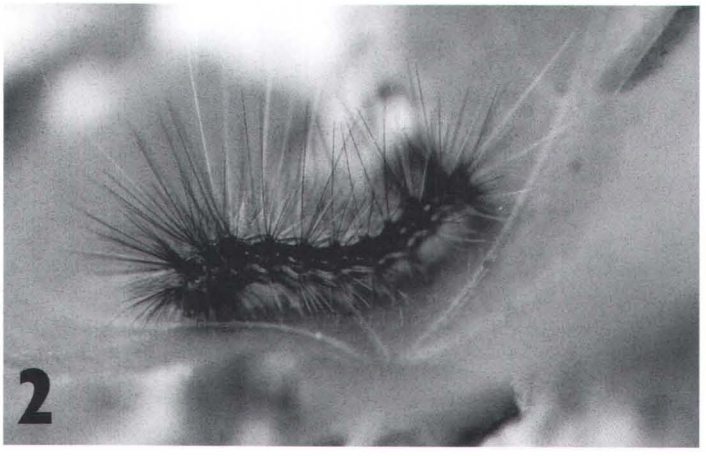
Jeffrey Slotten

5421 NW 69th Lane, Gainesville, Florida 32653

Here are some lepidoptera items I hope will be of interest to our members:

The first item (below) is photos of the adult and larvae of *Hypercompe oslari* Roths. (Lepidoptera: Arctiidae: Arctiinae) labeled 1) adult, dorsal surface, 2) early stage larva, and 3) last instar larva. I found a single early instar larva on a species of *Ipomoea* (Morning glory) in late October of 1997. The full-grown larva overwintered and pupated in leaf litter in a compact hairy cocoon in the early spring. The larva did not feed after overwintering, but spun a cocoon in February 1998. The adult emerged March 17, 1998.





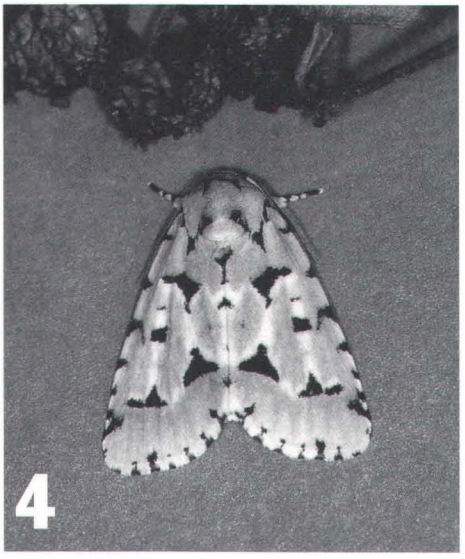
The second item (right) shows the adult and larvae of *Agriopodes fallas* H.-S. (Lepidoptera: Noctuidae: Acronictinae) labeled 4) adult, 5) 1st instar larva, and 6) last instar larva. I found 4 last instar larvae by beating the branches of *Viburnum obovatum* on April 13, 1999 at Withlacoochie State Forest, Citrus County, Florida. The larvae pupated in very loosely spun cocoons soon after they were discovered and emerged May 10, 1999.

The third item (see color plate, pp. 32) shows the adult and larva of *Norape virgo* Butler (Lepidoptera: Megalopygidae) labeled l) adult dorsal and ventral, 2) last instar larva, and 3) last instar larva . I found several early instar larvae on *Pithecellobium flexicaule* (Texas ebony) while searching for *Sphingicampa* larvae with Jim Tuttle of Tucson, Arizona and Tom Carr of Whitehouse, Ohio at Sabal Palm Sanctuary in Brownsville, Texas on October 27, 1997. The larvae made cocoons in the leaf litter and emerged the following spring on April 25, 1998.

The final item (see color plate, pp. 32) documents the results of crosses of *Automeris louisiana* Brou × *Automeris io* F. (Lepidoptera: Saturniidae: Hemileucinae). I began my study of *Automeris louisiana* after capturing a female at Sabine Pass, Jefferson County, Texas on May 27th, 1995. I was given this location by Charles Bordelon of Beaumont, Texas and Ed Knudson of Houston, Texas. The female was attracted to a mercury vapor light next to a salt marsh. The fertile female laid several eggs and I reared a number of adults on *Salix caroliniana*. This is an excellent host for this species.

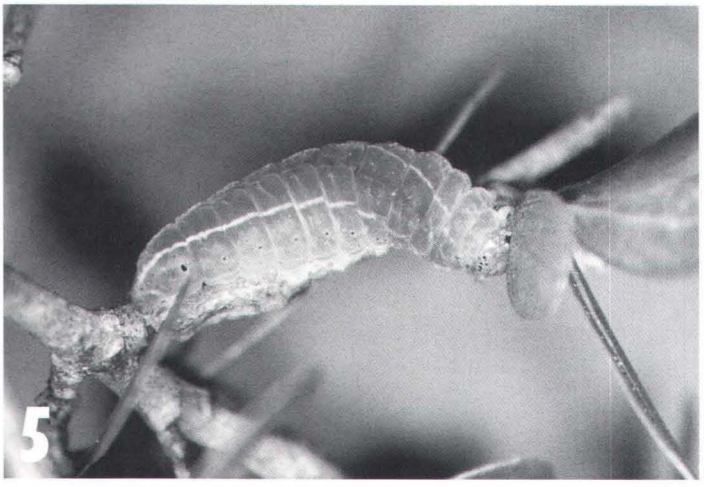
Adults from this first generation were paired and produced another batch of fertile eggs. When this second generation emerged, I placed a female in a container without males. I attracted a male *Automeris io* at a mercury vapor light in Gainesville, Florida and placed him in the cage with the female. They readily mated and the female laid a good batch of ova. All the ova were fertile and the larvae were reared on *Salix caroliniana*. They accepted this host readily and all of the larvae pupated. The adults emerged in perfect condition and were of good size and color, without any apparent abnormalities.

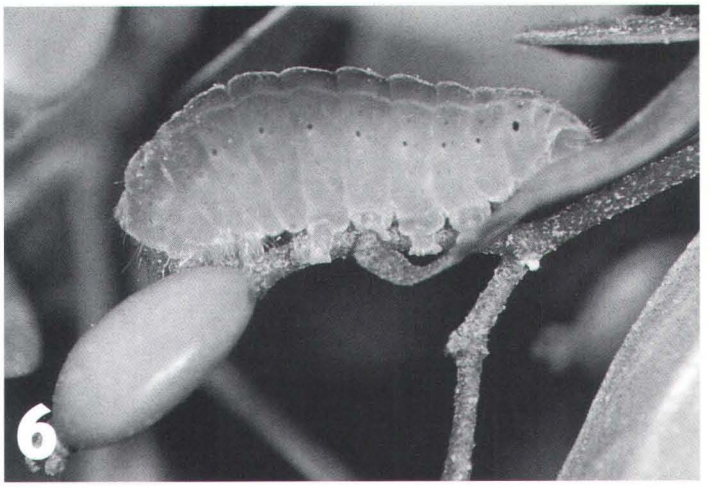
continued at upper right...



An example of a cross can be seen in the 6 photos (see color plate on pp. 32) accompanying this short article as follows: Photo 4 shows the dorsal surfaces of pinned *A. louisiana* on the left, *A. louisiana* × *A. io* in the middle, and *A. io* on the right. The males are at the top of the photo and the females are at the bottom. Adults of *A. louisiana* and *A. io* parents used for the cross were phenotypically similar to the ones shown in the photos. Photo 5 shows the same specimens with their ventral surfaces exposed. Photo 6 shows a close up of the dorsal surface of the male hybrid. Photo 7 shows a close up of the dorsal surface of the female hybrid. Photo 8 shows a close up of the ventral surface of the male hybrid. Photo 9 shows a close up of the ventral surface of the female hybrid. A Yashica Dental Eye 3 Camera with a 100mm macro lens was used for the photos. The film used was Fuji Sensia II 100 ASA.

I never had a chance to cross the hybrids again to see if they would produce another generation. I did obtain a range of interesting adult phenotypes. Some males and females were more similar to *A. io* and others were more similar to *A. louisiana*, but I am only showing one example of each sex.





Precis...*continued from pp. 9*

flies (1998) edited by T.C. Emmel as well as *Agriades podarce* as species separate from *Agriades glandon*. The distribution and variability of *Agriades glandon* was discussed at length as was the parapatry and differences in behavior, habitat, and host plants of *cassiope* and *podarce* in California. For *Agriades cassiope*, we relied on the published evidence that the two main *cassiope*-feeding populations of *Agriades* were morphologically and ecologically distinct from *podarce*, yet very similar to each other and at the same time bisected by the range of *podarce*. On the other hand, the status of *podarce* was more difficult to assess relative to *glandon* due to allopatry. Finally, the committee agreed by consensus to add *cassiope* to the list but to treat *podarce* as a subspecies of *glandon*.

9. The recent publication of *Celastrina idella* Wright and Pavulaan as a new species in ***The Taxonomic Report*** was discussed. The entire committee felt that insufficient evidence was presented in the paper to argue for the separate treatment of *idella* from *ladon*. For *Celastrina idella*, we felt that between the inconsistent recent treatments of *Celastrina* by Wright and the relatively incomplete published evidence for the distinctness of *idella* versus *neglecta* and *neglectamajor* [whose specific distinctness were not discussed], that we simply didn't have enough information to consider *idella* to be a distinct species. Thus we went to the side of favoring conservatism until there was a sufficiently compelling burden of evidence indicating otherwise. The committee encourages a more complete scientific treatment of the *ladon* complex.

10. The publication by Ronald Gatrelle in ***The Taxonomic Report*** that argues that the original painting of *Melitaea ismeria* actually represents *Chlosyne nycteis* was described by Don Lafontaine. For *Chlosyne*, we felt that although the line of reasoning that tied the name *ismeria* to *nycteis* might even be true, it was too tenuous and there was too little possibility of definitively confirming it. Right or wrong, the name *nycteis* should be preserved in the inter-

continued on pp. 23

Metamorphosis...

The Society has learned of the death of the following members. Our condolences to their families.

John Hinchliff

of Portland, Oregon. Mr. Hinchliff had been a member of the Society since 1965.

Dr. Ralph W. Macy

of McMinnville, Oregon, passed away on 11 November 1999, at the age of 94. Dr. Macy was a Charter Member of the Society (joined in 1947), of which there are now only 16 remaining who are still members of the Society (one additional Charter Member is no longer a member of the Society). A detailed obituary will appear in the next issue of the **News**

Dr. W. Herb Wagner, Jr.,

of Ann Arbor, Michigan, on 8 January 2000. Dr. Herb "Herbaceous" Wagner had been a member of the Society since 1964.

Dr. J. Benjamin Ziegler

of Summit, New Jersey, on 14 January 2000. Dr. Ziegler first joined the Society in 1951, and became a Life Member in 1988.

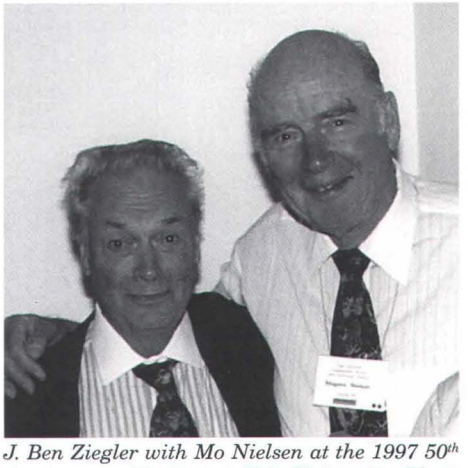
Dr. J. Benjamin Ziegler (1917-2000)

Ben Ziegler and I have been friends for nearly 50 years. It was a profound shock when I received the phone call from his son some weeks ago and was told that his father had died very suddenly of an apparent heart attack. His death came as a shock to us all, for he had been his old up-beat self, full of energy (as much as an 83-year old can be) and in high spirit, showing no sign of stress or problems.

Fifty years is a long time. I must admit that I cannot recall just exactly when we became acquainted or how we became aware of our mutual interest in the Lepidoptera and, more specifically, the hairstreaks. I recall that at the time, I had begun to correspond with Harry Clench and was visiting Bill Field at the National Museum. Between the two of them, or because of them, we became aware of our mutual interest and began to correspond. Our first meeting was engineered by mutual agreement. After all, I was stationed at the Marine Corps Air Station, Quantico, VA, and he was living in New Jersey, working as a chemist at CIBA-GEIGY. Our schedules were not very compatible. But I managed to fly one of our airplanes (with an extra crew) to NAS Lakehurst, NJ. I left the airplane with the extra crew, met Ben and some of his friends at the gate to the air station with bags of collecting equipment and field gear, ready for the New Jersey Pine Barrens. It was indeed a memorable trip. But one of the highlights did not occur – we were to meet up with Cyril F. dos Passos, but he was unable to make it. As a result I never did meet that gentleman.

Upon leaving Quantico for the Naval Air Station, Glenview IL in 1955, our collecting ventures together, never very frequent, became non-existent for the next five years. I left for an overseas assignment in the Pacific. During this time, my work with the leps became non-existent as well and our correspondence suffered the same fate. Upon returning to the States in 1960, we resumed our correspondence and our visits to each others' homes became a pleasant routine.

