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ARGYNNIS GUNDERI: A MANY-SPLENDORED SNAFU

Unless one dabbles in such things it is difficult to comprehend the involvements represented by a single checklist name. A smudge of black type, a line or less, and this product of nature becomes a "species", a "subspecies" or perhaps a synonym. A bibliography reveals a trifle more—the origin of the taxon and whatever buffetings it has undergone subsequently.

Between and behind the lines is a supporting framework rarely detailed if glimpsed at all. Some author passed a judgment, at a certain point in time, indicating his understanding of some particular entity. Most organisms are quite variable, so classification reflects many factors—of morphology, of environments and sympatry—the reckonings are endless. To all of which is added another element, not only concerning the amount and kinds of data studied (and perhaps the competence or incompetence of the interpreter), but also having to do with the contemporaneous ways of thinking, "species" and their categorical ancillaries being rather different things today than they were when Dr. Holland wrote his famous Butterfly Book.

For these reasons, each of the taxa listed in *Speyeria* would require pages, or even volumes, to gather up all the threads. None seems to be more intricately snarled than the *Argynnis gunderi* originally described in 1925 by Comstock. At that time, he suggested that *gunderi* might be a subspecies of *coronis*, a relegation which has persisted in the most recent (dos Passos) revisionary checklist.

Some background generalities should be kept in mind as pertinent to this or other specifics of classification, inasmuch as ideas of relationship have been changing drastically since *gunderi* was baptized. For one thing, it has been ascertained that the Nearctic argynnids differ genitalically from Eurasiatic counterparts, comprising one of the several divergent groups which Warren and others have recognized as genera. It has appeared further that intergrading perceived in geographically arranged series, as coverage has expanded, supports a hypothesis of a relatively few "superspecies".

Many individuals have contributed to this widening of perspective; every scrap of the enlarged evidence has some bearing on the entire classification, which hangs togther only if all the parts fit with consistency. A lot of explaining becomes needed when, as happens occasionally, an apparent negation crops up in the sympatry! The mass of records accumulated during the past half-century, and still expanding, are so rich in coverage of so many localities that it would be strange if any glaring discrepancy in hypothesis should escape notice.

But, alas, no guarantee goes with the status quo. There is, however, a climate of accepted thought, which may be traced back to the earlier stirrings, when Gunder was assembling coverage, Hovanitz was fitting the *callippe* (Behr) puzzle together, Chermock pondering the Canadian introgressions of *atlantis* (Edwards), dos Passos and Grey undertaking genitalic studies, and so on. Because of these, a vantage has been gained from which *gunderi* can be approached as a restricted and quite specific question.

We not only assume that the taxon almost surely must belong within one of the presently recognized "species groups", we further recognize that the only plausible choices lie under *coronis* or *zerene* (Boisduval). A vast deal of past history is thus skipped over, innumerable details which were vitally a part of this conclusion. Isolation of these two particular elements in the *Speyeria* menage became possible only when all of their congeners could be grouped and accounted for. It was 1947 when dos Passos and Grey proposed a classification approximately in line with present-day evidence. Disentanglement of the subspecies of *coronis* and *zerene* was one of the major difficulties which delayed that synthesis. Even then, mistakes were made and others may be discovered as time goes on.

The briefest summary of these background developments would be incomplete without special mention of the tour de force achieved by Moeck in 1962: He discovered an introgressing population of red "Sierran" and yellow "Great Basin" subspecies of *zerene*.

At first glance, Moeck's data could have been viewed as

exacerbating rather than illuminating the problem of *gunderi*. It became further indicated that the yellow subspecies described in 1945 as *cynna* by dos Passos and Grey was indeed a part of the *zerene* complex. But admitting *cynna* into northeastern California territories recognized as the homeland of *gunderi* was another matter, and in some respects a dismaying one.

All along, it had been a question of discovering some at least partially objective means of separating closely similar color forms for which adequate field studies had lagged and structural data remained insufficient. For example, were the varients so well depicted in Comstock's Butterflies of California on plate 27—the figure 6 (paratype of *gunderi),* and figure 8 *(coronis snyderi)*—were these really conspecific? And all along, too, knowledgeable students had been uneasily aware of a marked "*zerene* facies" in Comstock's specimens. But years went by, and whether or not any yellow *zerene* strayed into northern California remained uncertain. The specimens occasionally taken and thought to be possibly *gunderi* had a greenish discal tinge, rather than the buff-brown of *cynna;* they were similar enough to *coronis* so that it appeared at least a possibility that this latter species might well produce pallid extremes like those being accredited to *gunderi.*

If, as Moeck's material and other bits of evidence began to suggest, a yellow *zerene* occurred in or edging on the *gunderi* distribution, it meant added problems. The green and brown forms of *coronis* never had been particularly difficult to recognize, but there were fearful possibilities to be anticipated in a sympatrism of "pallid *coronis*" and "similarly pallid *zerene*". On what grounds could anybody expect to disentangle a parallel as acute as this might well produce?

