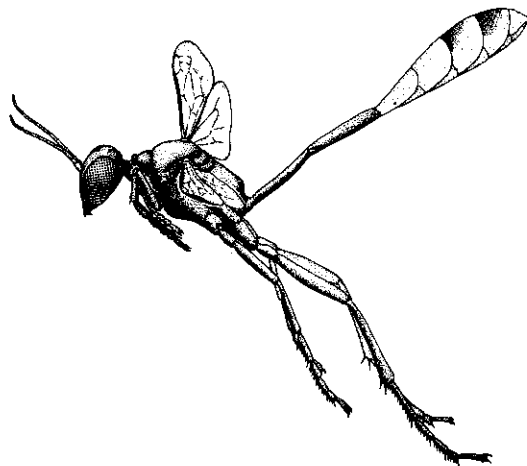


# SPHECOS

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A Forum for Aculeate Wasp Researchers

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## Notes from the Editor

Highlights of this issue include Don Horning's story on the Macleay insect collection at the University of Sydney, a report on the new Hymenopterists Society, the purported truth about Aha ha by Howard Evans, and another vespid literature supplement by Robin Edwards.

Sharp-eyed readers will note a slight change in the subtitle. This change has been dictated by official U.S. Dept. of Agriculture guidelines for documents like Sphecos. The word "newsletter" had to be eliminated to avoid following an official format for newsletters that would have been unsuitable for Sphecos. Hence Sphecos is now a "forum" - a change that is perhaps more appropriate anyway, considering its scope.

A new newsletter in Hymenoptera has been born. Eric Grissell, Mike Schauff and Gary Gibson are editing "Chalcid Forum" which covers the field of chalcidoid wasps. If you know of anyone with an interest in the Chalcidoidea that would like to receive Chalcid Forum have them write to Eric Grissell (same address as Menke).

Sphecos is received by approximately 400 scientists around the world. In spite of this large readership, I still receive very little material from most of you for future issues. If this is beginning to sound like a recording, I'm sorry, but I know from the enthusiastic correspondence that I receive from some readers that most of you probably look forward to each issue. Unless your enthusiasm for Sphecos is accompanied by "research news", "collecting reports", etc., it will soon diminish in size and scope and become nothing more than a compilation of current literature. Surely it only takes a few moments to send me a sentence or two about your current research, your recent travel and so on.

My son, Kurt, after reading my account of our backpacking trip (Sphecos 6:18-19), pointed out that Forester Pass is 13,200', not 12,300' as stated. Sorry Kurt.

Again I'd like to thank Vivian Wallace for typing much of the copy for this issue. Ludmila Kassianoff translated some Russian titles into English, a courtesy that is much appreciated.

## Research News/Help Needed

Bill Stubblefield (Dept. of Biology, Univ. of Utah, Salt Lake City, Utah 84112) has finished his revision of the North American species of Stizus. Bill also writes, "I am currently working on the nesting biology of Philanthus sanbornii in collaboration with Jon Seger. We have had an aggregation of some 150 to 200 nests

under observation since 1978 and are preparing a series of papers on this handsome bee wolf. The field work is now over, and we have completed working up the prey collection which comes to some 2,394 prey items. More than 110 species are now recorded as prey in Massachusetts, the most remarkable of which is the stratiomyid Odontomyia. This is the first record of dipteran prey for Philanthus. Most of the determinations are by myself, but Ron McGinley was very helpful with Lasioglossum and G. C. Eickwort has examined the Dialictus. We now have the entire prey sample coded on a computer, and Seger is now completing the analyses at the University of Michigan. We expect to have the first paper done by next fall. This will treat the taxonomic and size distributions of the prey and niche relations with co-occurring species of Philanthus. Subsequent papers will deal with parasites, nesting behavior, sex ratio, and so on."

Gordon Gordh (Dept. of Entomology, Univ. of California, Riverside, Calif. 92521) writes that work on his catalog of the Bethyridae "proceeds at a snail pace. The editor of Junk stopped by and has agreed to publish it. Moczar is working on the Mestiinae. By September I plan to start putting it in the computer and will hopefully have the first completed printout around Christmas. I have started another biological study of species of Goniozus, probably new, which we imported from Pakistan. I am starting to work on its biology. It is interesting in that it temporarily paralyzes its host intersegmentally (as G. japonicus), and we can only get it to sting and oviposit on Pectinophora gossypiella (Pink Bollworm)."

A. Giordani Soika (Museo Civico di Storia Naturale di Venezia, 30125 Venezia, Italy) is continuing his studies of the Eumenidae of the Afrotropical and Neotropical Regions and would welcome loans of material from these areas.

Don Manley (PO Box 5809, Pee Dee Experiment Station, Florence, SC 29502) writes: "I am trying to build a synoptic collection of velvet ants of the genus Dasymutilla for use in identification of specimens and also for future work in the genus. I would appreciate hearing from anyone having specimens that they are willing to give or trade away. I am also willing to identify North American specimens belonging to this genus for anyone (individuals or institutions) having unidentified material."

Mary L. Manderfeld (College of St. Benedict, St. Joseph, MN) and James M. Poff (St. Johns University, Collegeville, Minnesota) have been studying the nesting and reproductive strategies of Polistes fuscatus in central Minnesota. They are currently comparing the relative success of P. fuscatus nesting in natural vegetation and artificial nesting sites such as those found on or in buildings. Mary is also studying clinal variation in wing length and distributional information of the North American genus Polistes based on the U.S. National Museum collection.

Stephen G. Reyes (UPLB Museum of Natural History, Univ. of the Philippines at Los Bonas, College, Laguna 3720, the Philippines) is "presently working on the taxonomy of Philippine Cerceris; nesting behavior and immatures of Rhynchium, Eumenes, Stenogaster, Odynerus, Vespa and Ropalidia. Can anybody tell me where Cerceris formicaria, described by Eschscholtz 1822, Entomographien, is deposited? Loans (exchanges of other Philippine materials if preferred) of Philippine specimens of Cerceris will be highly appreciated."