Some of the most pleasant and productive visits were made to the American Museum in New York. Here we poured over the collections in as much detail as time would allow. Ben concentrated on the hairstreaks and, at the time, I was most interested in working with Ernest L. Bell who came to the museum once a week to work on his skippers. I wanted very much to learn his techniques for removing and preserving the genitalia. And of course, we used Ben's residence in Summit as our base of operations. Getting into the museum from there was relatively easy and the opportunity to visit with Ben and Dorothy was just icing on the cake. In reviewing copies of our correspondence during the period of the 60's thru the 1980's reveals just how closely we stayed in contact with one another. Our visits to each others' homes were well coordinated to take full advantage of the weather, or other circumstances surrounding the purpose of the visit. We



J. Ben Ziegler with Mo Nielsen at the 1997 50th Anniversary Meeting at Yale University. Photo courtesy of Mo Nielsen.

were roommates at a number of the Society's annual meetings, an occasion that we missed this past year in Arizona, due to Ben's unexpected illness at the time.

In the 80's Ben became interested in taking some collecting trips to the tropics. His first trip to Venezuela proved to be interesting and was such a success, he finally made his second trip to the tropics in April, of 1987 to Tingo Maria, Peru. His trip report revealed a successful and very pleasant experience. Yet, Ben's primary interest remained the close and detailed study of some of the local hairstreak fauna, and to his final days, this remained his primary interest. Our recent phone conversation on that very subject, dealt with details of weather and localities where his objectives would best be met.

Ben was above all, a scientist—a careful observer, a stickler for detail and tenacious in his search for the facts and the truth. And he was always ready to help with my own research projects. He sent me copies of his early 1950's correspondence with Harrey Clench in which the basis for our current taxonomy for the hairstreaks is discussed and formulated. His own research tasks were chosen with care, small enough to be completed within a specified time and very thoroughly documented. He coauthored the description of *Mitoura hesseli* and, in a later paper, described its immature stages and the life history of *Callophrys xami*. His paper, A Preliminary Contribution to a Redefinition of the Genera of North American Hairstreaks (Lycaenidae) North of Mexico, established a landmark point for future research on the taxonomy of the new world hairstreaks. Ben was one of the last of the old guard amateur lepidopterists—the ranks are getting thin. He will be greatly missed, as an outstanding Lepidopterist—but more important to me as a close and longtime friend.

Stan Nicolay

1500 Wakefield Dr.,
Virginia Beach, VA 23455-4529

Presidential Profile...

John W. Brown

The "Presidential Profile" traditionally adorns a page or two of an issue of the **News** each year, providing a photo and some background on the person that the Society has designated to lead the charge for the next 12 months. This is a slightly modified version of such an article, with a little soap-boxing. Trust me, you don't want to see a large picture of my mug plastered across the pages of your **News**! Besides, I have only a few pictures of me in a coat and tie (and none are very flattering).

I was born in San Diego, California, in 1951. I grew up there, got married there, graduated from San Diego State there, and had my two children there. Actually, my wife had our two children there but I helped. For years I did volunteer work in the Entomology Department of the San Diego Natural History Museum and eventually was hired part-time. In 1984, we packed up and moved to Berkeley so I could pursue a doctorate in Entomology. In 1988-1989, I had a postdoc at the Smithsonian Institution, and in 1989-1990, I spent a year as a technician at the Los Angeles County Natural History Museum.

Unable to find a permanent position in entomology, we moved back to San Diego where I got a job as an environmental consultant with a civil engineering firm. In 1996, I was fortunate enough to be the most qualified applicant (possibly the only qualified applicant!) for a position to work on tortricid moths at the USDA Systematic Entomology Laboratory, and we returned to Washington, DC, in January 1997. I could not be happier with my job. Those of us who actually get paid to work on Lepidoptera should count our blessings...daily.

I started collecting butterflies when I was about 10 years old. It was my early years of collecting that really got me in touch with the natural world and inspired my interest in biology. Now that I work on moths, I collect with a net, at a sheet, and with a trap. Collections are virtually the only source of information for the groups I work on; without them there would be absolutely no progress on the systematics and biogeography of thes organisms, and we would have few clues to their life histories, food plants, and their control.

Through my six years of consulting experience I learned that the various state and federal endangered species laws are the primary tool by which the resource agencies are able to inhibit, or at least slow, the conversion of natural habitat to land-uses incompatible with birds and butterflies. I learned that no matter how cumbersome these regulations make it for us as collectors, they are a good thing...a very good thing.

Over my twenty years of membership in the Lepidopterists' Society, our group has grown more and more diverse. Concomitantly, it has become increasingly difficult to represent accurately and fully the needs and interests of all of our members in its publications, our activities and in the decisions of our Executive Council. I believe there is room in our Society for people of diverse interests in Lepidoptera, and I encourage all members to express their views, voice their opinions, and contribute to the vigor of our Society in any way you can.

The Lepidopterists' Bookshelf

M. Alma Solis, Editor

Anyone knowing of the publication of new titles of books, video, or audio tapes of interest to lepidopterists, and especially of books published outside the United States, are requested to send full particulars to the Book Review Editor, The Lepidopterists' Society, both for announcement in this column and to allow for timely review in the **Journal** or **News** of The Lepidopterists' Society.

Publishers are invited to send review copies directly to the Book Review Editor for consideration for review in the **News** or **Journal**. Members interested in reviewing books for the **News** or the **Journal** should send their requests or interests to:

Dr. M. Alma Solis
Systematic Entomology Lab., USDA, c/o National Museum of Natural History, MRC 127, Washington, D.C. 20560, (202) 382-1785 (office), (202) 786-9422 (fax)

E-mail: ***asolis@sel.barc.usda.gov***

Die Schwarmer der Westlichen Palearktis (Lepidoptera: Sphingidae)

by Fritz Danner, Ulf Eitschberger, and Bernhard Surholt. 1998. Herbipoliana Band 4 [In German]. Available from Entomologisches Museum, Dr. Ulf Eitschberger, Humboldtstrasse 13A, D-95168 Marktleuthen, Germany. Price DM 620 + 40 shipping (cloth). ISBN 3-923807-07-1.

Although the title of this work translates to "Sphingidae of the Western Palearctic," the distribution maps that accompany the text for each taxon show localities ranging from the Canary Islands and Iceland through Japan! This is certainly the best available treatment of the sphingids of a vast part of the earth's surface, including areas little-known to North Americans, such as the mountains of central Asia, western China, and Mongolia.

The work is in two superbly printed and bound volumes. Volume 1 comprises 368 pages of text in which 220 Sphingids are discussed. The treatment of each taxon includes a facsimile reproduction of the original description, a distribution map, review of the literature, and discussion of taxonomic status. Particular emphasis is placed on the genera *Hyles* and *Hemaris*, wherein 7 new species and 3 new subspecies are described. A number of new subgenera are erected. A checklist and extensive bibliography are provided.

Volume 2 consists of 571 pages of superbly rendered photographic plates. Plates 1-123 illustrate adults (many type specimens are illustrated), larvae, and pupae, including photos of live material. Plates 123-414 are photographs of genitalic preparations and plates 415-571 are SEM photos of ova (micropyles, etc) and larval structures (head capsules, horns, mandibles, etc). Thus the authors have made available their insights from a thoroughly professional, exacting, yet wide-ranging study of all stages of this important group of moths—truly a model of scholarship. Anyone interested in sphingids of the Northern Hemisphere, Nearctic or Palearctic, should have this tremendously thorough work at hand.

John Hyatt

5336 Foxfire Place, Kingsport, TN 37664

Florida Butterfly Gardening:

A Complete Guide to Attracting, Identifying, and Enjoying Butterflies of the Lower South

by Marc C. Minno and Maria Minno. 1999. Hardcover, 8 1/2" x 11", 210 pp., 407 figs., 5 other color illustrations. Available from University of Florida Press, 15 Northwest 15th St., Gainesville, Florida. 32611 (http://www.upf.com). ISBN 0-8130-1665-7. Price: US $34.95.

There are a number of butterfly gardening books on the market today, but this volume is a pleasant departure. It is divided basically into three general sections. The first section is devoted to brief discussions on butterfly biology (evolution, metamorphosis, host and nectar plants), behavior, parasites, predators, and pesticides, different habitats and lists of potential species associated with each.

The second section focuses on the identification of the butterflies with a quick guide to the major groups found in Florida gardens and includes detailed natural history accounts and color photos of more than 60 butterflies and 12 moths generally observed. This section is particularly helpful to the novice butterfly gardener as it includes information and photos of the various life stages (including color forms) and associated hostplants for quick identification. The information on the

moths is quite abbreviated.

The next section focuses on developing a butterfly garden and discusses special problems in planning, such as soil fertility, microclimates, choosing sites, and selection of plants for your first garden. Information concerning the hostplants and nectar resources for common butterflies and a cultivation guide for hostplants such as the Annonaceae (*Asimina*, Custard Apple) are quite helpful.

For those interested in making observations on the life history and introducing children (and adults) to natural history, 12 planned special activities are included from observations on life history to population studies on mark and release. A species checklist, butterfly gardening resource guide (organizations, study groups, supplies, references, etc.) and an index complete this volume.

The introductory material is perhaps too concise, but there is a rather extensive literature list elsewhere for further reading. This book is lavishly illustrated with numerous photographs, and the general topics are accented with five fine illustrations by Diane Pierce. Most photos, especially the life history and habitat shots, are superb. However, a number of the photos of pinned specimens are rather dark against the cobalt blue background and makes the specimens occasionally appear out of focus. Not withstanding these problems, this book is stimulating and entertaining reading and will spark the curiosity of any naturalist!

Jacqueline Y. Miller

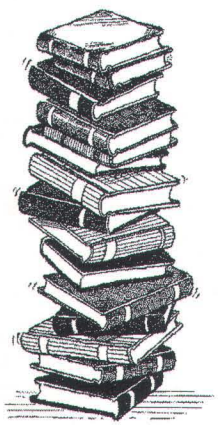
Allyn Museum of Entomology, 3621 Bay Shore Road, Sarasota, FL 34234

Recently Published Books

Chasing Monarchs: Migrating with the Butterflies of Passage

by Robert Michael Pyle. 1999. Houghton Mifflin Co. 288 pp., 5.76 x 8.50 in. See www.hmco.com/trade/. ISBN: 0-395-82820-1. $24.00 (Cloth)

The annual migration over thousands of miles by the monarch butterfly is an extraordinary natural phenomenon and yet poorly understood. There are many myths about the monarchs' travels, and to separate fact from fiction, Pyle set out late one summer to follow the butterflies south from the northernmost breeding grounds in British Columbia. He migrated with them down the Columbia, Snake, Bear, and Colorado Rivers, across the Booneville Salt Flats, through Hell's Canyon and the Grand Canyon, to Mexico, then turned up the California coast to track another leg of their migration. This book is compelling travel book abouth the American West, filled with places and characters, both animal and human.



Microlepidoptera of Europe, Volume 3, Gelechiidae I

by P. Huemer & O. Karsholt. 1999. Apollo Books, 356 pp., 14 color plates of 321 specimens, black and white photos of male and female genitalia of all species, 24 x 17 cm. Available from Apollo Books, Kirkeby Sand 19, DK-5771, Stenstrup, Denmark. ISBN 87-88757-25-0, 500 Danish Kroner, excluding postage (hardback).

The Gelechiidae (Gelechiinae: Teleiodini and Gelechiini) of Europe are reviewed. One hundred and fifty-one species are recognized; a checklist is included. Keys to the subfamilies of European Gelechiidae and to genera of the Teleiodini and Gelechiini are included. Diagnoses are accompanied by color figures of the adults, and black and white photographs of male and female genitalic characters. Notes on the distribution and biology are included for every species. Ten new species are described, many new synonymies and combinations are established, 2 species are recalled from synonymy, and lectotypes are designated. Finally, the authors include a distribution catalogue that illustrates occurrence in the countries of Europe and an extensive bibliography.

Forester Moths

by K. A. Efetov & G. M. Tarmann. 1999. Apollo Books, 192 pages, 12 color plates with 241 illustrations, 174 line drawings, 24 x 17 cm. Available from Available from Apollo Books, Kirkeby Sand 19, DK-5771, Stenstrup, Denmark. ISBN 87-88-757-23-4, 460 Danish Kroner, excluding postage (hardback).

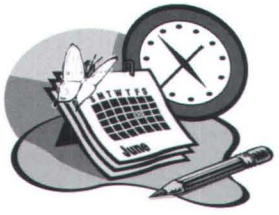
The term "Forester" has been used frequently as a vernacular name for the European Procridinae (Zygaenidae). In this work it refers to 4 Palearctic genera (*Theresimima* Strand, *Rhagades* Wallengren, *Jordanita* Verity, and *Adscita* Retzius) that include all of the 63 Procridinae species occurring in Europe, North Africa, and the western and central parts of Asia. Two new subgenera are described, lectotypes for 17 taxa are desig-

nated, and new synonyms are recognized. A short summary of the characters of the Procridinae, comments on possible phylogenetic relationships, a complete checklist of species and all known synonymns, an identification key with genitalia drawings of all species, a systematic catalogue with type localities and depositories of types, data on distribution, an annotated list of all known larval foodplants, descriptions of previously unpublished biologies, and a detailed bibliography are provided. Moreover, illustrations of wing venation, morphology of antennae and legs, larval morphology, previously unpublished photographs of larvae and their foodplants, and color paintings of all the mentioned species are included. This work summarized new data and will enable identification of all known species; it complements *The Western Palaearctic Zygaenidae* (Naumann, Tarmann & Tremewan, 1999).