Nevertheless, a virtue must be made of necessity. If *gunderi, coronis* and *zerene* could be found somewhere flying together, something indicative or decisive might appear in the sympatry. In efforts to find "just the right spot" Newcomer for some years was the leader of explorations made by Pacific collectors. He did not quite turn the trick but his studies in Harney County, Oregon, and particularly his discovery of another massive "red-yellow" *zerene* intergradation in Lake County, Oregon, expanded the records considerably. Mattoon and Davis followed up with rearings from selected females taken in those promising areas. Their reared series and field-caught samples (including red-yellow extremes taken *in copulo)* further certified Moeck's concepts of the *zerene* snarl, but *gunderi* still remained a tantalizing uncertainty. Such progress as had been made was toward defining the conditions which would have to be met before any further progress could be anticipated.

Two stipulations seemed indicated: First, field studies would have to be made in some place promising a generous supply of all the color forms involved (an area which was still eluding the searchers). Second, on-the-spot evaluations would have to be conducted by a panel of students very familiar with all the nuances whereby local parallels in *Speyeria* are separable. It was 1972 before this needed confluence was achieved, at Blue Lake, near the southern end of the California Warner Mountains, a place just across the divide from Moeck's original east slope, Patterson Meadows, localities.

Blue Lake had been on the agenda for some time, since Rindge had taken a few *gunderi* there, many years ago. But Mattoon found nothing there to get excited about in the 60's; Moeck's "hybrids" were not in evidence; only the usual red *zerene* forms referable to *conchyliatus* (Comstock).

It is only recently that the South Warners have become understood as a tension zone where population structures appear to fluctuate considerably over the years, due apparently to periodic invasions of Great Basin subspecies. In the early 70's a change of this nature became manifest; reports began to come in of *conchylitaus* and *cynna* forms coexisting with all sorts of weirdly varied intermediates. The region was known, too, as a place harboring *coronis* along with all other "possible" *Speyeria* endemics with the exception of mormonia (Boisduval).

In early August, 1972, Mattoon, Davis and Grey joined Wells and Brock to conduct a survey of the Blue Lake region. Conditions were ideal, *Speyeria* swarming by the thousands. Huge catches were taken, many impressions exchanged and debated. Concensus was that every *coronis* was identifiable, no difficulties. But the intergrading in *zerene* was perceived as utterly astounding, comprising, as it did, not only every conceivable intermediate in the *conchyliatus-cynna* spectrum but also many pallid greenish-disk individuals with rather obvious intergrading into the *cynna* facies. Some of these were of an aspect precisely matching the concept of *gunderi* which had been taking shape over the years. And here they were, in a very definite association as part of the well-nigh incredible *zerene* fluctuation, while here, too, was *coronis,* aloof and apart from it all.

Parenthetically, this also could be taken as further indication, already supported by much evidence, that the distinct "species groups" rarely if ever hybridize. This strongly-debated issue is all too easily obscured by the occasional contacts of differing subspecies and the regional parallels which are "terribly normal" in *Speyeria.*

With this material and experience, a study of formerly puzzling series from other localities up through the *gunderi* belt indicates that earlier difficulties were mainly because of inability to accept so wide a band of "possibilities" within *zerene.* To eyeballs educated at Blue Lake this no longer is a problem; the *gunderi* mystery seems resolved. It appears significant, too, that the specimens referable to *gunderi* are from places known to harbor the subspecific "hybrids" of *zerene* or from areas where such introgression might be permitted by the known distribution of the red and yellow moieties. It is suspected, but as yet only hazily indicated by rearings, that *gunderi* may not be produced directly by a red-yellow cross, but indirectly by some combination of the "hybrids X hybrids" interbreeding.

Perhaps a logician from another planet would find it quite amusing that in proportion as understanding of natural relationships increases, so, apparently, may our difficulties in "ordering the names". The field situation seems to be in hand, and yet *gunderi* is hardly ready to lie quietly at rest. No formal revision is intended here—the purpose of this article, as was stated at the beginning, is to chronicle one horrendous example to indicate something of the woes of checklisting things in nature; the intricate ramifications of taxa.