Dick Bohart (Dept. of Entomology, Univ. of California, Davis, Calif. 95616) is finishing up his joint paper with James Gillaspay on the stictiellin wasps of California (Sphecidae, Nyssoninae). He writes "as soon as I get this paper off my back, I am supposed to start the Microbembex of Argentina with Abraham Willink. No rest for the wicked!"

Terry Houston (Western Australian Museum, Francis Street, Perth, Western Australia) writes: "Because of my interest in the taxonomy and bionomics of bees, I often receive reports from local naturalists of the activities of bee-like insects. In April last year, one person reported numerous, large, elongate 'bees' entering burrows with mud turrets. A photograph by the observer revealed the insects were not bees, but masarid wasps, Paragia tricolor. As the habits of Australian Masaridae have remained virtually unknown, I have made several trips to the site over the past twelve months and excavated several nests. The wasps mass-provision their cells with pollen and nectar as in some other Paragiini. An account of my findings will be written up for publication as soon as possible."

"The Western Australian Museum's collection of Masaridae has grown dramatically over recent years and includes some unusual undescribed species. I would be glad to hear from taxonomists who might be interested to describe them."

Ullrich Heckes and Martin Sorg are working on taxonomy and biology of Cephalonomia (Bethyridae). They are interested in getting on loan or exchange specimens from all regions for determination of this and other allied genera. Also living material for breeding experiments and observations of life-history. (for contact use address of Ullrich Heckes, Donnersbergerstr. 53, D-8000 Munchen 19, West Germany).

Graham Brown (Biological and Chemical Research Institute, Private Bag No. 10, Rydellmere, N.S.W. 2116, Australia) writes: "The selection of world tiphiids you sent me have proved to be very interesting. I am now convinced that Brother's 1975 cladistic analysis of the mutilloid-tiphiid complex is basically correct and that the Thynninae is correctly placed as a subfamily of the Tiphidae. However, tribal classification within the Thynninae is improperly balanced with the Diammini being very different from both the Rhagigasterini and the Thynnini. The choices to resolve this problem appear to be firstly to raise Diammini to subfamily, secondly to reduce Rhagigasterini to a subtribe of Thynnini or thirdly to sink Rhagigasterini as part of the Thynnini. Even more interesting is the similarity between the myzinine specimens you sent me and two species of "Rhagigaster" (described by R. E. Turner) from Western Australia. Closer examination of these specimens shows that they belong to the Myzininae. This is a new record for this country."

Laszlo Moczar (H-1117 Budapest, Meszoly u. 6, Hungary) retired in December, 1982, but continues his work on the Mesitiinae of Sri Lanka. For the future he plans on revising the ceropalids & Vespoidea of Hungary for the Fauna Hungariae. Laszlo needs the addresses of the following people: G. Chandra, S. J. Falka, E. W. Minch, Kurt Rognes and Klaus Mohn.

Jack van der Vecht (Burg. Vermeerlaan 4, 3881 GZ Putten, The Netherlands) writes: "I have nearly finished a list of the  $\pm$  500 genus-group names of the Vespidae (sensu Carpenter). I expect to finish the work in June. For the near future I hope to finish the Sri Lanka Bembix together with Karl [Krombein], but there is also strong pressure to work on Paralastor, by far the most interesting eumenid genus, and certainly the most difficult." Jack would appreciate seeing any material of Paralastor, especially from Australia and New Guinea. Jack's work on the catalog of Neotropical Eumenidae is more or less at a standstill - lets all hope that he can get that most needed and useful compilation finished and published.

Robert Matthews (Dept. of Entomology, Univ. of Georgia, Athens, GA 30602) writes: "I am preparing a review of laboratory rearing/culturing methods for social wasps for inclusion in "Handbook of Insect Rearing" being edited by P. Singh and R. F. Moore to be published by Elsevier Publ. Co. Much progress has been made in several localities with laboratory maintenance of various social wasp species. A review at this time will attempt to bring together much currently widely scattered information. Hopefully it might also serve to interest others in the research possibilities offered by social wasps. No doubt it will also point up areas where further work is

required. I suspect many persons have considerable unpublished experience raising social wasps. Others have no doubt modified and improved earlier published techniques. In order that this review can be as complete and as up-to-date as possible, I would very much appreciate correspondence concerning physical facilities, equipment, daily maintenance requirements, special precautions, nutritional data, developmental data, and methods of establishing and handling colonies. Reference (or preferably reprints) to papers, theses, etc, which include this information will be most gratefully received. All information will be appropriately acknowledged. Please send to me or phone at 404/542-2816."

Ole Lomholdt (Zoologisk Museum, DK 2100 Copenhagen, Denmark) has completed a revision of the Australian sphecoid wasp genus Sphodrotes Kohl. He recognizes 12 species. The paper will appear in "Steenstrupia" later this year. Ole's revision of Sericophorus will be finished soon. He recently returned from a collecting trip to southern Greece with over 10,000 aculeates.

Seiki Yamane (Dept. of Zoology, Kagoshima University, Korimoto, Kagoshima, 890 Japan) says "I am now writing some papers on the aculeate fauna of the Krakatau Islands (Indonesia), Polistinae from Taiwan, Eumenidae from the Ryukyu Islands, etc."

Ian D. Naumann (CSIRO, P.O. Box 1700, Canberra City, ACT 2601, Australia) is studying the biology of Australian Masaridae. He has a paper in press on the biology of mud-nesting Hymenoptera associated with rock shelters in the Kakadu Region of the Northern Territory.

Massimo Olmi (Universita degli Studi della Tuscia, via Riello, 01100 Viterbo, Italy) has completed his world revision of the Dryinidae. The more than 850 species are divided among 9 subfamilies. This landmark work will be published as a Memoir of Henry Townes' American Entomological Institute, probably in early 1984. It will illustrated by nearly 1200 figures some of which will be scanning electron photographs.

Mick Day (British Museum, Natural History, London, England) writes: "John Noyes and I got to Madagascar later than we had hoped, and for less time. There is plenty of natural habitat for entomologists. Perinet was a washout, but Berenty and Morondava (south and west) were better, although segments of the fauna were missing. We collected a total of 24 days, with 10 malaise traps, 53 yellow pans and three winkler bags. We collected Sclerogibbidae, Embolemidae, stacks of bethylids, dryinids and chrysidids, 1500 pompilids, but so far I have seen no Amiseginae."