Lymantriidae

by J.D. Holloway in ***The Moths of Borneo****, Part 5. 1999. The Malayn Nature Society and Southdene Sdn. Bhd., 188 pp., 64 black and white photographs of male and female genitalia, 12 color plates of adults. Available from Southdene Sdn. Bhd., P.O. Box 10139, 50704 Kuala Lumpur, Malaysia, 603-4222653 (phone), 603-4222267 (FAX),* ***hsbar@pc.jaring.my****,* ***www.edi.co.uk/barlow/****. ISBN: 983-40053-1-8, $30.00 (U.S. dollars), £20 (pound sterling), $40.00 (Australian dollars) (Paper).*

Two hundred and ninety-seven species in 40 genera and 5 tribes of Bornean Lymantriidae are described. A diagnosis and geographical distribution are given and, where known, details of habitat preference and biology for each species are given. Lists of new taxa, combinations, synonymies, and status changes and revivals are given. A checklist of all species summarizes the fauna. The family is defined and described, with comments on its position within the Noctuoidea and higher classification within it, and aspects of its biogeography and ecology are noted.



Lepidopterists' Calendar

North American Butterfly Association (NABA): 4th Biennial Member's Meeting, Palm Beach Gardens, Florida, May 18-21, 2000. For more information contact Alana Edwards, 3206 Palm Drive, Delray Beach, FL 33483, ***LASMARIPOSAS@prodigy.net***; (561) 706-6732, or see the NABA website at ***www.naba.org***.

Pacific Slope Section: June 23-25, 2000, Grants Pass, Oregon. The meeting will feature a symposium on *Papilio indra*, its taxonomy, distribution, and biology. Registration materials will be mailed to Pacific Slope members by mid-March. Others interested in attending should inquire of David McCorkle, 189 Winegar Ave., Monmouth, OR 97361; ***mccorkd@wou.edu***; (503) 838-2137. See also the meeting announcement in the Winter, 1999 issue of the **News**, p. 122.

LepSoc 2000: 51st Annual Meeting of the Society, Wake Forest University, Winston-Salem, NC, July 26-30, 2000. For info contact Bill Conner,Department of Biology, Wake Forest University, P. O. Box 7325, Winston-Salem, NC 27109; ***conner@wfu.edu***; (336) 758-5315; (336) 758-6008 (fax). See the center insert in this issue of the **News** for further information.

(Note: I'm sure that there must be other things happening out there but what they are is a mystery. I guess we'll never know... Ed. [dripping with sarcasm])

LEPSOC 2000

51st Annual Meeting of the Lepidopterists' Society

Wake Forest University
Winston-Salem, North Carolina USA
July 26-30, 2000

The 51st Annual Meeting of the Lepidopterists' Society will be held 26-30 July 2000 (Wednesday through Sunday) on the campus of Wake Forest University in Winston-Salem, North Carolina. The local hosts of the meeting are Bill and Mindy Conner and the Department of Biology at Wake Forest University. The meeting will be held in Winston Hall. Accompanying this announcement is a Registration Form and a Call for Contributed Papers, as well as notes on local travel arrangements and housing and food. Included in the registration fee are the opening reception on Thursday evening, the daily paper/symposium presentations, and meeting programs and mailing. Food and lodging are not included in the registration fee, so please be sure to sign up on the Registration Form for the Friday evening Barbecue, the Saturday evening Banquet, and housing as desired. Forthcoming issues will continue to carry information about the meeting as will the LEPS-L internet listserver and the Society's web site at **www.furman.edu/~snyder/snyder/lep.** The present meeting schedule is as follows (NB: subject to change!!):

Wednesday, July 26th.
Butterfly collecting fieldtrip (to be arranged)
Mothing fieldtrip (to be arranged)
Photography Fieldtrip to Old Bethabara Gardens area

Thursday, July 27th.
Executive Council meeting.
Opening reception in evening.

Friday, July 28th.
Symposium I
Group Photograph
Contributed papers
North Carolina Pig Pickin' featuring live old-timey bluegrass music.

Saturday, July 29th.
Symposium II
Social Hour and Annual banquet followed by award presentations, presidential address, and door prize drawing.

Sunday, July 30th.
Contributed papers
Annual business meeting

Questions: Contact Bill and Mindy Conner, Department of Biology, Wake Forest University, P.O. Box 7325, Winston-Salem, North Carolina 27109; 336-758-5315; FAX 336-758-6008; e-mail conner@wfu.edu.

REGISTRATION FORM

51st. Annual Meeting of the Lepidopterists' Society
Wake Forest University
Winston-Salem, North Carolina USA
July 26-30, 2000

Last Name: _____, First and Initial _____
Street Address or P.O. Box: _____
City or Town: _____
State/Province and postal code: _____
County: _____ E-mail _____

Registration fee includes reception, breaks, program, postage, registration materials and $15 for Jordan Medal and other awards.

Regular Registration Rate

Number of persons x $80 (by June 1, 2000), $100 after June 1. $_____

Student Registration Rate

Number of students x $50 (by June 1, 2000), $70 after June 1 $_____
Name of student(s) _____
Special spouse registration [includes reception; no meeting sessions or breaks]
$25 (by June 1, 2000), $35 after June 1 $_____
Name of spouse _____
North Carolina Pig Pickin', Magnolia Plaza, Friday evening $10.00 $_____
Cash bar and a vegetarian selection will be available.
Barbecue _____ or Vegetarian _____ (please check)
Annual banquet, Saturday evening $16.00 (cash bar) $_____
Baked Chicken Crosta with Marinara _____ or Vegetarian _____ (please check)
Field trips, $10 per participant per trip, includes lunch and beverages $_____
(we will car pool)
Official Lepsoc 2000 T-shirt featuring the Diana Fritillary logo, $15/shirt $_____
____ medium, ____ large, ____ X- large
Table for sale of books, equipment or other materials, $20 per day $_____
Thursday _____, Friday _____, Saturday _____. Set-up Weds. night.

Wake Forest University Dorm Housing

Persons for: ___Tues., 25 July ___ Wed.,26 July ___Thurs.,27 July ___ Fri.,28 July ___ Sat.,29 July
Cost of single room, adj. rooms share bath ($24/night includes linens) $_____
Cost of double room, bunk beds, adj. rooms share bath ($18/person/night includes linens)
Name of individuals in room_____
Total Enclosed $_____

Make check payable to Lepidopterists' Conference
Send completed registration and payment to:
Dr. William E. Conner, Local Arrangements Chair
Department of Biology
Wake Forest University
P.O. Box 7325
Winston-Salem, NC 27109 For questions: 336-758-5315 or e-mail conner@wfu.edu

Note: At time of conference registration capability will be LIMITED to registration for sessions only and NO pig pickin' or banquet tickets will be available!!!!

Call for Contributed Papers

51st Annual Meeting of The Lepidopterists' Society

26-30, July 2000, Wake Forest University, Winston-Salem, North Carolina USA

Name:_____

Address:_____

_____

Phone: _____

Fax: _____

E-mail: _____

____ Check if a student paper ____Check if a poster

Title: _____

Author(s):_____

Abstract (Type 125 words or less):

Audiovisual equipment requirements (slides? video? Powerpoint?):_____

Submission guidelines (please read carefully):

•Only one Contributed Paper may be submitted per person.

•Each Contributed Paper is a **total of 15 minutes maximum**; allow 12 minutes for the talk and 3 minutes for questions.

•The **deadline** is **June 1, 2000**. This completed form, including title and abstract, must be received by that date to guarantee inclusion in the printed meeting program.

•To expedite production of the printed meeting program, when you return this form please also consider mailing an ASCII or Microsoft Word version of it to Bill Conner (conner@wfu.edu).

•Contributed Papers are currently scheduled for 28-30 July 2000, with most time slots on Friday, 28 July, and Saturday, 29 July. After June 1, 2000 we will begin confirming actual time slots for Contributed Papers. Please contact us by June 1, 2000 if you are planning to ship a poster.

Return completed forms to: Bill Conner, Department of Biology, Wake Forest University, P.O. Box 7325, Winston-Salem, NC 27109

Off-Campus Housing

The local hosts have arranged for a group rate for housing at the

Ramada Plaza
3050 University Parkway
Winston-Salem, NC 27105

The group rate is $69.00 per night plus 12% tax for a room with two double beds or a room with one king-size bed. Each room is equipped with a small refrigerator, microwave oven , coffee maker, and iron and ironing board. The rate includes:

- a full breakfast each day of your stay
- free transportation to and from the Triad International Airport in Greensboro, NC (25 minute drive). **Reservations for this service must be made through the hotel reservation desk well in advance.**
- free transportation to and from the Wake Forest Campus (25 minutes walking time)

The Ramada Plaza is a full service hotel with swimming pool, exercise room, restaurant, and sports bar. It is convenient to several local eateries.

Check-in time is 3:00 pm.
Check-out time is 12:00 noon.

Please make reservations before June 26, 1999 to take advantage of this special rate.

Call (336) 723-2911 for reservations

Be sure to mention the Lepidopterists' Society Group Rate
Marci Brooks is our contact person

Texas...*continued from pp. 7*

(shown) was taken from a crab spider. The illustrated male is from Mexico. In their paper, Chuah and Cushing stated that the male of this species is very distinct from other Phyciodini occurring in the area. This is not the case for the female, which closely resembles three other species known from the lower Rio Grande Valley of Texas, viz. *A. texana* (Edw.), *A. ptolyca* (Bates), and *A. tulcis* (Bates). It is closest to *A. texana*, but differs in forewing pattern and in the wider, more confluent hindwing extra discal band. There is controversy regarding the proper name for this species, which Chuah and Cushing mentioned in their paper. Some Lepidopterists consider *argentea* to be a synonym of *A. atronia* Bates.

Riodinidae

Emesis tenedia (Felder) (Pl. 1, figs. 5a (male), 5b (female)): This species was first reported from Texas and the USA by Ann Swengel, who photographed a male at Santa Margarita Ranch, Starr Co., TX., 8-X-87. After Kendall identified the species from the photo, Swengel published the record and photo in the Xerces Soc. News. This metalmark became well established along the Rio Grande in Starr Co., TX., up until the winter of 1995, when it was evidently extirpated by a hard freeze. The illustrated specimens were collected in Starr Co., TX., by both authors in late 1995; the male at Salineno, 24-X-95; the female at Fronton, 18-XI-95. Richard Boscoe reared adults from ova obtained from a female from Starr Co., on *Clematis drummondii*.

Lycaenidae

Siderus tephraeus (Geyer) (Pl. 1, figs. 6a (male , upperside); 6b (male, underside)): The specimen shown was collected by Knudson at Penitas, Hidalgo Co., TX, 7-XII-94. According to Kendall (pers.comm.), the first USA record was from Bentsen State Park, Hidalgo Co., TX, Sept. 1972, collected by Thomas Carr (Information provided by Robbins of the USNM, Washington, where this specimen is now located).

Brephidium isophthalma pseudofea (Morr.) (Pl. 1, figs. 7a (male, upperside); 7b (male underside)): According to Kendall (pers. comm.), the first Texas record is from Galveston, Galveston Co., TX, May 1904, collected by F. N. Snow, ex coll. W. C. Wood, now in the AMNH, New York. This species was collected by Bordelon at Sabine Pass, Jefferson Co., TX, 30-IX-93. It has been subsequently collected by both authors at the same locality on several occasions. The specimen shown was collected on 8-V-95. This species occurs along the upper Texas coast, where is has been repeatedly confused with *B. exile* (Bdv.), which is found along the south Texas coast and in arid habitats of the southwest. Coastal populations in the Laguna Madre area of Nueces Co., TX, appear to include intermediate forms between both species.

Pieridae

Eurema albula Cram. (Pl.1, fig. 8): This species was reported as new for the USA by Chuah and Cushing, 1995. Their specimen was collected at Roma, Starr Co., TX, 13-XI-93 (Cushing). No additional specimens have been found in Texas to date. The illustrated male specimen is from Mexico. The ground color of the wings is nearly pure white.

Hesperiidae

Euphyes bayensis Shuey (Pl. 1, figs, 9a (male); 9b (female)): This species was first found in Texas by Bordelon nr. Sea Rim State Park, Jefferson Co., TX., in Sept. 1987. It was initially thought to be *E. dion* (Edw.), until a copy of Shuey's 1988 paper was available. The illustrated specimens are from Sabine Pass, TX, 8-VIII-92 (male); and 24-V-94 (female), both collected by Bordelon. It has subsequently been found in small numbers, mainly in late May and late September. Though the type locality is Mississippi, *E. bayensis* has not yet been recorded from Louisiana, where it doubtless occurs. It appears to be restricted to coastal salt marsh and could be found at least as far west as Smith Point, Galveston Co., but this stretch of coastline has not been well investigated.

Poanes aaroni (new subspecies?) (Pl. 1, figs. 10a (male); 10b (female)): First collected in Texas by Bordelon at Sabine Pass, Jefferson Co., on 30-IX-93; this skipper has subsequently been collected or observed on multiple occasions at this locality, mostly April-May and Sept.-Oct., by both authors. The illustrated specimens are from Sabine Pass, 8-V-94 (male), and McFaddin NWR, 30-VII-94 (female), both collected by Knudson. The habitat and expected range of this species in Texas is most likely subject to the same confines as in the preceding species.