Whoever attempts a new revision of *Speyeria,* or under-

takes a modern survey of the butterflies of California, will have to deal anew with *gunderi.* A few guides to protocol are fairly evident, viz:

Everything will hinge on an entirely subjective judgment regarding facies of the holotype, structural data being presently insufficient to decide identity of individuals such as this. The specter of *coronis* seems to have been exorcised, on evidence reckoned as valid but again coming down to "eyeballing" and thus hardly final.

The type locality being in the Warner Mountains of Modoc County, *gunderi* came from an area wherein the *zerene* population is a mongrel one, of structure which apparently shifts from time to time. Of the three specimens comprising the type series (all of which are depicted on aforesaid plate 27) the male paratype and the female allotype both look to be "hybrid", whereas the holotype conceivably might pass as an ordinary Basin "yellow" of the sort presently tagged *cynna.* It would be relatively simple to shuffle these names—*cynna* to synonymy and *gunderi* to stand for the pallid Western Great Basin-Snake River Plateau subspecies of *zerene.* Indeed, it may be hoped that this will eventuate; the *Speyeria* checklist is overdue for some pruning, being topheavy with poorly defined "subspecies".

Retention of *gunderi* as a separate-something-else (as it actually is) would have to be as a "subspecies" under Code provisions which take no cognizance of hybrids, much less of "subspecific hybrids". And it would hardly do to recognize a "geographic subspecies" with the principal characteristic (in a population sense) of varying across the spectrum between a "red" and a "yellow" subspecies. This, however, appears to be the status of *zerene* in that part of the world, and holotypes have an unfortunate habit of originating from just such blend areas. Clearly, the only anchorage is to a "thing", an actual specimen, rather than to a "concept"; however, in practice, we strive to enrich our concepts of natural variation and thus at times the holotype restrictions make for needless obfuscations of natural simplicities.

Thus, the necessary judgment remains complicated by many things which will have to be brushed aside, even though relevant. Declaring this holotype to embody the concept presently represented by *cynna* (which was described from a very different world, from the Ruby Mountains of Nevada) probably would be the best resolution of various uncertainties which will persist even after the formalities are satisfied.

To encourage general acceptance of such an arbitrary pronouncement, it should be done with the advice of specialists, particularly with acquiescence of resident collectors who are familiar with northeastern California variation in *Speyeria.*

In conclusion, this review perhaps will indicate, even if feebly, something of the wide sweep of events, geography and people involved in checklist "names". Perhaps, too, whoever next grapples with *Speyeria* will find the task made a trifle easier by this updating of the struggles made to reach some understanding of *gunderi.*

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ADDITIONS TO THE 1974 SEASON SUMMARY

Zone 10 (South America): Dr. T. C. Emmel, Coordinator

Boyce A. Drummand III spent 14 months (Oct. 73 - Nov. 74) conducting research at Limoncocha (300m), a missionary station on the Rio Napo in Ecuador's Oriente (Western Amazon Basin). Only a small fraction of the material collected during this time has been identified so far, but approximately 450-500 species of butterflies and skippers were collected within a 5 mile radius of the settlement (2 collectors). 51 species of Ithominae were taken, including a single male of *Athyrtis mechanitis.* Life histories of many of these ithomines were worked out and an extensive comparative study of their ecology and behavior was conducted. Collecting trips were made in Aug. 74 to the remote Indian villages of Dureno, Tiwaeno, and Macuma, and at each of these east Ecuadorian sites a conspicuous change in the diversity of Ithomiinae (compared with that of Limoncocha) was found. *Roswellia acrisione* was taken on the ridgetops surrounding Tiwaeno (410m).

Zone 6 (South): Bryant Mather, Coordinator

ARKANSAS:

Leo J. Paulissen reports that Spring in NW Arkansas came early but a freeze on 21 March wiped out many of even hardy flowers such as the red bud and iris. The spring was wet as was the fall which was also quite cool. The adverse weather conditions in the fall apparently inhibited both moth and butterfly strays from coming into Arkansas for none of either were seen despite diligent lookout for them. *D. plexippus* were in good numbers both in spring and fall. *C. cardui* were present but not abundant; *P.s.eubule* were "normal" in numbers. *E. ontario* and *C. liparops* continue at very low levels but A. W. Haddox obtained good numbers of *A. halesus* and *P. m-album* in Fayetteville in the spring. Local broods of butterflies were generally good. *P. glaucus* were more numerous than for many years. *E. h. sosybius* was also quite numerous. Most outstanding catch was a striking female *P. glaucus* mosaic obtained 22 June by Randy Lewis. Biggest daily species count was 50 of 116 in Washington County on 4 August. Catocalae are gradually increasing in numbers. Douglas reports finding *S. kingi* in Grant Co., a new state record. Two larvae were found; tentatively identified as *P. joanae* because of the food plant found on. Several *P. juanita* adults were collected but very few larvae were seen.