Jean Leclercq (Zoologique generale & Faunistique, Faculte des Sciences Agronomiques de l'Etat, B-5800 Gembloux, Belgium) has a paper in press on the sphecoid genus Eupliloides. Previously this taxon has been regarded as a subgenus of Crossocerus.

Enrique Yustiz (Universidad Centroccidental "Lisandro Alvarado", Dept. de Entomologia-Zoologia, Barquisimeto, Venezuela) has been collecting the following genera of sphecoid wasps in a malaise trap in a semiarid zone near Barquisimeto: Stigmus, Pluto, Rhopalum, Oxybelus, Hoplisoides, Zanysson, Trachypus, Cerceris, Tachytes, Trypoxylon, & Ammophila.

Derek Bunn (13 Walden Road, Blackburn, Lancashire, BBI 9PQ, England) is studying British social wasp behavior. "I would like to establish the advantages or disadvantages of the phenomenon of usurpation to the species. I am also interested to find out whether nest relocation occurs, at least occasionally, in Britain as it does in southern Japan & probably Germany."

Bill Mason (B.R.I. Canada Agriculture, Ottawa, Canada K1A 0C6) writes: "I am close to the completion of a cladistic analysis of higher groups of Hymenoptera. Target date for publication, 1984. The study has shown that both the Symphyta and

Parasitica are untenable, paraphyletic assemblies but that Aculeata and Apocrita appear to be holophyletic. I have left the internal classification of Aculeata much as Brothers (1975) arranged it, mostly because I have had neither the time nor background knowledge to do the tedious and numerous comparisons necessary to improve on this truly monumental work. I have rejected the idea of dividing Apocrita into two groups, Parasitica and Aculeata, because of the completely artificial nature of the former. Instead I have been able to demonstrate that Aculeata is the sister group to the Ichneumonidae, and that these two together are a sister group to the Microhymenoptera."

Jon Seger (Dept. of Biology, Princeton University, Princeton, NJ 08544) has moved again. He will be at Princeton for about a year on a postdoctoral fellowship. During the year he and Bill Stubblefield hope to write at least two papers on their 5 year study of Philanthus sanbornii in eastern Massachusetts. Jon also hopes to continue his survey of sexual dimorphism in Philanthus.

Albert Finnamore (Alberta Provincial Museum, 12845 102nd Ave., Edmonton, Canada) has resigned from his post doctoral fellowship at Macdonald College to accept a new position as Invertebrate Zoologist and Curator in Edmonton. He is continuing his work on a guide to the 279 genera of aculeate wasps in Canada. Albert will also continue to collaborate with the Biosystematics Research Institute in Ottawa on the families of Aculeata for inclusion in a project on the families of Canadian Hymenoptera.

Harry Empey (PO Box 64087, Highlands North, 2037, South Africa) has a manuscript in press concerning Ethiopian and Madagascan Cerceris species. It will update this genus by new synonymies, lectotype designations, etc.

Bernice DeMarco (9019 Barcelona St., Oakland, Calif. 94605) finished her Master's thesis on population studies of the paper wasp, Polistes metricus Say at the University of Missouri at St. Louis in 1982. "I worked with 25 nests in natural sites and 75 on buildings. Life tables were compiled for foundresses and nests on building nests. Location, types of parasites and predators, and nest size were examined to determine possible causes of success and failure of each nest." Currently Bernie is raising a family but contemplating going on for a Ph.D.

Jim Carpenter (Dept. of Entomology, U. S. National Museum, Washington DC 20560) offers the following: "I have just completed my dissertation studies, and have moved (temporarily) to the Smithsonian where I reside in the "Ashmead Room" (he is assigned to the "Rohwer Desk" - edit.). Part of my thesis consisted of a cladistic analysis of the nearctic eumenine genera and I am now preparing this work for publication, with Jeff Cumming. I have also completed a catalog of eumenine genera, but have no plans to publish this since van der Vecht's forthcoming list of all vespid genera will be more useful. I have recently been to Europe where I studied Ancistrocerus types and consulted with van der Vecht and Giordani Soika. It was an extremely productive trip, and completion of the revision of New World Ancistrocerus is not far off. During the next year I will be concentrating on a generic study of the Polistinae, but I have also agreed to help van der Vecht complete the Neotropical eumenine catalog, so I will also be working on this fauna. Possible further projects include a study of vespid larvae, using the material at the USNM and BM. I regard the nearctic study as the first in a projected series of eumenine genera that will ultimately result in a world generic reclassification. Besides the nearctic analysis, I have also studied the "stem-group" genera ("Zethinae" and "Raphiglossinae"). Concomitant with work on the neotropical catalog I will begin a cladistic analysis of the genera. For the foreseeable future I will be working mainly at the generic level, with study of the Masarini projected to follow Polistinae".

"I would like to see specimens of eumenines from Trinidad for identification. I am considering a faunal work for this island, and will be returning there this December to collect, but I could benefit from the collecting efforts of others as well! (for that matter, I'd appreciate seeing any neotropical specimens)".

Murilo Sergio Drummond (Depto. de Biologia, Faculdade de Filosofia, Ciencias e Letras de Ribeirao Preto-U.S.P., 14.100 Ribeirao Preto-Sao Paulo, Brasil) a graduate student in a masters program is studying the biology and behavior of Zethus miniatus. Murilo would like hear from other people who are interested in eumenids and stenogastrine wasps to exchange ideas, papers, etc.

## People in the News

Richard M. Bohart celebrated his 70th birthday in September, and Eric Grissell and Arnold Menke organized a surprise dinner in his honor at Berkeley, California. During the festivities Dick was presented a leather bound copy of volume 59 of Pan-Pacific Entomologist. This issue was a special "Festschrift" honoring Dick's many accomplishments and impact in entomology. It contains a biography of Dick as well as papers contributed by his students and colleagues.

Woj Pulawski is now Chairman of the Entomology Dept., California Academy of Sciences, San Francisco. Congratulations Woj!

O. W. Richards. It is reported that Prof. Richards suffered a stroke recently and has decided to retire from active work for the present. We all wish him well.