Acknowledgements

The authors wish to thank those who have contributed information and specimens for illustration, chiefly Roy Kendall; and also including: Don Bowman, Julian Donahue, J.F. Doyle III, Charles Ely, Doug Ferguson, James Gillaspy, Ron Leuschner, J. Barry Lombardini, Eugene Munroe, Michael Pogue, Robert Poole, Jack & Betty Prentiss, Fred Rindge, Charlie Sassine, Jeffrey Slotten, Paul Tuskes, and Richard Worthington.

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Membership Update...

Julian Donahue

This update includes all changes received by 18 February 2000.

"Lost" Members

(publications returned: "temporarily away," "moved," "left no address," or "addressee unknown"):

Adam Miles Cotton (Chiang Mai, Thailand); **Harold W. Ikerd II** (Denton, TX); Sheri **S. Moreau** (Carmel, CA); **Gregory James Nielsen** (Villavicencio, Colombia); **David M. Pinder** (Montgomery, Texas).

Corrections and Minor Changes to the 1998 Membership Directory

(make appropriate changes in Alphabetical List of Members):

Bell, Elizabeth A.: add "Apt. 248A" to street address

Berg, Oistein: change postal code and city to "N-1344 Haslum"

Feeny, Prof. Paul P. change section name to "Dept. of Ecology & Evolutionary Biology"

Gomez Alfonso, Asuncion: replace "La Hurona, 57" with "Avda. Canarias S/N, Mariposario del Drago"

Hidetoshi, Dr. Iwano: change "Department of ..." to "College of Bioresource Sciences"; revise postal code to "252-8510"

Peng Z-L, M.D.: change street number to "445#" and postal code to "330006"

Savignano, Dolores A.: replace "(MS 322 ARLSQ)" with "Room 322"

Shibe, William J. (M.D.): change street number to "244"; change ZIP to 19460-1887.

Zakharov, Evgueni V.: correct spelling of first name (not "Evgeuni")

New & Reinstated Members

Members who have Joined/Renewed/or Rescinded their Request to be Omitted since Publication of the 1998 Membership Directory (NOT included in the 1998 Membership Directory; all in U.S.A. unless noted otherwise)

Andree, Martin J.: 3990 Four Mile Road NE, Grand Rapids, MI 49525-9713.

Assimos, John A.: 17252 Boswell Place, Granada Hills, CA 91344-1020.

Beebe, Warden W.: 1861 North Federal Highway, #281, Hollywood, FL 33020-2827.

Bergen, Andrew: 535 West 110th Street, New York, NY 10025-2086.

Brower, Charles R.: P.O. Box 96, West Columbia, TX 77486-0096.

Buffon, Norma: 6467 Conlon Avenue, El Cerrito, CA 94530-1612.

Cartwright, Sharon M. (Ms.): 17477 Woodhurst Road, Granger, IN 46530-7650.

Cooney, Charles (Eric): 1019 Sherman Street, Boise, ID 83702-3653.

Flynn, Duane: Curator, Life Sciences, Schiele Museum of Natural History & Planetarium, Gastonia, NC 28054-5199.

Gagnon, Fred: Magic Wings Butterfly Conservatory & Gardens, 20 Turnpike Road, Turners Falls, MA 01376-2601.

Germany, Treesa: 2009 Ashley Road, Savannah, GA 31410-4203.

Girardet, Roland (M.D.): 3121 Runnymede Road, Louisville, KY 40222-6175.

Henly, Carolyn: 2171 Adventure Lane, Maidens, VA 23102-2354.

Hill, Ryan: 2501 Manor Road, Apt. 301, Austin, TX 78722-2054.

Hopkins, Christopher Thomas: 5441 King Arthur Circle, Baltimore, MD 21237-4018.

Ife, Stephen: P.O. Box 16091, North Vancouver, British Columbia V7K 2P2, **Canada.**

Krogen, Runar: Finnmyrveien 38, N-7350 Buvika, **Norway.**

Kuji, Ichiei: 10 River Road, Apt. 4P, Roosevelt Island, NY 10044-1145.

Kuzmack, Tricia: c/o Paul A. Cammer, Entomology Club, Thomas Jefferson High School for Science & Technology, 6560 Braddock Road, Alexandria, VA 22312-2297.

Larson, Jeff: 220 Dubas Avenue, Harrow, Ontario N0R 1G0, **Canada.**

Leahy, Peggy: 43 Appleton Street, Springfield, MA 01108-2944.

Markowicz, Joseph W.: 343 Summer Street, East Bridgewater, MA 02333-1053.

Marshall, Jamie: RR1, Site 20, Comp. 28, Enderby, BC V0E 1V0, **Canada.**

Martin, Robert A.: P.O. Box 1922, East Helena, MT 59635-1922.

McClain, Gail R.: 34 Lakeview Lane, Brownsville, TX 78521-1425.

McFarland, Kent P.: Vermont Institute of Natural Science, 27023 Church Hill Road, Woodstock, VT 05091-9642.

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Montagud Alario, Sergio: C/Mar 43, Valencia 46003, **Spain.**

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Torres, Phillip: [address omitted by request]
Wallstrom, Gunnel K.: 5800 Arlington Ave., Apt. 19K, Bronx, NY 10471-1420.
Ward, Scott: 3900 50th Avenue South, Saint Petersburg, FL 33711-4814.
Wenger, Mervin L.: 1024 Log Cabin Road, Leola, PA 17540-9767.
Zimmerman, Dale A. (Ph.D.): 1011 West Florence Street, Silver City, NM 88061-3905.

Address Changes

(all U.S.A. unless noted otherwise)

Baixeras, Joaquin (Dr.): Institut Cavanilles de Biodiversitat y Biologia Evolutiva, Universitat de Valencia, Apartat de Correus 22085, 46071 Valencia, **Spain.**
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Blum, William : 102 Corona Lane, Moss Beach, CA 94038-9763.
Bray, Richard O.: 5613 McLean Drive, Bethesda, MD 20814-1021.
Busby, George W., III (Dr.): 13 Darby Lane, Bedford, NH 03110-4517.
Classey, Peter: Bradshaws Farmhouse, Kelmscott, Gloucestershire GL7 3HD, **England.**
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Fernandez, Sharyn: 126 Circle Drive, Concord, CA 94518-2020.
Grishin, Nick V. (Ph.D.): 5338 Del Roy Drive, Dallas, TX 75229-3015.
Huber, Ronald L.: 2521 Jones Place West, Bloomington, MN 55431-2837.
Hutchings, Roger W.: Caixa Postal 2345, Ag. Andre Araujo, Manaus, Amazonas 69061-970, **Brazil.**
Justice, John A. (Lt. Col.): P.O. Box 100, Harrah, OK 73045-0100.
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Muise, Gregory D.: 12123 Las Nubes Street, San Antonio, TX 78233-5944.
Munger, Elizabeth A.: 2300 Remuda Trail, Austin, TX 78745-3668.
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Nagaoka, Hisato: Development Bank of Japan, Regional Development Division, Otemachi 1-9-1, Chiyoda-ku, Tokyo, **Japan.**
Ogura, Yasuo: 45-5-801, Ojima 5-chome, Koto-ku, Tokyo 136-0072, **Japan.**
Ohkuma, Kunio "Kevin": 10-101 Moegino, Aoba-ku, Yokohama, Kangawa, **Japan.**
Passoa, Steven C. (Dr.): 10603 Brettridge Drive, Powell, OH 43065-1108.
Passoa, Valerie A.: 10603 Brettridge Drive, Powell, OH 43065-1108.
Pultyniewicz, Alan: 6148 Agail Place, Columbia, MD 21045-4307.
Rusch-Fischer, Karen: 1802 East Campo Bello Drive, Lot 49, Phoenix, AZ 85022-2150.
Sargent, Theodore D. (Dr.): 46 Teawaddle Hill Road, RR 3, Amherst, MA 01002-9517.
Selman, Charles L. (Dr.): 626 Grub Road, Patriot, OH 45658-9080.
Sullivan, Patrick H.: 1061 Dona Luz Drive, Plantation, FL 33322-4458.
Taron, Douglas (Ph.D.): Peggy Wotebaert Nature Museum, 2430 North Cannon Drive, Chicago, IL 60614-2773.
Tokunaga, Takehisa (Ph.D.): 12767 Cambridge Drive, Saratoga, CA 95070-3966.
Walton, Richard K.: 1636 North Summerset Drive, Apt. 2, Racine, WI 53406-2671.
Wiggins, David (Ph.D.): Strix Ecological Research, Funbo, Hallkved, S-755 97 Uppsala, **Sweden.**
Wills, Lawrence R.: 3 Ardross Avenue, Khandallah, Wellington, **New Zealand.**

Poetry Corner...

Diapause

There is a key to understanding things like diapause; first, it is preprogrammed; second, it has cause.

Called token stimuli, but please don't mind the name; It just means things like day lengths that do not stay the same.

As days get shorter (past mid-June) a luna larva 'knows'; this heralds colder weather. Maybe even snows.

It must survive the winter to frolic in the spring; How is this done? Please see line one: diapause is the thing.

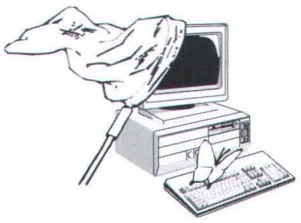
It triggers many changes (like glycerol in the 'blood,'); to make our little larva ready to get snug.

Certain neurohormones secreted in the brain; control the way our little friend will wander the terrain.

And spin a cozy hermitage, a silvery cocoon; a refuge against winter wind, cold dry air, and gloom.

Martha Rosett Lutz

302 Richards Street,
Iowa City IA 52246



Out of the Net...

by Jim Taylor, ***1_iron@msn.com***

If you read *From the Editor's Desk* last issue, you heard Editor Phil taking me to task over a URL which appeared in this column a couple of issues ago; namely, ***www.ent.orst.edu/bent*** (instead of... ***/bnet***) . I also received a snail mail note from R. C. de Mordaigle (if I read the signature correctly), suggesting the "interjar" referred to by Editor Phil could be called the "interbottle" because "one wrong squiggle in a URL could drive one there."

In my defense, I point out that all the right letters were there, and all you butterfliers had to do was put them in the right order. As I have said before, I am not partial to butterflies and don't even own a net. How did you butterfliers collect before Al Gore invented the net? Were tennis and basketball invented at about the same time?

Enough. For those of you interested in BIG pictures of BIG moths I should like to call your attention to ***www.fortunecity.com/greenfield/fish/933/satlist.htm***.

A short while ago (some months ago by the time you read this) a UK gentleman named Tony Pittaway issued a call through LEPS-L for help in assembling a website on the Saturniidae of Europe, North Africa, the Middle East and Central Asia. What he has put together is a collection of great pictures, about twenty so far, along with text (which actually parses) covering host plants, breeding habits, and the like. Please visit and see if you can fill some of the gaps in his pictures. He also has a list of other sites of interest—mostly Saturniids, but some on Leps in general.

Let's make this a totally overseas column and comment on two other sites. I recently received an e-mail from Dr. Jose Clavijo A., Curator of Lepidoptera at Museo del Instituto de Zoología Agrícola, a child of Universidad Central de Venezuela (MIZA-UCV), inviting me to visit his site at ***www.miza-fpolar.info.ve/***. I pass the invite on to you. For those of you who don't speak the language (I don't), there is a toggle switch about two-thirds of the way down the home page for the English version.

MIZA's duties include serving as a depository for specimens from localities either threatened by human activity or of difficult access, being a source for research and a site for formal education, and acting as a center for Arthropod identification (especially agricultural pests, human disease vectors, etc.)

Major buttons on the home page yield a history of the museum, information on other features available, the collections at MIZA, news local to the museum, links to other sites, and profiles of the staff members. Try clicking the Information->PhotoGallery->Lepidoptera buttons. The resulting thumbnails are clickable to obtain great pictures.

Note the site is not Lepidoptera-specific. There are other insect orders, as well as frogs and things.

Editor Phil sent along a site he came across, and I am grateful for the heads-up. It is ***linus.socs.uts.edu.au/~don/larvae/larvae.html***, the home of "Caterpillars: especially Australian ones." Here are links to pictures, along with descriptions of biology, life histories, etc., of over nine hundred Aussie leps—about half of which are accompanied by baby pictures. The honchos of the site are careful to point out that "all our pictures have the head to the left." A look at a few of the caterpillars will make you grateful for this bit of information.

A recent count, per the authors, claims 370 named species of butterflies and 20,446 named species of moths for Australia so far—and the work there undoubtedly is still in its infancy.

The site is attractive and informative - and was put together with a sense of humor. One of the clickable buttons is captioned, "Scientific name index here" with a subcaption, "(very boring)." Another, headed, "Acknowledgements Page," carries the warning, "(beware: it includes about 80 images of 10KB each)."