Zone 1 (Far West) Correction:

Ronald Wielgus writes that the moth he reared N of Phoenix was not *Datana palmi* Beut., a Notodontid, but rather *"Hymenoclea" palmi* Beut., an Aegeriid. The genus was placed in quotes by the editor, who does not recognize it, being the same as the plant genus from which the moths were raised. The McDunnough list uses *Gaea;* MacKay's 1968 revision assigns *palmi* (or -ii if you like) to *Zenodoxus.* In any case, it was still an Aegeriid.

FIELD NOTES ON PARNASSIUS PHOEBUS GUPPYI WYATT

Colin Wyatt's original description of *Parnassius phoebus guppyi,* published in German in the Journal of the Entomological Society of Vienna, contains no hint of the circumstances of the discovery of the race, or of its habitat. The following account may be of interest.

Up to 1950 Parnassius phoebus was not known to occur west of the Coast Range in British Columbia. In that year Mr. Llewellyn Jones collected some specimens on Mt. Arrowsmith, Vancouver Island, just too late for inclusion in his check list of B.C. Macrolepidoptera. Thus the credit for the discovery should by strict rights have fallen to him, but at the same time it must be admitted that it was largely his own fault that his name never became linked with the new race of *P. phoebus.*

He retained all his specimens in his small private collection, and his only attempt to publicize the find was to prepare a paper to be read at the annual meeting of the Entomological Society of B.C. Ordinarily this paper would have been published in the annual "Proceedings of the Entomological Society of B.C.", but on this occasion it was ruled by the editors that all available space was required for papers on applied entomology. One cannot help but observe that there are plenty of publications with which his paper would have been safe from rejection on that account at least. He made no attempt to place the paper elsewhere. On his death soon after, his collection went to the University of B.C., where the specimens of *P. phoebus* still remain, unnoticed by anyone who might specifically be interested in them.

Since my own first hand experience of Lepidoptera is entirely confined to Vancouver Island, I can only rely on the literature to compare the Mt. Arrowsmith race of *P. phoebus* with the species as a whole. From what I have been able to learn, the habit of sticking to bare crags at extreme elevations does not appear to be characteristic of the species. I can not state as a certainty that the race is confined to Mt. Arrowsmith; in fact it seems most unlikely that such would be the case. Wyatt was able to find enough consistent characters to warrant a description, which certainly does not argue that the colony became established on Vancouver Id. only recently. It seems most likely, therefore, that *P. phoebus guppyi* will be found eventually on other V.I. mountans where the habitat is similar to that on Mt. Arrowsmith. Because of inaccessibility, most of these mountains remain almost unknown to humanity in general, let alone lepidopterists. Next to Mt. Arrowsmith, most often visited are the Forbidden Plateau mountains, some of which are higher than Mt. Arrowsmith and present a very similar aspect. Some lepidopterists have been there, as is evident from butterflies listed by Jones as from the Forbidden Plateau, which are not in his collection. But we do not know whether any of these collectors arrived at the right season, or if they ever climbed peaks likely to harbor *P. phoebus guppyi.*

Mt. Albert Edward, about 7,000 ft. and a long way from any road, offers the best hope of finding *P. phoebus* on the Forbidden Plateau. I have twice had the opportunity of climbing this peak, but on both occasions weather conditions made it impossible to collect any butterflies. This uncertain weather must greatly reduce the chances of travelling lepidopterists finding anything new in the V.I. mountains. There are other mountains with which I am very familiar, and *P. phoebus* certainly does not occur on any of these. On Mt. Benson at 3,300 ft. and Mt. de Cosmos at 4,000 ft. there are ridges of bare rock where *Sedum divergens,* which is evidently the host of *P. p. guppyi,* is plentiful. Mt. Benson is 25 miles from Mt. Arrowsmith, but there are several peaks which could provide "stepping stones" for any butterfly species making the transfer. It seems safe to assume that Mt. Benson and other lesser mountains are for some reason not suited to the needs of *P. p. guppyi.*