Jim Carpenter has accepted a position in the Museum of Comparative Zoology at Harvard University, but first will spend about a year at the Smithsonian Institution in Washington DC as a Smithsonian Postdoctoral Fellow in entomology. While at the Smithsonian Jim will be working on a cladistic analysis of the genera of the Polistinae.

## Richard M. Bohart Museum of Entomology

The extensive collection of nearly four million insect specimens in the Entomology Department of the University of California, Davis, has been officially named the Richard M. Bohart Museum of Entomology. This is a much deserved tribute because Dick has been largely instrumental in the development of the collection since its inception in the late 1940's. The naming of this collection after Dick also recognizes the research contributions that he has made in insect systematics and the impact that he has had in entomology in general. Congratulations Dick!

## Address Changes

Richard C. Miller, 5636 Dartmouth Ave. N., St. Petersburg, Fla. 33710, OR 5408 29th. Ave. South, Apt. 2, Gulfport, Fla. 33707. (Miller is an entomological gypsy and it is hard to keep track of him. Recently he has been at Cornell University working on Crossocerus and other crabronines in the CU collection. The last week of August he left for Arizona - thus the Florida addresses may no longer apply).

Laszlo Moczar, H-1117 Budapest, Meszoly u.6, Hungary. Material sent to him on loan should be addressed to him c/o J. Papp, Zoological Dept., Hungarian Natural History Museum, H-1088 Budapest, Baross n. 13, Hungary.

Leo Castro, Fernando Hue 6, Teruel, Spain.

Jun-ichi Kojima, Department of Natural History, Faculty of Science, Tokyo Metropolitan University, Fukazawa, Setagaya, Tokyo 158, Japan.

J. William Stubblefield, Dept. of Biology, Univ. of Utah, Salt Lake City, Utah 84112.

Paul A. Opler, Division of Biological Services, U.S. Fish & Wildlife Service,  
Washington, D.C. 20240.

Jon Seger, Dept. of Biology, Princeton University, Princeton, N. J. 08544.

Albert Finnamore, Provincial Museum of Alberta, 12845 102nd. Ave., Edmonton, Alberta,  
Canada T5N 0M6.

Bernice DeMarco, 9019 Barcelona, Oakland, Calif. 94605

## Vespula vulgaris in New Zealand

Kevin Bateman (Victoria University of Wellington, Private Bag, Wellington, New Zealand) writes: "Until recently it was thought that the European wasp, Vespula germanica, was the only yellowjacket present in New Zealand. However, it appears that V. vulgaris is also well established, at least in Wellington where I am conducting a study of vespine biology. I have collected both V. germanica & V. vulgaris colonies since Jan. 1982, & queens of V. vulgaris have been collected as far back as 1978. In Wellington, about 85% of spring queens collected from the field this year were V. vulgaris. The majority of nests collected were also V. vulgaris. It would appear that V. vulgaris has been present in New Zealand for some years, though for how long is hard to say."

## ICZN Case Pending

Jack van der Vecht has just published a petition (see p. 39) in an effort to conserve the eumenine generic name Paralastor Saussure. Those of you who are interested in this matter should read the petition and send your comments to the Commission so that the Commissioners will have some "public opinion" to consider before making their decision.

## Vespa crabro Poster

Helmar Kulike (Institut fur Allgemeine Zoologie (WE 4), Konigin-Luise-Strasse 1-3, D-1000 Berlin 33, West Germany) has produced a beautiful large full color poster which depicts the adults, the nest and various activities of Vespa crabro. Captions are in German but an English version may be printed. Price for this beautiful poster is 10 DM. Contact Helmar if you want one.

## Special Publications of the Japan Hymenopterists Association

Prof. K. Tsuneki says that those wanting issues of this important Hymenoptera publication should write to one of the following Japanese book dealers: Nippon-Shuppan-Boyeiki K. K., Chiyoda-ku Sarugaku-cho 1 - 2 - 1, Tokyo, Japan 101, and Maruzen K. K., Chu-oh-ku, Nihonbashi, 2 - 16 - 1, Tokyo, Japan 103.

## Oriental Insects

Virendra Gupta, editor of this journal, would like to announce that manuscripts should now be sent to him at the following address: P.O. Box 13148, Gainesville, Fla. 32604-1148.

## Hymenopterist's Society

On December 2, 1982 during the national meeting of the Entomological Society of America held in Toronto, Canada, a society was founded by and for hymenopterists. 85 people attended. Lubomir Masner of the Biosystematics Research Institute, Ottawa, Canada, provided the inspiration for the establishment of the organization, and he deserves a great deal of credit for "pushing" until the society was "born". As a reward for his enthusiasm he was unanimously elected president of the fledgling society. Other elected officials are: Vice President - Ron McGinley (Smithsonian Institution, Washington, D.C.); Secretary - Bob Wharton (Texas A&M University, College Station); and Treasurer - Henri Goulet (Agriculture Canada, Ottawa).

The goal of the society is to be an INTERNATIONAL organization of hymenopterists dedicated to furthering the science of hymenopterology. It is hoped that the society will be able to publish a journal devoted solely to papers dealing with all aspects of the Hymenoptera: systematics, biology, ecology, physiology, etc. It is to be emphasized that the society supports ALL SCIENTIFIC RESEARCH on Hymenoptera, not just systematics. This organization hopes to improve communication among all people interested in all aspects of the Hymenoptera.

The Society proposes to have an annual meeting which will coincide with the national meeting of the Entomological Society of America. Committees have been established to investigate the following: 1) creation of bylaws and incorporation of the society; 2) membership fees; 3) publishing a journal; 4) directories of hymenopterists, and hymenoptera collections; and 5) nominees for 1984 officers. For management reasons the society will probably be based at some North American institution (possibly in Gainesville, Florida), but the organization selected a few people overseas to act as local representatives of the society in areas such as Europe, Africa, the Orient, Australia, South America etc. Foreign appointees so far are: Western Europe - Kees van Achterberg (Leiden, the Netherlands); Eastern Europe - Jeno Papp (Hungarian National Museum, Budapest, Hungary); Australia and Oceania - Ian Naumann (ANIC, Canberra, Australia); and East Asia - Tetsusaburo Tachikawa (Ehime University, Matsuyama, Japan).