A few of the caterpillars and moths are listed as being used for food by the Aborigines. Consider the Bogong moth, *Agrotis infusa*, for example. "They [the Aborigines]...knew that the bodies of the moths are highly nutritious. Using a smouldering piece of brushwood, the Aborigines knocked the moths into a container made of bark or kangaroo skin, or a net made of kurrajong fibre. By roasting the moths in hot ashes, the wings and legs were separated from the bodies. The bodies were then mashed to make 'Moth Meat', which was eaten. It is said to have a nutty taste, somewhat like walnuts."

Now, I have in my yard great, hairy, wads of *Agrotis ipsilon*, and it is only the absence of a kangaroo skin or even a smidgen of kurrajong fiber which prevents me from sampling this cousin of the Bogong moth. I have the smoldering piece of brushwood.

If you don't fancy roasting your bugs in hot ashes, alternate recipes are available. For example, Witjuti [the younger Bogong] Grub and Bunya A-Bunya Nut Soup, which is said to vary in flavor

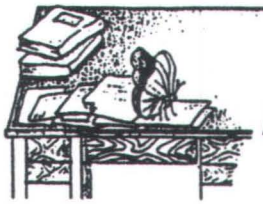
depending upon which species of grub is used:

15 large grubs (or 20 smaller ones)
15 boiled and peeled bunya-bunya nuts
4 sticks celery
1 leek
2 onions
2 liters chicken stock (I think this would make it too runny)
seasoning
bay leaves
whole black peppercorns

Bring chicken stock to a boil, and add finely chopped celery, leek, and onions. Bring back to the boil. Puree grubs in a blender. Roughly chop bunya-bunya nuts and add nuts and grub puree to the stock. Add peppercorns and bay leaves to the stock and let simmer for 1 to 1-1/4 hours. Garnish with cream and freshly chopped parsley. Doesn't say how many it will serve, but my wife has an opinion about this (not with MY blender you don't).

This is a great site, with links to all sorts of arcane stuff, which brings me to a closing request. Phil sent this along because he thought I would enjoy it. I did, and I hope you do. I am sure many of you have favorite or unusual sites you stumble across while looking for something else. If so, please share. I'll give full credit (or blame).

Now, about those eye patterns...



From the Editor's Desk

Phil Schappert

The gremlins have been at it again!

Boy, that last issue had so many typos and errors that I should seriously think about taking out typo insurance. Here are corrections to just a few of the most damning of my mistakes:

First, my apologies to Evi Buckner for omitting the photo credit for her picture of Past-president Michael Smith (see News 41(4): 100) from the 1999 meeting. Also Bib Dirig took me to task for the headline of Mike's *Presidential Profile* because it made him think that he was looking at an obituary! I must say that neither Mike nor I thought of that but I'll be much more aware of it in future.

Another gaff included that the *Report of the Resolutions Committee* was actually on pp. 103 of the last issue, not "below" as stated in the minutes on pp. 94! Those were just some of the major mistakes, the minor ones would need an entire column (and, of course, more would creep in anyway).

Andy Warren sent me a late note for the *Marketplace* but there was already precious little room, so in partial payment for misplacing Andy's resolutions in the last issue, here it is: ***Book Available:*** **Papilionidae y Pieridae de Mexico: Distribucion geografica e ilustracion** by Jorge E. Llorente-Bousquets, Leonor Onate-Ocana, Armando Luis-Martinez and Isabel Vargas-Fernandez. Send personal check for $US40.00 made out to Andrew D. Warren at: Department of Entomology, Oregon State University, Corvallis, OR 97331-2907. Upon receipt an order will be e-mailed to Mexico City and the book will be shipped directly from Mexico City. People have been receiving their books in 1-3 weeks (US orders). For a detailed review of the book, see J. Lepid. Soc. 52(3):342-343.

Finally, through a comedy of errors (I must say, however, that I'm not laughing) there will *not* be color covers on all of the issues this year. My apologies for getting everyone's hopes up and then dashing them to the ground.

More error reports in the next issue, I'm sure...

Precis...*continued from pp. 13*

ests of scientific stability! Don recommended and the committee concurred unanimously that the replacement of *nycteis* by *ismeria* should be suppressed in favor of long, traditional usage for the former.

11. Don Lafontaine presented the recent treatment of *Neonympha areolata* in ***The Taxonomic Report*** by Ronald Gatrelle with the description of *Neonympha helicta* as a largely sympatric morphologically distinct species with different habitat preferences. There were some inconsistencies in the paper, and Don Lafontaine agreed to dissect some material to confirm the genitalic characters described in the paper including those of the Florida population. A decision on whether to accept *helicta* to the list was deferred until the next meeting.

12. The occurrence of *Hemiargus ammon* on the Florida keys was reported in ***American Butterflies*** and in ***Tropical Lepidoptera.*** The committee agreed unanimously to add the species to the North American list.

The committee tentatively scheduled its next meeting in April, 2000. The committee strongly urges that research and resultant papers on species-level taxa be scientifically rigorous. It also strongly recommends that species newly reported for North America be documented by either specimen or recognizable photograph and that some form of documentation repository, possibly on the world-wide web be initiated. The committee will encourage input from all interested parties to the issues posted on the website.

The committee's draft, working list of North American species will also be published on the web, possibly on more than one site.

The Marketplace

***IMPORTANT NOTICE TO ADVERTISERS:* If the number following your advertisement is "413" then *you must renew your advertisement* before the next issue! Remember that all revisions are required in writing.**

Books/Videos

For sale: Partial personal entomological library including Comstock (orig. ed.), 3 vol. Set of Edwards and of Scudder. Send SASE for list. George T. Austin, Nevada State Museum, 700 Twin Lakes Drive, Las Vegas, NV 89107. 414

Tired of playing with butterflies? Study the beautiful flower moths. Both diurnal and nocturnal species can usually be found resting in the blossoms of their food plants. All moths and those larvae known are illustrated in a **Monograph to the North American Heliothentinae** by David F. Hardwick, with 279 pages and 25 full-page color plates. Prices: Canadian: perfect binding, $70 + $10 S & H, hard cover, cloth bound, $95 + $10 S & H; U.S.: perfect binding, $50 + $10 S & H, hard cover, cloth bound, $70 + $10 S & H. Available from Ms. Julia Hardwick, 533 Highland Ave., Ottawa, Ontario, K2A 2J5, Canada. Please make checks payable to D.F. Hardwick. 414

For Sale: How to know the butterflies. J.H. Comstock & A.B. Comstock, 1913. Poor condition (old library stock). Butterflies. The new naturalist, a survey of British butterflies, E.B. Ford 1967. Excellent condition with paper jacket. Everyday Butterflies, A group of biographies. Samuel Hubbard 1899. Excellent condition. Butterflies of Australia & New Guinea Barrett & Burns 1966. Excellent condition. Beautiful Butterflies and companion volume, Beautiful Moths, J. Moucha 1963. Excellent condition. Butterflies & Moths Werner & Bijok. Printed in Germany, three dimensional plates. Excellent condition. Harvey Implom, 4818 Berkley Drive Wilmington,NC 28405, ***Himplom@aol.com*** 413

Lepidoptera Books for sale: Send SASE for list of available publications, including D'Abrera, R.W. Poole, etc. Dr. Eugene J. Gerberg, 5819 NW 57th Way, Gainesville, FL 32653. 413

Livestock

For exchange: limited number of cocoons of *Hyalophora euryalus* (Saturniidae; eggs from wild female from Santa Ynez Valley). Also, pupae of *Euphydryas chalcedona chalcedona* (Nymphalidae) and *Philotes sonorensis* (Lycaenidae) available in spring. Interested in specimens of *Euphydryas phaeton ozarkei*, *Callosamia securifera*, *Citheronia sepulchralis* and others. SASE to Richard Priestaf, 833 La Roda Ave., Santa Barbara, CA 93111. 421

Cocoons and pupa for Spring 2000: *Actias luna*, *Antheraea polyphemus*, *Samia cynthia*, *Hyalophora cecropia*, *Automeris io*, *Callosamia promethea*, *Papilio glaucus*, *P. troilus*, *P. polyxenes*

The aim of the Marketplace in the **News of the Lepidopterists' Society** is to be consistent with the goals of the Society: "to promote the science of lepidopterology...to facilitate the exchange of specimens and ideas by both the professional worker and the amateur in the field,..." Therefore, the Editor will print notices which are deemed to meet the above criteria, *without quoting prices*, except for those of publications or lists.

No mention may be made in any advertisement in the **News** of any species on any federal threatened or endangered species list. For species listed under CITES, advertisers must provide a copy of the export permit from the country of origin to buyers. **Buyers must beware and be aware.** Advertisements for credit, debit, or charge cards or similar financial instruments or accounts, insurance policies and those for travel or travel arrangements cannot be accepted because they jeopardize our nonprofit status.

Only members in good standing may place ads. All advertisements are accepted, in writing, for two (2) issues unless a single issue is specifically requested and must be renewed before the deadline of the following issue to remain in place. All ads contain a code in the lower right corner (eg. 386, 391) which denote the volume and number of the **News** in which the ad. first appeared.

Advertisements must be under 100 words in length, or **they will be returned for editing**. Ads for Lepidoptera or plants must include full latin binomials for all taxa listed in your advertisement. **Send all advertisements to the Editor of the News.**

The Lepidopterists' Society and the Editor take no responsibility whatsoever for the integrity and legality of any advertiser or advertisement. Disputes arising from such notices must be resolved by the parties involved, outside of the structure of The Lepidopterists' Society. Aggrieved members may request information from the Secretary regarding steps which they may take in the event of alleged unsatisfactory business transactions. A member may be expelled from The Lepidopterists' Society, given adequate indication of dishonest activity.

Buyers, sellers, and traders are advised to contact your state department of agriculture and/or PPQAPHIS, Hyatsville, Maryland, regarding US Department of Agriculture or other permits required for transport of live insects or plants. Buyers are responsible for being aware that many countries have laws resticting the possession, collection, import, and export of some insect and plant species. Plant Traders: Check with USDA and local agencies for permits to transport plants. Shipping of agricultural weeds across borders is often restricted.

asterius. Send SASE to: Don Oehlke, c/o P.O. Pottersville, NJ 07979, 908-439-2462. 421

Overwintering cocoons of *Actias luna* and *Automeris io* for sale. Send SASE for prices. Larry J. Koop, Rd. 1, Box 30, Klingerstown, PA 17941-9718. 413

Captive-bred Philippine butterfly pupae for sale, available all year. Imogene L. Rillo, P.O. Box 2226, Manila 1099, Philippines. Fax: (632) 824-02-22, ***clasinse@mindgate.net*** 413

Cocoons of *Actias luna*, *Automeris io*, *Antheraea polyphemus*, *Callosamia promethea*, *Hyalophora cecropia*, *H. columbia*, *H. gloveri*, *Samia cynthia* available fall of 1999. Pupae of Nessus sphinx, *Hemaris thysbe*, *Darapsa pholus*, *Sphinx poecilus*, *Pachysphinx modesta*, *Paonias excaecatus*, *Smerinthus cerisyi* also avaiable. Chrysalids of *Papillio asterius*, *P. glaucus* and *P. troilus* also available. Visit ***www3.pei.sympatico.ca/oehlkew*** for complete price list or send one dollar and self addressed envelope to Bill Oehlke, Box 476, Montague, P.E.I. Canada, C0A 1R0, (902) 838-3455, ***oehlkew@pei.sympatico.ca*** 413

For exchange: ova, larvae or pupae of *Battus polydamus*. Wanted: any Satyridae species, White Admiral (*B. arthemis*), *Nymphalis vau-album*, *Speyeria* sp. or Lycaenidae not found in Florida. Any African Saturnidae. Leroy Simon, 5975 SE 122 Place, Bellview, FL 34420-4396, 352-245-8351. 413

Specimens

Sell, exchange, buy. Butterflies and insects of the world. Richard Souciou, La Martiniere, 79500 Melle, France, (33) 549291165, (33) 549271608 (fax), ***soucious@club-internet.fr*** 421

Exchange: butterflies from western Europe, Morocco, Turkey, and Pakistan. Interested in butterflies from North America, particularly Papilionidae, *Parnassius* and *Colias*. Jean Hanus, 2 rue de Belgrade, 3800 Grenoble, France. 421

For sale: Large selection of Lepidoptera and Coleoptera from Russia and other countries of former USSR. Ilya Osipov, Novogireevskaja 53-8, Moscow, 111394 Russia, tel/fax (7095)-301-25-14, ***www.osipov.org***, ***osipov@osipov.org*** 421

For exchange: North American *Catocala* in exchange for other *Catocala* species worldwide, in particular, those from the Southern United States. All inquiries will be answered. Dr. Ken Neil, P.O. Box 410,Canning, Nova Scotia, Canada B0P 1H0, ***irene.neil@ns.sympatico.ca*** 414

For exchange: Butterflies and moths from Spain for exchange with interested people from other countries. Contact: Manuel Carrasco González; Bda Andalucía, Bque 5- 5º C, 11540-Sanlúcar de Barrameda, Cádiz; España, ***jcuberog11@smail1.ocenf.org*** 414

For sale/exchange: Butterflies from Tibet, esp. species and subspecies of Parnassiinae (*P. hide, P. imperator, P. acco, P. acdestis, P. szechenyii, P. schultei, P. cephalus,* etc.), Pieridae, Satyridae, in first quality. Discount available, free packaging and posted by registered airmail. For price list and more information: Stanislav Kocman, Horymirova 4, Ostrava 3 700 30, Czech Republic, Europe, +420-69-345538. 414