Most of the trail from the highway at Cameron Lake to Mt. Arrowsmith summit passes through dense forest and here there are no butterflies. But between this timber and a preliminary summit of 5,000 feet lies about a mile of fairly open country, with clumps of shrubby conifers, and a ground cover mostly of moss heather *(Cassiope* and *Phyllodoce).* Butterflies are present, mostly *Speyeria hydaspe* and *Papilio zelicaon.* There are areas of bare rock displaying lots of *Sedum divergens,* where one would expect to see *Parnassius phoebus.* In fact on my first trip there in 1951, an exceptionally favorable season for *P. phoebus,* I did see a couple on this stretch. But evidently they were strays; since then I have learned not to expect anything worth collecting, until I reach the preliminary peak, marked on some maps as Mt. Cokely. From here a ridge runs across to Mt. Arrowsmith proper at 5,900 ft. The terrain here is mostly bare rock, even the moss heather being much reduced, and the few trees are not over 6 feet high. Some snow persists in hollows right through the summer. The land falls away very steeply on all sides, in some places nearly vertically for 1,000 feet or more. This is the type of habitat which *P. p. guppyi* evidently demands.

References:

Wyatt, Colin: Eine neue Rasse von *Parnassius phoebus* L. aus Kanada, 54 Jarg. 1969, Zeitschrift der Weiner Entomologischen Gesellschaft.

Jones, Llewellyn: An annotated Check List of the Macrolepidoptera of British Columbia, Occasional Paper No. 1, The Entomological Society of British Columbia, 1951.

Richard Guppy
Thetis Island
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RECENT APPOINTMENT

Dale W. Schweitzer has been appointed the new Curatorial Associate in Entomology in the Peabody Museum of Natural History at Yale, with primary responsibility for the day to day care of the insect collections. He is also completing his doctoral dissertation (University of Massachusetts) on biology and ecology of the lithophanine noctuids, which have remarkable specializations for winter adult activity. He is an expert in cuculliine noctuids and in faunistics of the New Jersey Pine Barren Lepidoptera. Part of his concentration will be on curating the now large collection of North American and European macro-moths and the heliconiine butterflies. Lepidopterists among the present honorary Research Affiliates in Entomology at the Museum include Thomas R. Manley, Luis E. Pena, Jeanne E. Remington, and Don B. Stallings.

Charles L. Remington, Curator

HOW TO COLLECT CHOICE MOTHS WITHOUT EVEN TRYING

Although I started to collect insects as a boy in the Ohio Valley, until about fifteen years ago it was an off and on thing with long periods of total inactivity, especially during college and graduate school. It is rather odd that the only two really unusual captures I ever made, were under peculiar conditions and at times when I was not collecting.

On a hot night in July, 1929, I entered an ice cream parlor in Youngstown, Ohio just in time to see a rather hefty waitress swing a wet towel in a prodigious swat at something on the counter. Fortunately, her aim was poor and a frightened sphingid went streaking around the room for several minutes before landing on a stack of cones. Again the waitress approached, but I got there first. With a quick grab, I succeeded in capturing it in my clenched hand and then managed to get it into an empty carton. My hand was black with scales; by the time I reached my room, the entire carton was also full of scales. But when I mounted the specimen, it seemed in excellent condition and none the worse for its adventures. It was a jet black sphingid and, since there were no black sphingids in Holland's Moth Book, obviously there could be no such animal. On a trip to Pittsburgh, I took it to Dr. Hugo Kahl at the Carnegie Museum, whom I had met some years earlier. It turned out to be a melanic Ceratomia undulosa (Walker) and, since the darkest one he had was actually light grey in comparison, he was very anxious to have it. I was astonished that the prestigious Carnegie Museum could have even the slightest interest in anything that I might possibly capture and was delighted with the box of African swallowtails which he presented to me in return.

My second capture must have set some sort of record since it was made in a crowd of 353,538 people! It was September 17, 1934, Constitution Day at the Chicago World's Fair, and a super ticket bargain brought out the record attendance. (The Chicago Tribune preferred to interpret the record crowd as a glowing affirmation of faith in our Constitution and a resounding rebuff to the "New Deal" policies of F. D. R.). The entrance to the Streets of Paris was built to resemble an ocean liner at dockside. We were just starting up the gangplank when I noticed a large moth rising from behind some crates towards a low hanging light. I hesitated but decided not to make a spectacle of myself for what probably would be only a cecropia or polyphemus. However, when the moth again rose towards the light, I instinctively realized that there was something about it that demanded invesigation and promptly hurdled the handrail to go see. As the moth was again rising, I brought my hat up underneath and pushed it down into the hat with my other hand. In that instant, I caught a glimpse of the moth that made my heart skip a beat. It was Thysania zenobia (Cramer). When we were finally seated at a table, I instructed my friend to fold a piece of newspaper to make a crude envelope. But, to this day, I am still a bit annoyed at that moth. I was so excited and preoccupied with my capture that it interfered with my ability to properly concentrate on or duly appreciate Sally Rand and her fabulous fan dance. Two years later, I went to Pittsburgh and stopped at the Carnegie Museum to present my moth to Dr. Kahl. On that occasion, I had the pleasure to meet Dr. Holland who, at the age of 80, was still busy revising his Butterfly Book, and Dr. Avinoff, one of the most remarkable men that I have ever met.