So far about 300 workers from all over the world have applied for membership in the Society. Applications may be obtained by writing to the Secretary, Dr. Robert Wharton (Dept. of Entomology, Texas A & M University, College Station, Texas 77843, USA). During 1983 the infrastructure of the Society will be worked out following the recommendations of the six committees appointed during the Toronto meeting. All members will then receive information on the registration of the Society, the constitution and bylaws, membership fees, information on the Society journal (Editorial board), as well as the report of the nominating committee for the 1984 officers. The next meeting is scheduled for late November, 1983 at the Ent. Soc. of America annual meeting in Detroit, Michigan. A special symposium on Hymenoptera has been organized by Mike Schauuff and Scott Shaw for the occasion. Plan to attend if you can.

Recipients of Sphecos should receive a progress report from the Society sometime this year as well as information on becoming a member.

## The Macleay Insect Collection

The oldest and historically most important insect collection in Australia is in the Macleay Museum at the University of Sydney. There are about a half million specimens in the collection dating from 1756 to the present, more than 60 percent of which are exotic, making it the largest collection of exotic insects in Australia. More than 9000 Australian and exotic types have been recognized in the collection but there are many yet to be discovered.



The collection was started in Great Britain before 1800 by Alexander Macleay (1767-1848). Though an amateur entomologist, his friendship with the famous British entomologists Thomas Marsham and Reverend William Kirby spurred his entomological interests.

In addition to his own collecting, Alexander Macleay also built his collection by trading with and purchasing from (especially at auctions) most of the significant entomologists of the day. As examples, he purchased specimens from the collections of Dru Drury, Edward Donovan, Sir Ashton Lever, Thomas Marsham, John Francillon and General Thomas Davies. Most of this material contained type specimens of contemporary workers. The collection of Sir Ashton contained many insects presented to him by Captain Cook. Records of many of these transactions exist in the form of auction catalogues, annotated by Alexander Macleay. They are now in the Macleay Museum and are invaluable for detecting the value of old specimens in the collection.

When Alexander Macleay came to New South Wales as Colonial Secretary in 1826, he brought what was described in contemporary accounts as the finest and most extensive insect collection then existing in the possession of a private individual. This collection was stored in ornate Chippendale wooden cabinets, which are now of great historical interest in themselves. After his death in 1848, his collection passed on to his eldest son, William Sharp Macleay (1792-1865).

William Sharp Macleay had spent time working for the British Government in Paris. There he became acquainted with prominent zoologists, including Cuvier and Latreille, from whom he received a variety of insects (especially Coleoptera and Hymenoptera) and a good grounding in taxonomy.

Between 1825-1836 he worked in Havana, Cuba and assembled a vast collection from there. After leaving Cuba he visited entomologists and collected in the United States. This enabled him to procure large numbers of North American insects, chiefly through exchanges after 1836. During the years 1836-1839 spent in England, William Sharp Macleay pursued his entomological career, and managed to obtain the extensive collection of insects made by M. Verreaux during his long residence at the Cape of Good Hope, together with his manuscript notes on the species collected.

After his arrival in Sydney in 1839 he continued to build up his collection by exchanging specimens world-wide. At the time of his death in 1865, the combined insect collections of Alexander and William Sharp Macleay totalled 480 drawers (100 - 150,000 insects). These collections were bequeathed to William Sharp's cousin, William John (later Sir William) Macleay (1820-1891).

William John, who came to Australia with William Sharp Macleay, had begun to assemble his own collection after his arrival here, but becoming impatient with its slow accession, he hired six collectors (one of whom was George Masters) who collected in Fiji and Australia. He also bought exotic specimens from India, China, North and South America, Europe, the East and West Indies and the Pacific Islands.

In 1874, the collections of Alexander, William Sharp and William John Macleay were amalgamated, and George Masters was appointed as curator. The collection was housed in a specially built museum on the grounds of Elizabeth Bay House (built by Alexander Macleay). This appointment was of the greatest importance to the improvement and enlargement of the collection. However it also set the stage for one of the greatest tragedies to befall the collection. Years were spent in organizing the collection, and during this time, George Masters decided to relabel the collection in his own handwriting, apparently to give the collection a more uniform appearance. In the process, he discarded many of the original labels, thus rendering difficult, if not impossible, the task of tracing early specimens of great historic importance, including holotypes and syntypes of early European entomologists, which may or may not still exist in the collection. Fortunately he did not finish the task and many original labels still exist.

William John gave the collection to the University of Sydney in 1888. The University built the first fireproof building in Australia to house the insect, natural history and anthropological collections assembled by the Macleay's.

Considerable loss of specimens from the collection has occurred. Many insects were stolen toward the end of Masters' term as curator - one student would engage him in conversation while another would take insects for his own collection. There is no way to determine how many or which insects were stolen by students or private collectors.

The fortunes of the Macleay Insect Collection continued to decline after Masters' death in 1912. The University of Sydney provided little support or funds to maintain the collection which by this time was stored under appalling conditions. The collection has not been properly curated for more than 70 years. As a result, it has suffered from severe dermestid damage, reorganization by people who did not realize the significance of potential type specimens and the discarding of old labels and the relabelling of specimens.

Since the 1960's the collection has been fumigated and in mid-1982, it was moved to an air-conditioned laboratory. The collection contains more than 1300 drawers. They are totally disorganized and a search has to be made of all the drawers to find specific insect groups. But it is now being transferred to new wooden drawers which use the unit tray system. In a few years it will be sorted and readily available for study by overseas and Australian entomologists.

Having established the broad history of the Macleay Insect Collection, some mention should be made of its significance to hymenopterists. Firstly, this collection contains much early Hymenoptera material. Most notable is the Verreaux Cape of Good Hope collection (ca 1820-1830), long thought to be lost at sea. William Sharp's Cuban collections of 1826-1836 are very rich in Hymenoptera, especially Ichneumonoidea, Chalcidoidea, Vespoidea, Pompiloidea, Sphecoidea and Apoidea. There are many wasps from the United States, Mexico and South America - all collected between 1830 and 1890. Unfortunately the vast majority of the specimens are not identified. Also, label information for most specimens is limited to general location e.g.: 'Amer. Bor.', 'South America', 'Cuba', 'Amazon' and 'Peru'. The collection contains specimens from a wide variety of places infrequently visited by nineteenth century entomologists such as eastern Russia, North China, Nepal, Tibet, Bali, Java, Sumatra, New Ireland and the intriguing but as yet unplaced 'Santa Domingo'.