Free pheomone moth lures for several types offered to foreign collectors for the purpose of collecting diurnal clearwing moths (Sesiidae). Nothing owed to me at any time but need duplicates and will also pay for Sesiidae collected. Lures offered free to collectors in South America, Africa, Europe and anywhere outside of U.S. Full simple instructions given and I will help with problems associated with lures. You will find that lures are "fun" and open a new dimension to collecting. American collectors are also invited to ask for free lures. Dr. John Holoyda, 5407 N. Oketa Ave., Chicago, IL 60656-1746. 414

Wanted: to buy (preferably wholesale) dried butterflies, beetles, spiders and other insects from Mexico, Central America, Brazil, Colombia, Peru, Australia, South Africa, Indonesia and/or other countries. Georgianna Guthrie, 3 Grey Birch Place, The Woodlands, TX 77381-4625, ***wingart@worldnet.att.net*** 413

Wanted to trade: various *Colias* of Canada and the U.S. I can send many butterflies of Japan. Also interested in butterflies of the West Indies, especially *Phoebis avellaneda*, *P. philea huebneri*, *Parides gundlachianus*, *P. machaonides* and various *Papilio*. Offering various rare *Parnassius* and *Colias* of Tibet, the Himalayas and China in exchange. Also rare *Papilio* of South India, Sikkim, the Himalayas, North Vietnam and China. Shin-ichi Ohshima, Shimohideay 707-99, Okegawa, Saitama, (363-0025) Japan. Fax: 81 48 78 70 29 0. 413

Equipment

Top quality entomological supplies. Drawers, trays, boxes, pins, spreading boards (the best and easiest), nets, and a lot more. Insect frames of unique designs. Prices are the lowest of the entire market (Canadian currency). We ship anywhere around the world. Yves-Pascal Dion, 271 Léo-T.-Julien, Charlesbourg, Quebec, Canada G1H 7B1, 418-841-3587, Fax: 418-841-2024, ***ypdion@ccapcable.com*** 414

For sale: Entomological pins of the highest quality. Price is approx. $1.80 for 100 pieces. Send for list, pin sample and information to: Stanislav Kocman, Horymirova 4, Ostrava 3, 700 30, Czech Republic, Europe. Tel./Fax: +420 69 345538. 414

For Sale: Light traps, 12 volt DC or 110 AC with 15 watt or 20 watt black lights. The traps are portable and easy to use. Rain drains & sorting screens protect specimens from damage. Free brochure and price list available. Also, custom built light traps and light fixtures: Mercury vapor, black light & black light dark in 15, 20 & 40 watt, and sun lamps. Together or in combination. Electrical controls, photoelectric switches, rain drains and sorting screen. Will design enclosures and include enclosure plans with purchase of fixture. To obtain a quote, your specifications are required. For information, contact: Leroy C. Koehn, 6085 Wedge-

wood Village Circle, Lake Worth, FL 33464-7371; Tele: 561-966-1655; ***Leptrap@aol.com*** 414

Help Needed

I am searching for live and dead showy insects worldwide but especially from South America and Africa. Will buy or exchange them for livestock or specimens of butterflies, moths, beetles and dragonflies from various regions of Russia. Yuri Berezhnoi, P.O. Box 33, Sochi, Russia, Fax: +7-8622-945462, ***kingdom@sochi.ru*** 414

Wanted to buy: The following books are needed by a friend. Send condition, asking price and contact information and you will be contacted. Legion of the Night (sargent); Butterflies of Rocky Mountain States (Ferris/Brown); Butterflies of North America (Feltwell). Ron Leuschner, 1900 John St., Manhattan Beach, CA 90266-2608, ***ronleusch@aol.com*** 414

Wanted: Nevada butterfly records (all species), request for information not previously sent (species/date/location), these data being computerized for forthcoming book, all contributors will be acknowledged. George T. Austin, Nevada State Museum, 700 Twin Lakes Drive, Las Vegas, NV 89107. 414

Help Offered

New Lepidoptera resource: "Russian Butterflies: Insects from Former USSR for Collectors." Web site and database for insects at ***www.osipov.org/insects***. Contact Ilya Osipov, Novogireevskaja 53-8, Moscow, 111394 Russia, tel/fax (7095)-301-25-14, ***osipov@osipov.org***, for further information. 421

Wish to collect legally in Costa Rica? Whether you decide to visit Costa Rica for pleasure or work we can help you obtain your Official Collecting permit for the time of your stay. You would be allowed to collect in all the country (except National Parks). Costa Rica rain forests are unique in what you can get: species from the north (Mexico) or the south (South America). Contact: Miguel E. Chumpitasi, P.O.Box 1106-2150, Moravia, San Jose, Costa Rica or phone/fax (506) 236-1447, ***echumpi@sol.racsa.co.cr***. 414

Miscellaneous

Small personal butterfly collection (~30 Schmitt boxes, ~2 Xerox paper boxes with immatures in alcohol). Most are Nymphalids, especially *Asterocampa*, on which I did my dissertation. In addition, I have literature (reprints and books), drawings, manuscripts and journals (Ann. Rev. Entomol., 1980-1997; J. Lepid. Soc., 1978-present (incl. News); J. Res. Lepid., (1980-current); Mol. Biol. Evol., 1989-present and Syst. Zool, 1978-1991 + Syst. Biol., 1992-current). I can no longer maintain the collections and have no further professional interest in entomology (I've decided to concentrate on my career as a professional flutist). If you are seriously interested in any of the above, please call or write with details of your interests. I have yet to compile a list of butterfly species, reprints or books so I'm looking for specific requests or offers for the whole lot. Tim Friedlander, 14012 Great Notch Terrace, North Potomac, MD 20878, 301-294-3361. 414

Research Requests

Paul Opler, Andy Warren & I are working on an **Introductory Fieldguide for Northern Mexico** (Jalisco latitude north). It will primarily be a picture book of around 1,000 species, expected to be available in about a year. Since there are no current fieldguides for Mexico, this is intended to bridge the gap until others are able to publish more in-depth regional guides. We are searching for as many field pictures as possible, though we plan to take specimen pictures to illustrate any missing desired views. If you have any pictures you'd be willing to donate toward this endeavor, please contact me for further info. Wanda Dameron, Flutterby Press, 23424 Jonathon St., Canoga Park, CA 91304-3523, ***be496@lafn.org***, (818) 340-0365. 421

Publications concerning Midwestern Ichneumon wasps (Hymenoptera: Ichneumonidae) are required in support of my studies of Sesiid moths. There appear to be a number of Ichneumon wasps that are sympatric with and almost indistinguishable from *Albuna fraxini vitriosa* (Sesiidae). I am investigating potential mimicry between the wasps and these moths. Comprehensive, detailed texts/papers with color pictures would be very useful. Postage prepaid and all literature/material will be returned to you. Contact: John Holoyda, 5407 N. Oketo Ave., Chicago, IL 60656-1746. 421

I am interested in any Florida records of the Miami Blue, *Cyclargus thomasi*, since 1989. Please submit relevant data regarding dates, location, sexes, observations etc. Recent attempts to verify its existence in Florida have been unsuccessful, suggesting it may nearly be extirpated from the region. Likewise, I am gathering all Florida records of the newly established *Cyclargus ammon* which appears to be invading at least one area formerly inhabited by *C. thomasi*. All responses would be appreciated. Submit data to: John Calhoun, 977 Wicks Dr., Palm Harbor, FL, 34684-4656, ***jcalhoun@maxximmedical.com*** 413

Announcement

Special Back Issue Sale Concludes

The response to the Special Sale of Back Issues sent with the Dues Notices has been tremendous. But now the Back Issue Manager would like to rest after several intensive months of lugging

continued at right...

Announcement

Basic Techniques Memoir Near Publication

The Basic Techniques Manual (Memoir #5), which has been in preparation for some time, is now completed and will soon be ready for distribution.

Basic Techniques for Observing and Studying Moths and Butterflies

William D. Winter, Jr.

This 7" × 9" book has 350 pages plus 82 pages of Appendices. Topics covered include: Observing Butterflies and Moths; Photography; Data Recording; Identification; Collecting Techniques; Preparing Specimens and Genitalia; Collecting Regulations and Guidelines; and Disposition of Collections.

This important book will be an essential reference for all Lepidopterists regardless of their special interests. After publication, the price will be $25 for Members and $40 for Non-members. However, for orders received by June 1, 2000 a special pre-publication price is offered: $22.00 (Members), $35.00 (Non-members); Postage/ Handling: $4.00 (US and Canada), $6.00 (Other Countries).

Send check or money order, in U.S. funds, payable to "The Lepidopterists' Society," to: Ken Bliss, Publication Manager, P.O. Box 1366, Edison, NJ 08817. Send your order today since it ***must*** be received before June 1, 2000

Journals out of storage, putting into boxes, and taking to the Post Office. Therefore, as of June 1, 2000 the sale is officially over, and any orders received after that date will be returned.

Ron Leuschner

An Unusual Melanic *Papilio glaucus* (Papilionidae)

Bruce Bradshaw

4019 North Bennington Ave., #102, Kansas City, MO 64117-2974.

On August 4, 1998 I collected a melanic specimen of *Papilio glaucus* (Papilionidae) in Clay County, Missouri (see color plate on pp. 29). I have collected this locality frequently over the past ten years and until just recently yellow form females have not been known to occur there. Although not rare, previous collecting seasons never resulted in the capture of the yellow form. The black female has always been very abundant, depending upon various seasonal factors in any given year. During the first week of August 1998 eight females were collected and tagged. Of those eight, three were black; four were yellow, plus the melanic specimen shown. Many other black females were sighted but remained elusive to capture and tagging. These four specimens are the largest number of yellow females I've ever seen at this locality. They seemed to appear all at once.

It has been reported that black *P. glaucus* females are a good example of Batesian mimicry, an adaptive trait that allows one insect to mimic another in order to avoid predation, e.g. black *P. glaucus* mimic *Battus philenor*, an insect that feeds on toxic plants and is subsequently harmful to would be predators. A recent paper published in the journal **Development** titled "*Swallowtails co-opt nature's palette*" by Richard ffrench-Constant, Professor of Entomology at the University of Wisconsin has identified a genetically controlled biochemical pathway that leads to melanism. Melanism is the abnormal development of dark pigmentation. Professor ffrench-Constant's team has identified a single gene that determines how the swallowtail lays down its colors.

The team followed a pathway, a cascade of genetically triggered biochemical events that plays out in the early stages of development. It is through this pathway that the swallowtail determines the timing and the placement of pigments in the scales on the surface of the developing wings. They discovered that colored pigments are laid down first and then black melanin. Furthermore, Prof. ffrench-Constant's team cloned a key component called dopa decarboxylase (DDC). It is an enzyme that supplies dopomine to both yellow and black pigments. It is first expressed in the yellow pigments and then later in the black pigments. In black *P. glaucus* females, the team observed the early suppression of DDC enzyme activity and the shutting down of yellow pigment production. It is later filled in with the black pigment melanin when the DDC enzyme is flipped back on.

The discovery of DDC and its critical role in pigmentation placement helps reinforce my observation that the frequency of yellow females *vs.* black females remains low at this locality. But this doesn't quite satisfy my curiosity about my melanic specimen. Hopefully, one can tell from the photograph that the specimen is black on the left forewing and hind wing while yellow on the right. From just visual observation, (no genitalia dissection) this specimen is a female and not a gynandromorph. It is almost as though there is an even genetic split from left to right. So, I remain baffled and invite comments from others regarding this anomaly and its correspondingly small population.

A Call for Assistance:

Collection of Emerald Moths in the genus *Nemoria* (Geometridae)

Erick Greene

Division of Biological Sciences, The University of Montana, Missoula MT 59812-1002, (406) 243-2179 (lab), egreene@selway.umt.edu

Some years ago I stumbled upon fascinating caterpillars that feed in oak trees in southeast Arizona. The geometrid caterpillars, *Nemoria arizonaria* (Geometridae), are bivoltine, with a brood of caterpillars early in the spring, and a second brood that emerges later in the summer. These *Nemoria* caterpillars have a fascinating developmental trick that enables them to be extremely well camouflaged during different times of the year.

During the spring, oak trees are covered with pollen-producing catkins, which remain on the trees for a few weeks. The spring *Nemoria arizonaria* caterpillars develop into superb mimics of the oak catkins, complete with fuzzy yellowish bumps protruding from each segment, and rows of false stamens running down the back (Figure 1, below, & 2, above right). This mimicry is so complete that I have held a caterpillar in one hand and an oak catkin in the other, and most people can't tell them apart until one starts to walk away! The second brood of caterpillars emerge in June and July—long after the catkins have fallen off the trees. If these caterpillars developed into catkin mimics they would be very conspicuous, and probably end up as food for a hungry bird. Instead, they develop into superb mimics of oak twigs: their integument is smooth, light grayish-green, without the pronounced bumps of the spring caterpillars (Figure 3, above right).