My most exciting collecting adventure happened when I was a research chemist in Middleport, N. Y. The highway from Medina to Batavia passed through an extensive swamp and I had observed a location where a dirt road led down into a clearing made by someone cutting down trees and piling up the wood. One night I decided to try this spot for hawk moths, using a bedsheet and the headlights of my car. After about half an hour, having attracted nothing but mosquitoes, I decided it was time to leave. Just as I was pulling up to the highway, a car of rather ancient vintage came rattling and screeching to a stop directly across from me and I suddenly found myself staring at the muzzle of what almost seemed to be a piece of field artillery. "Stay right where you are, you — (expletives deleted) before I blow your damn head off". As I sat there in open mouthed astonishment, the most beautiful girl I have ever seen suddenly jumped out of the other car and came running across the road directly in the line of fire. She hesitated for an instant, gave my car a quick appraisal, then came up to me and said: "Father thought somebody was down there stealing his wood".

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THE LEPIDOPTERISTS' SOCIETY 26TH ANNUAL MEETING

Amherst, Massachusetts
August 21-24, 1975

The 1975 Annual Meeting of The Lepidopterists' Society, co-sponsored by the Department of Zoology, University of Massachusetts, will be held at the University of Massachusetts in Amherst from August 21-24, 1975.

The Program will feature symposia on *Lepidoptera Ecology* and *Biology of the Catocala*. In addition there will be several Submitted Papers Sessions and a Slide-Fest, where individuals may show up to five 35mm slides on any Lepidoptera-related subject. Post-meeting field trips to surrounding areas of interest can be arranged if there is sufficient interest.

The tentative outline of the program is as follows:

August 21 (Thursday)
- Afternoon: Registration & Executive Council Meeting
- Evening: Open House at the Sargent residence (bus provided)

August 22 (Friday)
- Morning: Registration & Submitted Paper Session
- Afternoon: Symposium, Lepidoptera Ecology
- Evening: Slide-Fest

August 23 (Saturday)
- Morning: Submitted Paper Session
- Afternoon: Presidential Address & Symposium, Biology of the *Catocala*
- Evening: Annual Banquet (Award of Karl Jordan Medal)

August 24 (Sunday)
- Morning: Submitted Paper Session
- Afternoon: Adjournment (approximately 3:00 p.m.)

We are looking forward to having you join us for a very enjoyable meeting. If you need further information, please contact Theodore D. Sargent, Local Arrangements & Program Chairman, Department of Zoology, University of Massachusetts, Amherst, Massachusetts 01002.

RECENT DEATH

Charles L. Remington notes the passing of his father, P. Sheldon Remington, on 28 January. He was a charter member of our society, served in various formal capacities, and contributed many articles. A full biographical obituary will be published in the Journal.

AUSTRALIAN EXPORT RESTRICTION

J. Orrell announces that the Australian government recently placed a ban on the export of ALL Australian insects, unless a special permit has been obtained. He is investigating the latter, but meanwhile this law will prevent his disposing of Ornithoptera from his studies, as he had intended. Correspondents will please bear with him until the regulations can be worked out.

BOOK NOTICES:

Checklist of the Skippers and Butterflies of Maryland (separate reprint), Chesapeake Science Vol. 15, No. 4, December 1974, Pp. 222-229. Lists approx. 136 species and subspecies. Readers who would like a copy should send 20¢ in stamps to the author, John H. Fales, Ridge Road, Neeld Estate, Huntingtown, Maryland 20639, U.S.A.

HARRIS, Lucien, Jr. Butterflies of Georgia, 1975, 350 pages, size 5-3/8 by 8, illustrated in color and black/white, map, distribution charts, bibliographies, index. Discusses all species known to occur in the state (how many?), with life history, food plant, habitat, and exact capture information. Price, $7.95 from University of Oklahoma Press, 1005 Asp Avenue, Norman, OKLA. 73069, U.S.A.