Secondly, types of Hymenoptera long thought to be lost, especially from Europe, may be in this collection. For example, several Symphyta types were recently found: Those described by Leach in 1817 (e.g. Perga dorsalis, Perga ferruginea, Lophyrotoma cyanea, Cimbex macleayi and Cimbex klugii); a Benson type (Perga bradleyi); and Klug types (Lophyrotoma interruptus and Pterogophorus cinctus).

The Hymenoptera is the first order that is being sorted and repinned (most of the pins are corroded or broken) with the help of one full-time assistant and eight volunteers. The Symphyta, Chalcidoidea, Gasteruptioidea, Chrysidoidea, Scoliidae and Formicoidea are finished. The Vespoidea and Sphecoidea will be finished by the end of 1983. The Apoidea will be left to last - it is a confusing group and apparently few taxonomists are working with this superfamily.

Any inquiries from world-wide Hymenopterists to study parts of this collection would be most welcomed. All requests for loans, and to arrange visits should be addressed to:

Dr. D. S. (Woody) Horning, Jr.  
Curator of Invertebrates  
Macleay Museum  
University of Sydney 2006  
New South Wales  
AUSTRALIA

Since Don submitted the preceding Macleay story he has sent the following information on some of the early authors represented in the collection: "It is hard to say which authors have types of Hymenoptera represented until hymenopterists study the collection. I do know that the following authors are represented: Dodd, R. Forsius,

Froggatt, Girault, Klug, Leach and Westwood. Alexander Macleay purchased specimens from the Kirby and Donovan collections which are supposed to contain types. W. S. Macleay was a good friend of P. A. Latreille and he received many insects from Latreille. Specialists might be able to tell me which Latreille specimens are types (since W. S. Macleay studied with Latreille for three years it is quite likely that Latreille types are represented, and in fact some specimens are labelled '\_\_\_\_\_  
Latr. nob'). We have ants with red bordered labels such as the following examples: *Formica rufibarbis* For. (Frankft. a/M 5/8/00), *Lasius fuliginosus* Ltr. (Galleo skev 21/5/91), and *Myrmica ruginodis* Nyl. (Frankft Hala. 1/10/99). Also we have Hymenoptera that may have come from the Thomas Say collection - specimens are labelled 'New Harmony, Indiana'. I don't know if Say types are represented, but at the very least this last material could serve as reliable neotypes. Saussure sent hundreds of wasp and bee species to Sir William John Macleay in the early 1880's. Fortunately we still have the original lists of names in Saussure's own handwriting."

## Sphecid Wasps of the World - More Errata

Thanks go to Qabir Argaman, Woj Pulawski, Jean Leclercq, and others for bringing the following to my attention - ugh! Arnold Menke.