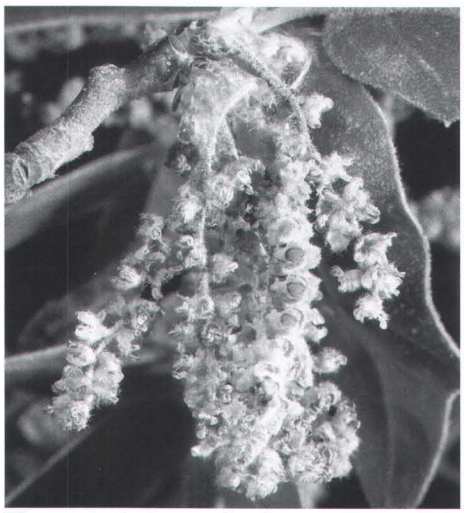


Figure 1: *A cluster of catkins in Emory Oak,* Quercus emoryi, *in southeast Arizona. A catkin mimic caterpillar,* Nemoria arizonaria, *is hiding among the catkins.*

This developmental polyphenism is a fascinating case of "you are what you eat." Each caterpillar is born with the genetic blueprints to develop into either form, but larval diet specifies the developmental trajectory for each individual caterpillar: those that eat catkins all develop into the catkin mimic form, while those that eat leaves develop into the twig morphs. More details about this fascinating system can be found in the articles listed below.

I am now starting a comparative study of many species in the genus *Nemoria*, which are found throughout much of North America, and into Central and South America. The genus is a large one, and species of *Nemoria* are fascinating for many reasons. Some species of *Nemoria* are dietary specialists, feeding only on one or a few species of plants; at the other extreme are species that are dietary generalists, feeding on many species of gymnosperms as well as many different kinds of angiosperms. I am now studying how developmental flexibility and the ability to mimic different plants influences speciation, host shifting, and range expansion in this group. The first step in this research is to construct a phylogeny for the group. I will sequence DNA from different species of *Nemoria* moths (mitochondrial cytochrome oxidase I and II genes). The resulting molecular phylogeny will allow us to infer which species are most closely related to each other, and test hypotheses about some fascinating ecological, developmental and evolutionary relationships in the group.

I will be collecting as many species of *Nemoria* as I can, but I am hoping to enlist the help of black-lighters around the country. The adults are easily recognized by their beautiful green color (Figure 4, above right), which gives them the common name of "emerald moths." If you blacklight for insects and are interested in participating in this research venture, I would make it very easy for you to participate. I would send you more detailed instructions, collection vials, and prepaid mailing cartons. Any green geometrids that show up at your blacklights could simply be plopped in the collection vials, and mailed to me at no cost to yourself.

If you have any questions about any of this please don't hesitate to get in touch with me. Thank you for your consideration.

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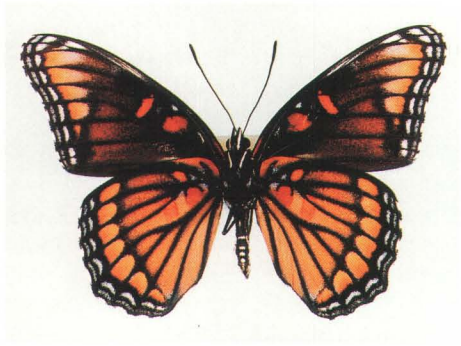
Greene, E. 1996. Effect of light quality and larval diet on morph induction in the polymorphic caterpillar *Nemoria arizonaria* (Lepidoptera: Geometridae). Biological Journal of Linnaean Society 58: 277-285.

Greene, E. 1999. Phenotypic variation in larval development and evolution: polymorphism, polyphenism, and developmental reaction norms. In: **The Origin and Evolution of Larval Forms** (M. Wake and B. Hall, eds.). Pp. 379- 410, Academic Press, NY.

Figure 2 (left): *Closeup of a catkin mimic caterpillar,* Nemoria arizonaria, *reared on a diet of catkins.. The remarkable resemblance to an oak catkin extends to two rows of false stamens running down the back.*
Figure 3 (right): *Twig mimic caterpillar of* Nemoria arizonaria. *This caterpillar is a full sibling of the caterpillar shown in Figure 2, but it was reared on a diet of oak leaves.*
Figure 4 (top): *Adult emerald moth in the genus* Nemoria.



An Unusual Melanic *Papilio glaucus*

This specimen, collected 4 Aug. 1998 by Bruce Bradshaw, appears to be a bilateral gynandromorph but is not. It is female and appears "as though there is an even genetic split" between the mimetic dark morph and the typical male-like morph. Photo by Bruce Bradshaw. See the article on pp. 27.

A Second Interspecific Hybrid of Two *Limenitis* sp. in Mississippi

Terence L. Schiefer

On 13 November 1999 I collected Mississippi's second specimen of an interspecific hybrid between a Viceroy, Limenitis archippus, *and a Red-spotted Purple,* L. arthemis astyanax. *The specimen, a male in fresh condition, is very similar to the specimen illustrated in Schiefer (1999) but the submarginal orange spots on the forewing are more distinct and the dark median band of the hindwing is diffuse and less distinct. The collecting locale is 33°28'48"N 88°58'16"W in Oktibbeha County, is the same location where I collected the first Mississippi specimen on 16 Sept. 1995 Schiefer 1999). The specimen is deposited in the Mississippi Entomological Museum at Mississippi State University. Photos by Terence L. Schiefer.*

Reference:

Schiefer, T. L. 1999. ***News*** *41(4): 99.*

Controversial Butterfly...

Richard Holland

This is the butterfly (above), the Cloudcroft Checkerspot, Euphydryas chalcedona cloudcrofti, *that set off the closure of two ranger districts in the Lincoln National Forest of New Mexico to collecting of Lepidoptera (see* ***News*** *41(4): 101-102). We are aware that there is no known instance of collecting causing even local extinction in Lepidoptera (see Pyle, Opler & Bentzien, 1981, Ann. Rev. Entomol. 26: 233-258; Seidl, 1999, J. Lepid. Soc. 53(1): 32-36). Photos courtesy of Lincoln National Forest (Alamogordo, New Mexico).*

Habitat Restoration for Butterflies at Mirror Lake State Park, Wisconsin

Ann B. Swengel

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Inspired by the transect butterfly method developed by Dr. Ernest Pollard and colleagues in England, I decided in 1988 to conduct similar walks at Mirror Lake State Park. I established my survey route along a hiking trail for part of the way, returning across a sandy barren of large grassy patches dominated by little bluestem (*Schizachyrium scoparium*) amongst scattered stands of jack pine (*Pinus banksiana*). In that first May, I recorded three localized species of "special concern" to the Wisconsin Department of Natural Resources: Olympia marble (*Euchloe olympia*), cobweb skipper (*Hesperia metea*), and dusted skipper (*Atrytonopsis hianna*). A fourth appeared in August: Leonard's skipper (*H. leonardus leonardus*).

*A cobweb skipper (*Hesperia metea*; photographed at a barren in central Wisconsin). Photo by Ann Swengel.*

During 1989-92, despite 2-4 surveys each May-June, I relocated only a few individuals of the spring-flying skippers and only on 20 May 1991. I still found dusted skippers out in the barren, although only in the largest remaining grassy patch. But I located cobweb skippers only along the trail. There, birdfoot violet (*Viola pedata*), a favorite nectar source, had proliferated when brush and trees were cleared to widen this corridor for skate-style cross-county skiing in the late 1980s. Each year, a narrow hiking track was mowed several times per summer, but the full corridor was mowed only once late in fall, allowing sun-loving vegetation to flourish while not disrupting the skippers during the growing season. I could find no cobweb skippers in the grassy barrens where I had recorded up to 12 on a single survey in 1988, and these openings were inexorably shrinking as the tree canopy progressively expanded. Olympia marbles were few and far between because its caterpillar food plant, lyre-leaved rock cress (*Arabis lyrata*), was sparse and restricted to the trail, although the rock cress increased there after the widening. I can't comment on Leonard's skipper during this time, as I didn't visit during its flight period in 1989-92.

Meanwhile, early in 1993, a teacher from Webb High School in nearby Reedsburg, Wisconsin asked the Sauk County Natural Beauty Council, of which I am a member, whether we had any projects suitable for their students' involvement. Each year on a Friday late in April, the students and their teachers are bussed to various locations in the county to work on environmentally related outdoor projects. At my suggestion, and with the blessing of Jerry Trumm (superintendent of the state park), the council proposed to coordinate a project for them to restore grassy habitat by reducing canopy in this pine barren.

Mindful of the constraints imposed by state park regulations and our source of volunteers, we designed the restoration specifically to benefit the localized butterflies. We wanted to remove encroaching trees with as little disturbance as possible to the herb layer and its associated butterflies, so this ruled out burning the habitat (typical in midwestern restorations), as this would kill butterflies (mostly when in immature life stages). Fortunately, mature jack pines do not resprout from stumps, so cutting them down is sufficient to kill them. We would target canopy removal to get the most gain in size and connectivity of the openings with the least tree removal. But we'd do this bit by bit over many years, so that the native prairie-like flora, which is composed mostly of perennial plants that spread slowly, could re-establish on its own. Opening up large areas rapidly would give adventive weeds greater advantage over the prairie plants in re-establishment. This low-intensity but long-term approach was well suited to our source of volunteers: a busload of students for one April morning each year since 1993.

Cut pines waiting for students to clear them, on the first work day (23 April 1993). Photo by Ann Swengel.

While the students could pull up saplings and use loppers and band saws loaned from the local office of The Nature Conservancy to cut small pines, adults would have to chainsaw mature pines ahead of the annual work day. My husband Scott and I, sometimes with other council members, walk the project area each winter to mark the

trees to be cut, and Clyde Jaworski and Steve Sorenson (other council members) have generously donated their equipment and time to chainsaw them. The cut pines could not be removed from the park, as this ran afoul of contracting regulations for timber extraction, nor would they be burned in the park, because of safety concerns. So students drag them into the shade of pine groves that aren't going to be cut down. To my surprise, these piles of pines subside quickly and compactly, and do not pose a significant fire hazard because of the gradual nature of the pine cutting (i.e., the piles do not start out huge). Even the stubby stumps left in the openings disintegrate in a few years.

Since the prairie-like vegetation in the barren was dominated by grasses, the project also seeds in forbs (wildflowers) suitable for butterfly nectaring. This has the side effect of adding a "constructive" activity that balances the tree removal, which is ironic for an Earth Day program! With appropriate permission from landowners, I (and recruited family members) collect seed during summer and fall from in or near the park, in order to use local species and gene types. I store most of the seed on our unheated porch for the students to sow the following April. They scratch the seeds into the soil surface of bare spots in the grassy patches, sometimes with rakes but mostly by hand. But some spring and early summer flowers I've planted directly after seed harvest, since these have a reputation for a large loss in viability if stored.

Native prairie vegetation has rapidly re-established in the habitat restoration at Mirror Lake State Park where pines were cut, especially little bluestem and rough blazingstar (*Liatris aspera*), a favorite butterfly nectar source, even where the canopy had previously been dense. No bluestem was seeded, and rough blazingstar (a slow-establishing perennial) flowered faster than possible due to regeneration from seed. This rapid floral recovery is testament to the durability of the perennial roots of prairie plants. In newly cut areas, a flush

Rough blazingstar, Liatris aspera, *in flower (14 August 1999), re-established by seeding in a cut area, amongst a profusion of naturally regenerated little bluestem,* Schizachyrium scoparium. *Photo by Ann Swengel.*

of dwarf dandelion (*Krigia virginica*), a native flower specific to sunny sites with sandy soil, hinted at the hidden store of long dormant seeds in the soil.

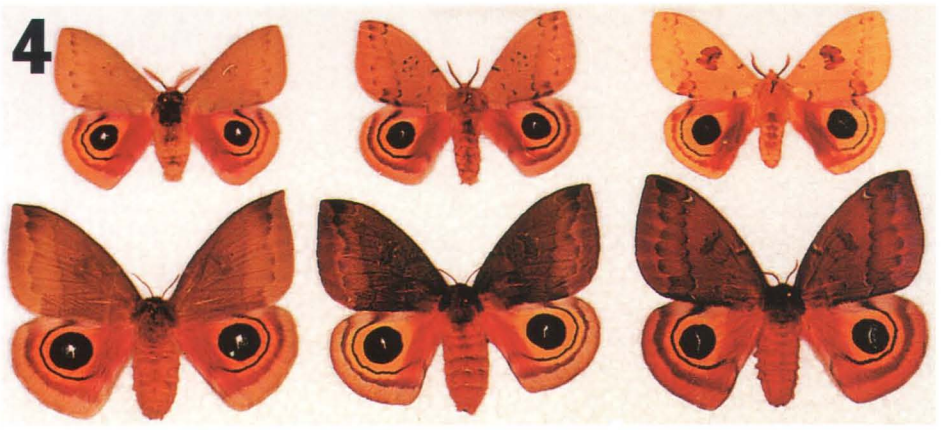
As a result, it is difficult to determine whether the forb seeding is having any appreciable benefit. However, I'd never seen any birdfoot violet in the project area until 1999, when a few bloomed in two seeded areas (sown both by me in summer and in spring by students). That year, blazingstar, horsemint (*Monarda punctata*), and gray goldenrod (*Solidago nemoralis*) all flowered in an area where I'd not seen them before, but where they'd been seeded repeatedly. This suggests some benefit from the seeding, although no sign of rock cress has appeared where that's been sown. As a result, Olympia marbles remain a sporadic sight restricted to the trail.