ALPHABET BUTTERFLY COLORING BOOK FOR LIMERICK LOVING LEPIDOPTERISTS. Ed. by Jo Brewer. 64 pps. Scheduled for publication in the fall of 1975. The edition is limited to 500 numbered copies, of which nearly 1/5 have already been ordered and paid for at the pre-publication price of $3.00. All proceeds to benefit the XERCES SOCIETY, our objective being to alleviate the cost of publications and provide grants-in-aid of research. ** LIMERICKS are by 19 poets, including 10 members of the Lepidopterists and/or Xerces Societies, and range through the factual, funny, beautiful and bawdy. Illustrations are by 21 artists, including 11 members of the Xerces and/or Lepidopterists' Societies, and range through the anatomical, factual, fanciful; through miniatures, portraits, cartoons and impressionism. Ages of contributors range from 18 months to 82 years. This is unlike any book you have ever seen. Any future editions will NOT be numbered, and therefore will not soar in value as collector's items. Why not join the fun for $3.00 a copy, and be one of the first 500 people in the WORLD to own this book? (Post-publication price: $4.00.) Send name, address and $3.00 to Jo Brewer, Ed. 300 Islington Rd., Auburndale, MA 02166, U.S.A.

Simplified Checklist of the Skippers and Butterflies of the U.S. and Canada. In eight photo-offset sections, containing all valid genera, species and subspecies, plus alphabetical annotations. $10.00 postpaid. Richard E. Gray, Aux. RR#2, Enfield, N.HAMP. 03748, U.S.A

RESEARCH REQUESTS:

New species records, flight dates and localities for butterflies and skippers of West Virginia. All records will be acknowledged. Bastiaan M. Drees, 320 Stewart St., Apt. D, Morgantown, W.VA. 26505, U.S.A.

Texas Lepidopterists: TOES Invertebrate Committee is compiling a list of rare, endangered, and peripheral species. Please send information on Texas Lepidoptera to: J. Karges, 2533 McCart, Fort Worth, TEX. 76110, U.S.A.

For a comparative analysis of saturniid pheromones and interspecific behavioral responses, we need live *Hyalophora columbia*. Viable eggs or live pupae are preferred; larvae or adults are suitable if they can be shipped rapidly. We can rear and return more than received or make other arrangements if desired. Any geographic source of *H. columbia* can be used. Contact James G. Sternburg, 320 Morrill Hall, Department of Entomology, University of Illinois, Urbana, ILL. 61801, U.S.A.

Need comparative material, for study of *P.alpheus* populations in southern Texas, of *gracielae, a.alpheus,* and *a.oricus* populations, and any material from NE Mexico. Also want any records of *alpheus* from southern Texas. Mike A. Rickard, 7003 Bissonnet #1602, Houston, TEX. 77036, U.S.A.

Want records on Newfoundland and Labrador Macrolepidoptera, including date, locality and species. Data will be included in "Macrolepidoptera of Newfoundland and Labrador" now in preparation. All records will receive credit. Ray F. Morris, Research Sta., Agric. Canada, P.O. Box 7098, St. John's West, Newfoundland, CANADA A1E 3Y3.

NOTICES:

Members of the Lepidopterists' Society are invited to use this section free of charge to advertise their needs and offerings in Lepidoptera. We cannot guarantee any notices, but all are expected to be made in good faith. Please be brief, clear, and check spelling. Avoid long lists. Generally, notices will be limited to 3 appearances if more than one are requested. The Editor reserves the right to alter or reject unsuitable copy.

WANTED: A clean copy of McDunnough Checklist (1939) Part 1 (Ed. note: Part 2??): Microlepidoptera. John B. Heppner, Dept. of Entomology, Univ. of Florida, Gainesville, FLA. 32611, U.S.A.

FOR SALE: Butterflies and insects from many countries around the world at very reasonable prices. Please write for a free price list. Butterfly Art Company, P.O. Box 80571, San Diego, CALIF. 92138, U.S.A.

FOR SALE: Used books: 1) The Insect Societies, Edward O. Wilson, 1972, $12.00. 2) Jamaica and Its Butterflies, F. Martin Brown and Bernard Heineman, 1972, $21.00. 3) Butterflies and Moths, Norman Riley (Editor), 1970, $9.00. Prices include postage. Jolie Souilliard, 1526 Harmor Lane, Bethlehem, PA. 18017, U.S.A.

FOR SALE: Collection of miscellaneous worldwide (chiefly North American) butterflies and moths in tight Riker type wooden drawers. Most specimens in good condition, but few with data. Sixty (60) 11 x 14 x 1¼ inch drawers with cabinet. Make offer. Ralph Nardi, Box 711, Wallingford, CONN. 06492, U.S.A.