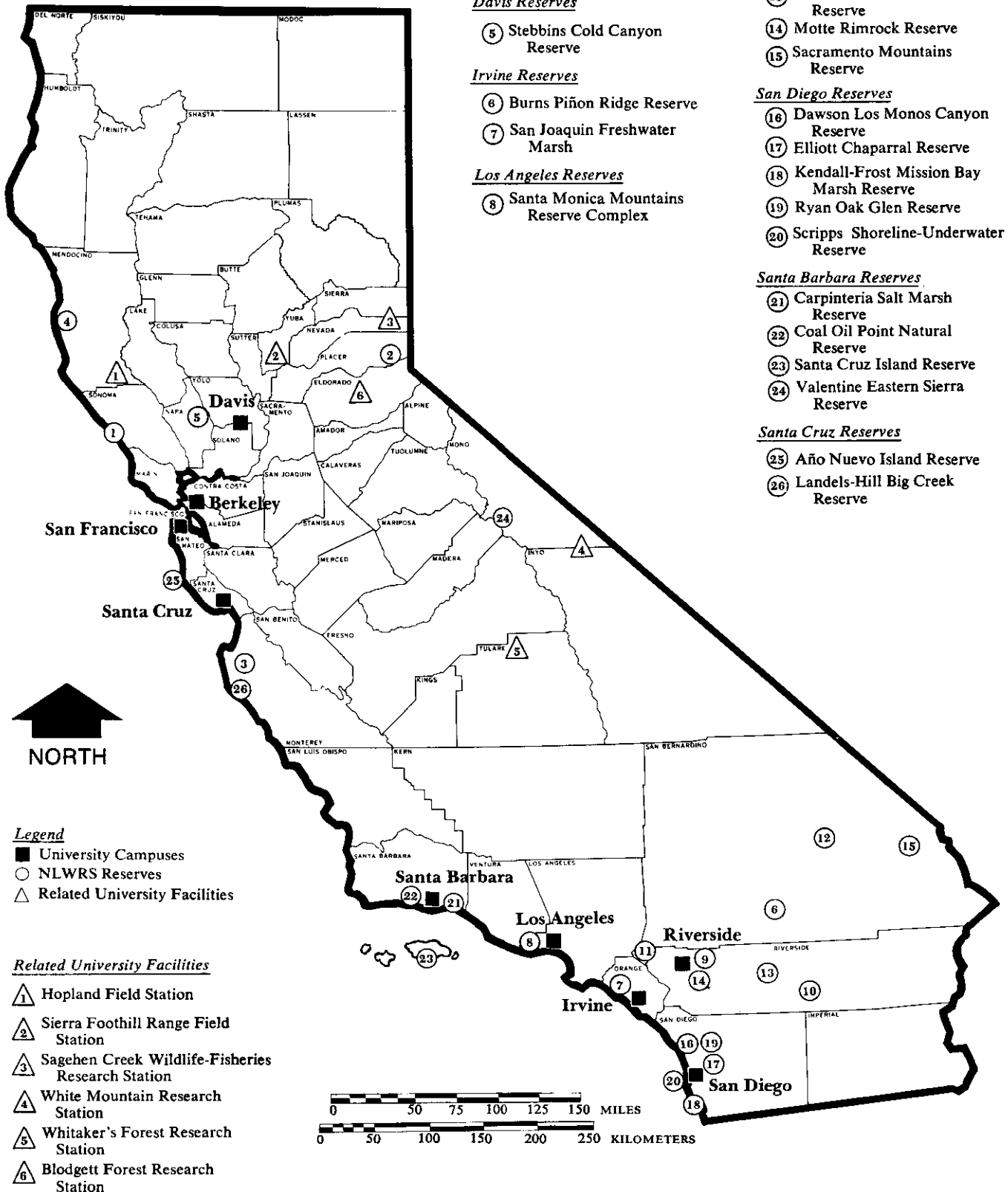
- p. 8, upper drawing: antenna is incorrect. It should have one more flagellomere.
- p. 43, RC, L 21-22: Eparmatostethus is correct (change in index also, p. 651)
- p. 44, LC, L 15: 1883a is correct
- p. 44, LC, L 34: 1883b is correct
- p. 44, LC, last line should be indented about 12 spaces because Gonius is a synonym.
- p. 84, Fig. 17 C: antenna is incorrect. It should have one more flagellomere
- p. 105, RC, L 48 and 50: 1858 is correct, not 1859
- p. 106, RC, L 8: 1858 is correct, not 1859
- p. 115, RC, L 48: place dagger symbol in front of obscurus and insert after India:  
"nec Schrank, 1802, now in Pompilidae". [species should be called cinerascens  
and moved to page 114, LC.]
- p. 116, LC, L 16: 1858 is correct, not 1859
- p. 144, LC, L 38: add Sudan after Egypt
- p. 134, LC, L 14: Uzbek is correct
- p. 153, RC, L 40: Sakhalin is correct
- p. 162, LC, L 5: add USSR
- p. 172, RC, L 50: 1916 is correct
- p. 174, LC, L 12: 1916 is correct
- p. 186, RC, L 50: 1884 is correct
- p. 203, RC, L 10: change to: 1r stub (fig. 51F)
- p. 212, LC, last two lines: sicula and cobosi are valid species
- p. 213, LC, L 36: 1897 is correct
- p. 217, RC, L 13 and 19: Laphyragogus is correct
- p. 226, LC, L 31: fig. 95, not 87
- p. 238, LC, L 46: 1858 is correct, not 1859
- p. 238, RC, L 2: 1858 is correct, not 1859
- p. 244, LC, L 2: 1858 is correct, not 1959
- p. 244, RC, L 10: 1858 is correct, not 1859
- p. 245, RC, L 5: 1858 is correct, not 1859
- p. 260, RC, L 21: delete (fig. 76 F-G)
- p. 267, LC, delete L 29-33 (tarsalis, etc.)
- p. 267, RC, L 11: 1839 is correct. Insert after 1839: new name for tarsatus Smith
- p. 275, LC, L 16: 1858 is correct, not 1859
- p. 275, RC, L 48: insert semicolon after S.S.R.
- p. 281, RC, L 31: insert "lapsus or emend." after (Tachytes)

- p. 299, RC, L 28: 1858 is correct, not 1859
- p. 313, RC, L 27: Change distribution to: Idaho, Colo., Texas to Ill., N. C., Fla.
- p. 313, LC, L 47: (Plenoculus) is correct
- p. 335, RC, L 21 and 26: 1884 is correct
- p. 336, RC, L 9 and 16: 1897 is correct
- p. 367, LC, L 50: 1897 is correct
- p. 401, LC, L 14: insert Fabricius after maculatus
- p. 407, LC, L 11: advena is correct
- p. 426, RC, L 2: 1884 is correct
- p. 427, LC, L 33: add Bulgaria
- p. 430, LC, L 20 and 36: subterranea is correct
- p. 430, LC, L 22 and 34: alata is correct
- p. 465, LC, L 31: (Oriental Region and Turkey) is correct, not (e. coast of Asia).
- p. 466, RC, L 7: Oriental Region and Turkey is correct
- p. 507, LC, L 14: change "propodeum" to propodeal enclosure
- p. 513, LC, insert after L 42 as valid species: quadricinctus (Ashmead), 1904  
(Megalomma); Philippines (put in index also)
- p. 540, RC, L 1: Four is correct
- p. 541, LC, L 1: transfer caesarea to p. 542 and place in list of Editha species  
(change page number in index also)
- p. 543, LC, L 1: transfer diana to Stictia, p. 542, LC (change page in index also)
- p. 576, RC, insert after L 25 as valid species: accola Kohl, 1916; sw. U.S.S.R.
- p. 578, LC, L 6: add: nec Say, 1823
- p. 578, LC, L 7: add: new name for canaliculata Cameron
- p. 581, RC, L 7 from bottom: 1916 is correct
- p. 582, LC, L 25 and 29: 1916 is correct
- p. 583, RC, L 41: 1916 is correct
- p. 586, LC, delete L 1: bidentata, etc.
- p. 587, RC, L 30: the spelling punctuosa is attributable to Dalla Torre, 1897.  
This entry should be placed beneath punctosa (L 33) with notation "lapsus".
- p. 587, RC, L 45: 1916 is correct
- p. 588, LC, L 24: 1916 is correct
- p. 589, RC, L 30-31: cubensis Cresson is the correct name for this species. Dalla Torre (1897) rejected zonata Cresson, 1865, because of secondary junior homonymy with zonata (Say), 1823, which he also included in Cerceris (Art. 59 (b)).
- p. 591, RC, delete L 28: cameroni Schulz, etc.
- p. 604, RC, L 31: change 100: to 101:
- p. 606, RC, L 49-51: delete "1883a Neue....." citation (1884b is correct citation below at L 59)
- p. 606, RC, L 52: 1883a is correct
- p. 606, RC, L 54: 1883b is correct
- p. 628, RC, L 37: formosanus is correct
- p. 657, RC, last line: haematina is correct

## University of California Natural Land and Water Reserves System

Howell Daly (Dept. of Entomology, Univ. of California, Berkeley, Calif. 94720) invites hymenopterists to make use of the 26 reserves in California (see map) that are available for field research by qualified scientists. Many of the 178 major habitat types in California are represented in the system. Historical records, plant and animal inventories, and weather data are available for some reserves. Interested persons may obtain a detailed brochure describing the system by writing the Director, Natural Land and Water Reserves System, University of California, 2111 Bancroft Way, Room 544, Berkeley, Calif. 94720.