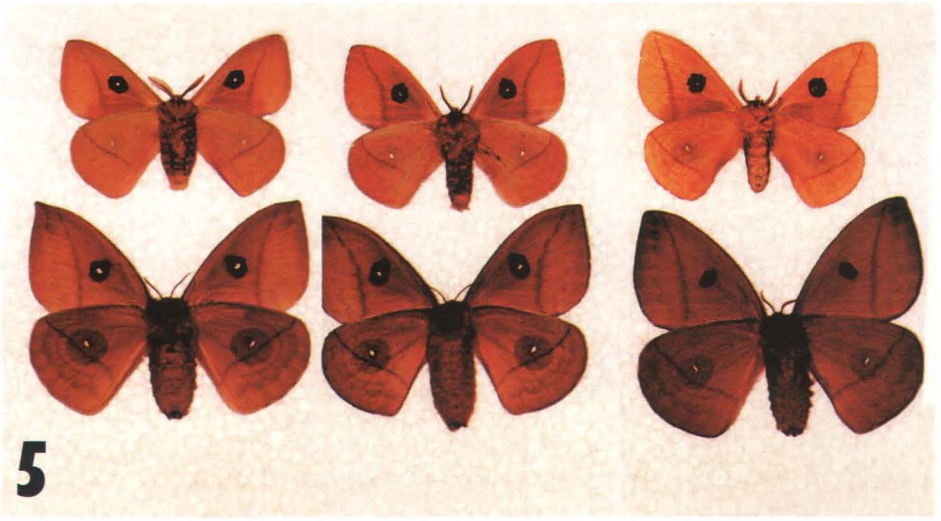
Weeds (while present, as throughout the park) have not taken over the opened areas. No doubt the gradual canopy reduction contributed to this, but the droughty, sterile soil is also relatively inhospitable to most weeds. After canopy removal, however, jack pine seedlings can pop up in large numbers, so it is important to follow up with seedling removal for several years after initial clearing, until the supply of pine seeds in the soil is exhausted. This, plus observations elsewhere, have led me to conclude that, in general, a better butterfly outcome results when habitat management is doled out a little bit each year over the long-term than the same amount of effort dropped like a bomb in one year. A gradual approach also tests the results of a management activity on a manageable scale, should unforeseen consequences include undesirable effects. This low-level but long-term approach has not just "held the line" against increasing canopy, but has actually "turned back the clock" before the late 1980s in overall canopy cover. It's amazing how much can get done with the latent energy of a busload of high schoolers sprung from the classroom for a morning, if properly channeled and supervised.

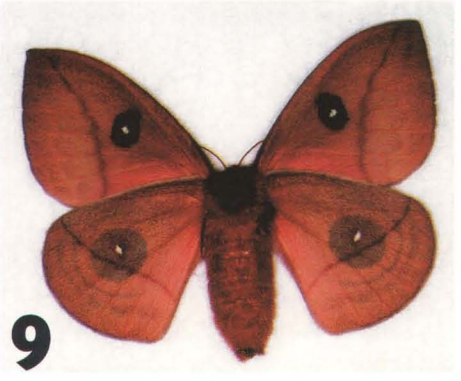
But what about the skippers? On 6 September 1993, I counted 15 Leonard's skippers, including a male and female in the cut area, and since then, I've found this species routinely on late summer surveys (16 in 1996 and 8 in 1999), including regular presence in the restoration. I assume the skipper was always in the project area, but since my only pre-project data are the 2-4 individuals recorded on surveys in 1988, a severe drought year, it's unclear the increase is due to the project rather than more favorable climate. But at least there's no evidence that the restoration has hurt them.

I have conducted 2-3 surveys in the spring skipper flight each year of the project (except only once in 1999), but not until 1996 did I record dusted skipper in the restored area. Since then, I've found it in the project area each year. I've yet to observe cobweb skipper, the most localized of these species, in the project area, but at least it has persisted along the trail. Perhaps this skipper actually is in the restored area, and I've just missed it. But more years and more surveys are clearly needed to figure out where it is and what it needs.

This project couldn't have happened without the happy coincidence of a known need with a suitable source of volunteer manpower and coordination. But given that, this project demonstrates that a little bit of work appropriately targeted and consistently applied year after consecutive year can produce successful habitat restoration floristically that also benefits local butterfly populations, yet is very economical in time and money.

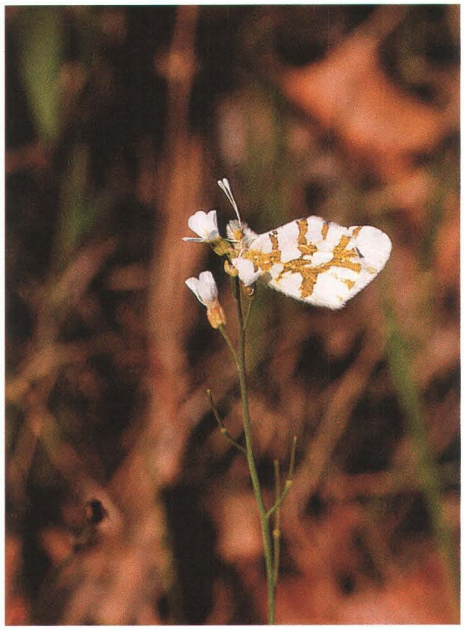






Some Interesting Rearing Records from Florida and Texas: *The adult and larva of* Norape virgo *Butler (Lepidoptera: Megalopygidae): l) adult dorsal and ventral, 2) last instar larva, and 3) last instar larva. Crosses of* Automeris louisiana *Brou* × Automeris io *F. (Lepidoptera: Saturniidae: Hemileucinae). 4) shows the dorsal surfaces of pinned* A. louisiana *on the left,* A. louisiana × A. io *in the middle, and* A. io *on the right. Top, males; bottom, females. Adults of* A. louisiana *and* A. io *parents used for the cross were phenotypically similar to the ones shown in the photos. 5) shows the same specimens with their ventral surfaces exposed. 6) close up of the dorsal surface of a male hybrid. 7) close up of the dorsal surface of a female hybrid. 8) close up of the ventral surface of a male hybrid. 9) close up of the ventral surface of a female hybrid. Photos by Jeffrey Slotten. See the article on pp. 12.*

An Australian Aboriginal painting depicting two large Saturniid moths from tropical Austalia, Attacus wardi *and* Coscinocera hercules. *The artist's name is Moolooloo, a man from the Northern Territory. The style is typical of that region, with many parallel and intersecting lines. Richard Peigler owns the work and comments, "I find it interesting that Australians are now working to preserve and market their Aboriginal culture after trying to wipe it out. This situation is not unlike the immense popularity of Native American art and artifacts in the U.S., after we tried to totally exterminate those cultures."*



Habitat Restoration for Butterflies in Wisconsin: *Clockwise from left: Leonard's skipper,* Hesperia leonardus, *at the state park, on its favorite nectar source, rough blazingstar,* Liatris aspera. *One of 3 dusted skippers, Atrytonopsis hianna, counted on 21 May 1988. An Olympia marble (*Euchloe olympia*; photographed at a barren in central Wisconsin), nectaring at its caterpillar food plant, lyre-leaved rock cress,* Arabis lyrata. *Seed of birdfoot violet,* Viola pedata, *was collected and sown in the project area, with first flowering there in 1999. Photos by Ann Swengel. See the article on pp. 30.*

Membership

The Lepidopterists' Society is open to membership from anyone interested in any aspect of lepidopterology. The only criteria for membership is that you appreciate butterflies or moths! To become a member, please send full dues for the current year, together with your current mailing address and a note about your particular areas of interest in Lepidoptera, to:

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Students must send proof of enrollment. Please add $ 5.00 to your Student or Active dues if you live outside of the U.S. to cover additional mailing costs. Remittances must be in U.S. dollars, payable to "The Lepidopterists' Society". All members receive the **Journal** and the **News** (each published quarterly). Supplements included in the **News** are the Membership Directory, published in even-numbered years, and the Season Summary, published annually. Additional information on membership and other aspects of the Society can be obtained from the Secretary (see address inside back cover).

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Submissions are always welcome! When space becomes limiting, preference is given to articles written for a non-technical but knowledgable audience, illustrated, written succinctly, and under 1,000 words. Please submit your article or item in one of the following formats (in order of preference):

1. Electronically transmitted file in ASCII or other acceptable form *via* e-mail.

2. Article on high-density floppy diskette or Zip disk in any of the popular formats. You may include graphics on disk, too. Indicate what format(s) your article is in, and call if in doubt. Include a printed hardcopy and a backup in ASCII or RTF (just in case). All disks will be returned upon request.

3. Typewritten copy, double-spaced suitable for scanning and optical character recognition. Artwork should be line drawings in pen and ink or good, clean photocopies suitable for scanning. Originals are preferred.

4. Handwritten or printed (very legible, short pieces only please, <500 words).

Submission Deadlines

Material for Volume 42 must reach the Editor by the following dates:

Issue	Date Due
1 Spring	you missed it!
2 Summer	Apr. 28, 2000
3 Autumn	Jul. 28, 2000
4 Winter	Oct. 27, 2000

Reports for Supplement S1, the Season Summary, must reach the respective Zone Coordinator (see most recent Season Summary for your Zone) by Dec. 15. See inside back cover for Zone Coordinator information.

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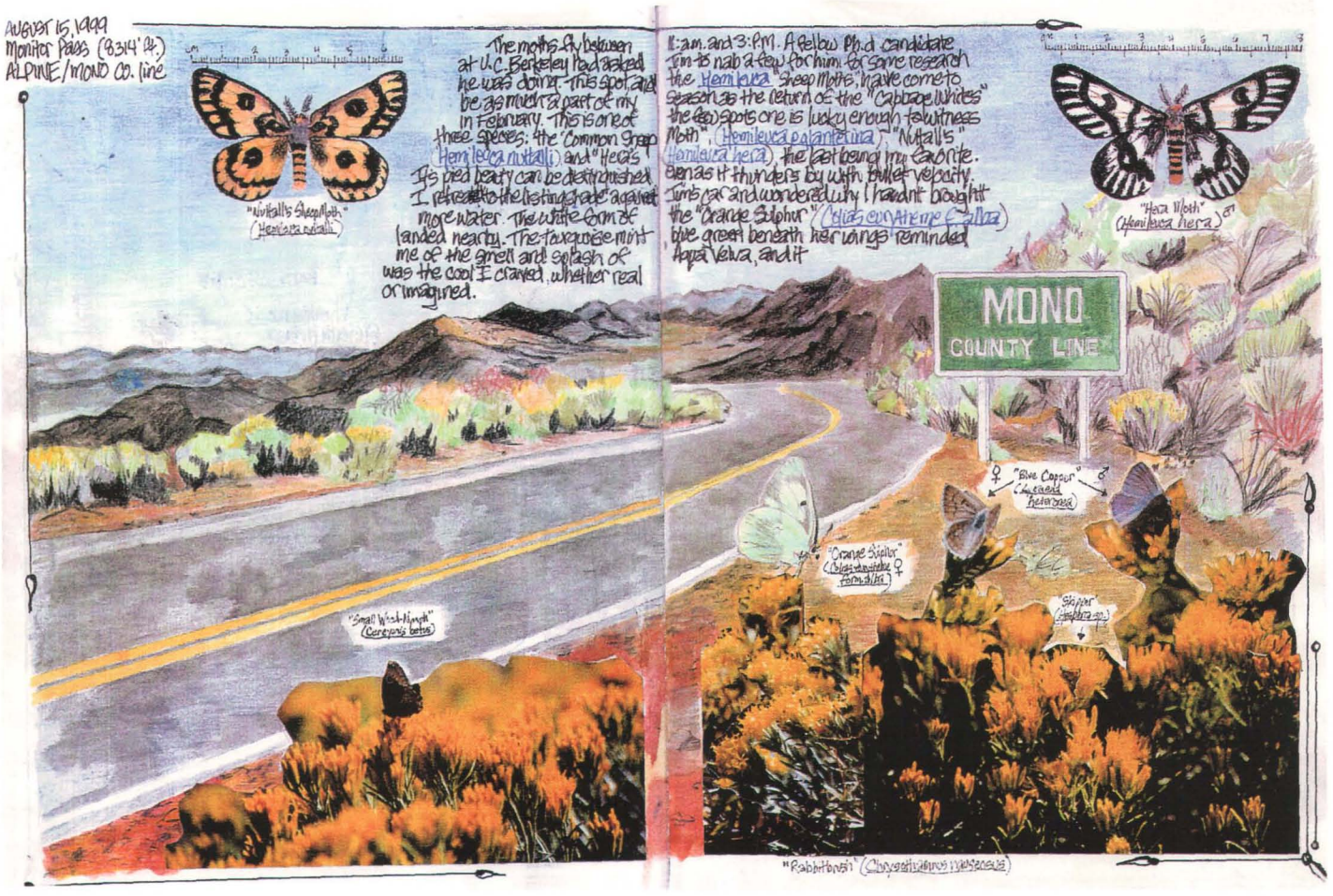

A couple of pages from the field journal of member Liam O'Brien. Liam describes his journals as a combination of many things: some photography, some botany, but mainly painting and drawing to capture the spirit of a site. Last season he spent some time in "the more obscure parts of the southwest" tracking down some of the more elusive Hemileuca *silkmoths. I know that we all keep field notes but mine don't look anything like this! Don't you wish your journal looked this good?!*