FOR SALE: Rare Ornithoptera, including *Sch.rothschildi* and other Papilionids from southern Asia. Write for free price list. Willing to exchange for *O.lydius* and *croesus,* rare *Agrias,* rare *Parnassius* and other butterfly rarities. Seiichiro Sato, P.O. Box 6, Chitose, Tokyo, JAPAN.

FOR SALE: Formosan butterflies, moths, beetles, cicadas, dragonflies, praying mantids, cocoons and ova of moths. Mrs. Chang Pi-Tzu, P.O. Box 873, Taipei, Taiwan (FORMOSA).

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FOR SALE: Numerous books, journals, and single articles dealing with Lepidoptera. Please write for list. Dennis Groothuis, 3612 Saratoga Drive, Nashville, TENN. 37205, U.S.A.

WANTED: Used insect cabinets which are in serviceable condition. Prefer California Academy style but will consider others. Send description, condition and price to Benjamin D. Williams, Groton, MASS. 01450, U.S.A.

WANTED: Mid-Continent Lepidoptera Series nos. 1, 2, 9, 14, 15, 18, 29, 31. C. F. dos Passos, Washington Corners, Mendham, N.J. 07945, U.S.A.

FOR SALE: Ornithoptera: *O. goliath* and *chimaera* from my personal collection (make inquiry). *Trogonoptera trojanus,* $15, males only. *Ornith. p. poseidon,* $15 a pair. *Troides o. papuensis* $7.50 a pair. *Papilio ulysses* $7.50 males only. *Pap. euchenor* $5.00 males only. *Graphium weiskei* $4.50 males only. Please add postage and packing costs to your order. Thomas W. Davies, 791 Elsie Avenue, San Leandro, CA. 94577, U.S.A.

FOR SALE: Complete mint sets of "Butterflies of Belize", postage stamps issued Sept. 2, 1974. 16 values, $18.00 per set, including registered air mail postage. Will mail about Aug. 1975. Discounts on large orders. Glassine envelopes for sale in three handy sizes. Send 25¢ for price list of insects available. Eduardo C. Welling M., Apartado Postal 701, Merida, Yucatan, MEXICO.

FOR SALE: Insect Pins, $6.00 per 1000 plus 16¢/M postage. Clair Armin, 191 W. Palm Ave., Reedley, CALIF. 93654, U.S.A.

FOR SALE: 350 books on Lepidoptera, request free catalog; also second hand books. Sciences Nat; 45, Rue des Alouettes; 75019 Paris, FRANCE.

WANTED: Contact with breeders, especially butterflies, for exchange of livestock. I can send much information about getting wild females to lay eggs in captivity (all families, all groups). J. P. Vesco; 14 Bis Rue Montplaisir; 84-600 Valreas, FRANCE.

FOR SALE: Large selection of tropical Lepidoptera, all A1 quality papered, worldwide. Pupae and ova of *A.atlas* and *lorquini, Arg.mittrei, Act.sinensis* and *selene.* Many other moths and birdwings. Send $1.00 for extensive catalog. WANTED: Will buy or exchange butterflies, moths or beetles of any country if A1 quality, or books on beetles or Lepid. (any language). Mrs. M. A. Azevedo, 10, Dunholme Court, Ermine East. Estate, Lincolnshire, ENGLAND.

WANTED: Specimens considered ruined because of oily wings to be used for classroom student use, preferably *Morphidae, Papilionidae, Saturniidae,* or whatever you will part with at modest or no cost. Dr. Arturo M. Crucet, Box 105, Norman OKLA. 73069, U.S.A.

WANT TO BUY: The Butterfly Book, by Holland, revised 1931 edition. State condition and price. James H. Maynard, 309 Irene Drive, Clarkesville, TENN. 37040, U.S.A.

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Membership in the Lepidopterists' Society is open to all persons interested in any aspect of Lepidopterology. Prospective members should send the **Treasurer** the full dues for the current year ($13, U.S.A.) together with full address and areas of interest in Lepidoptera. Remittances in dollars (U.S.A.) should be made payable to The Lepidopterists' Society. All members will receive the **JOURNAL** (published quarterly) and the **NEWS** (published bimonthly). A biennial membership list will comprise one issue of the **NEWS** in even-numbered years. Back issues of the **JOURNAL** may be purchased from the TREASURER.

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Other information about the Society may be obtained from the SECRETARY, Dr. Lee D. Miller, Allyn Museum of Entomology, 3701 Bay Shore Rd., Sarasota, FLA. 33580, U.S.A.

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Items for inclusion in the **NEWS** should be sent to the Editor, Ron Leuschner, 1900 John St., Manhattan Beach, CA. 90266, U.S.A.