# University of California Natural Land and Water Reserves System



## Tales from the Outback

THE DISCOVERY OF AHA HA (SPHECIDAE, MISCOPHINI)

by

Howard E. Evans

(Colorado State University, Fort Collins, Colorado)

Aha ha has now made the pages of Science 82 (and in color, no less), thus catapulting to fame our own editor, Arnold Menke. So it seems worthwhile to put on record the discovery of that notable hymenopteran. It would be exciting to say that we arrived at the type locality after days of plodding through the Great Sandy Desert of Western Australia, drinking every third day from a fetid water hole, dodging the spears of irate aborigines. And that a monument has been erected at the type locality, bearing the images of its discoverers and surmounted with a 12-foot likeness of Aha ha. But all of that would be slightly exaggerated.

In truth, Bob Matthews and I were wandering about not far from our living quarters in Kununurra, Western Australia, working up a sweat sufficient to justify an evening revelry over a pitcher of Swan Lager. We had been studying Bembix wasps, particularly a small, pale species that tended to swarm over the sand like so many wraiths. It was undescribed, and we later named it Bembix moma, moma being an aboriginal word for a ghostly creature. On a bank overlooking Lily Creek, on the edge of town, we found a second aggregation of these wasps, and promptly set about to study them. It was hot and dusty, and we thought of our colleagues back home in their air-conditioned laboratories, counting Drosophila or modeling protein molecules. But have they ever found an undescribed species preying on an undescribed genus?

Bembix moma is an unusual species, preying upon Hymenoptera as well as the more usual Diptera. I well remember the incident at Lily Creek. It was September 16, 1972, our nest number A449. I poured out the cell contents onto a sheet of paper, and there among the potpourri of flies, bees, and wasps, were these tiny beauties, their silvery pile glittering in the afternoon sun. "Aha" I said, and Bob replied "ha": rather loudly, though we had no idea Arnold had heard us on the other side of the world. (Must have been a quiet day at the Museum.)

And that's the end of the story. Unfortunately I don't recall the circumstances surrounding the collecting of Aha evansi, said to be a "larger, stouter wasp than ha", though with shorter volsellar setae. Thanks, Arnold. Immortality is such a comfortable feeling.

[I think Howard must have been drinking too much Swan Lager when he wrote this. My recollection is that while going over some sphecid material collected "down under" by Howard and Bob, I came upon a cute little gray wasp with strange tarsal ungues and exclaimed, "aha, a new genus". Eric Grissell, resident wit, who happened to be standing nearby observing the master, retorted with some skepticism, "ha". As to evansi, its larger size reminded me of Howard's waistline after he had consumed all that Swan Lager in the "outback". - Editor]

## Russian Translations

The English translations of three important recent works in Russian announced by Karl Krombein (see Sphecos 4:4), have been suspended, unfortunately, because of funding problems.

## Scientific Notes

### NEW PREY RECORD FOR CRABRO ADVENA SMITH (SPHECIDAE)

by

Bill Weislo

(University of Michigan Biological Station, Pellston, Michigan 49769)

Incidental to behavioral studies of Crabro cribrellifer at the University of Michigan Biological Station (Cheboygan Co.), I observed a female of Crabro advena Smith provisioning her nest with flies of the genus Ptilodexia (Tachinidae - det. C. W. Sabrosky). I thank Mark O'Brien (Univ. of Mich. Museum of Zoology) for pointing out that this is a new prey record for advena.

### AN OBSERVATION ON MELLINUS BIMACULATUS (SPHECIDAE)

by

Mark F. O'Brien

(Museum of Zoology, Univ. of Michigan, Ann Arbor, MI 48109)

Nothing has been published about the biology of the New World species of Mellinus. Siri and Bohart (1974) have summarized the systematics and the ethology of the genus. The Palearctic species of Mellinus prey upon Diptera in the families Anthomyiidae, Calliphoridae, Muscidae, and Syrphidae, stocking their nests with from 3 - 15 prey per cell, depending on the species of Mellinus (Hamm and Richards 1930; Huber 1961; Iwata 1976).

I observed a female M. bimaculatus Packard at 1400 h on 8 Aug. 1979 at the State Univ. of N.Y. College of Environmental Science and Forestry Biological Station at Cranberry Lake, St. Lawrence Co., N.Y. The wasp was sighted on a dirt road bordered by a young beech-birch-maple forest (typical of the area), with an understory of ferns, perennial forbs, and grasses. The wasp was carrying her prey venter-up on a sandy bank, using mandibular prey carriage. At times she had difficulty in climbing over vegetation, and would buzz her wings for extra momentum. (At the time I thought she was a crabronine, and collected her and the prey instead of following her to the nest.) The prey, a female Pegomya sp. (Anthomyiidae) (det. by F. C. Thompson, Systematic Entomology Laboratory, USDA, Washington, D.C.), appeared to be fully paralyzed.

During the next several days, eight more M. bimaculatus and many more of the Pegomya were taken in a Malaise trap about 500 m away, in open woods bordering the lake.

Future observations of this species will undoubtedly be luck, since woodland nesters are tough to keep track of. It would be interesting to know if there are any other unpublished reports of Mellinus behavior.

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- Bohart, R. M. and A. S. Menke, 1976. Sphecids of the world. Univ. Calif. Press, Berkeley. 695 pp.
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- Huber, A., 1961. Zur biologie von Mellinus arvensis. Zool. Jahrb. Abt. Syst. Oekol. Geog. Tiere 89:43-118.
- Iwata, K., 1976. Evolution of instinct. Amerind Publ. col, New Delhi, India. 535 pp.
- Siri, M. L. and R. M. Bohart, 1974. A review of the genus Mellinus (Hymenoptera: Sphecidae). Pan-Pacif. Ent. 50:169-176.

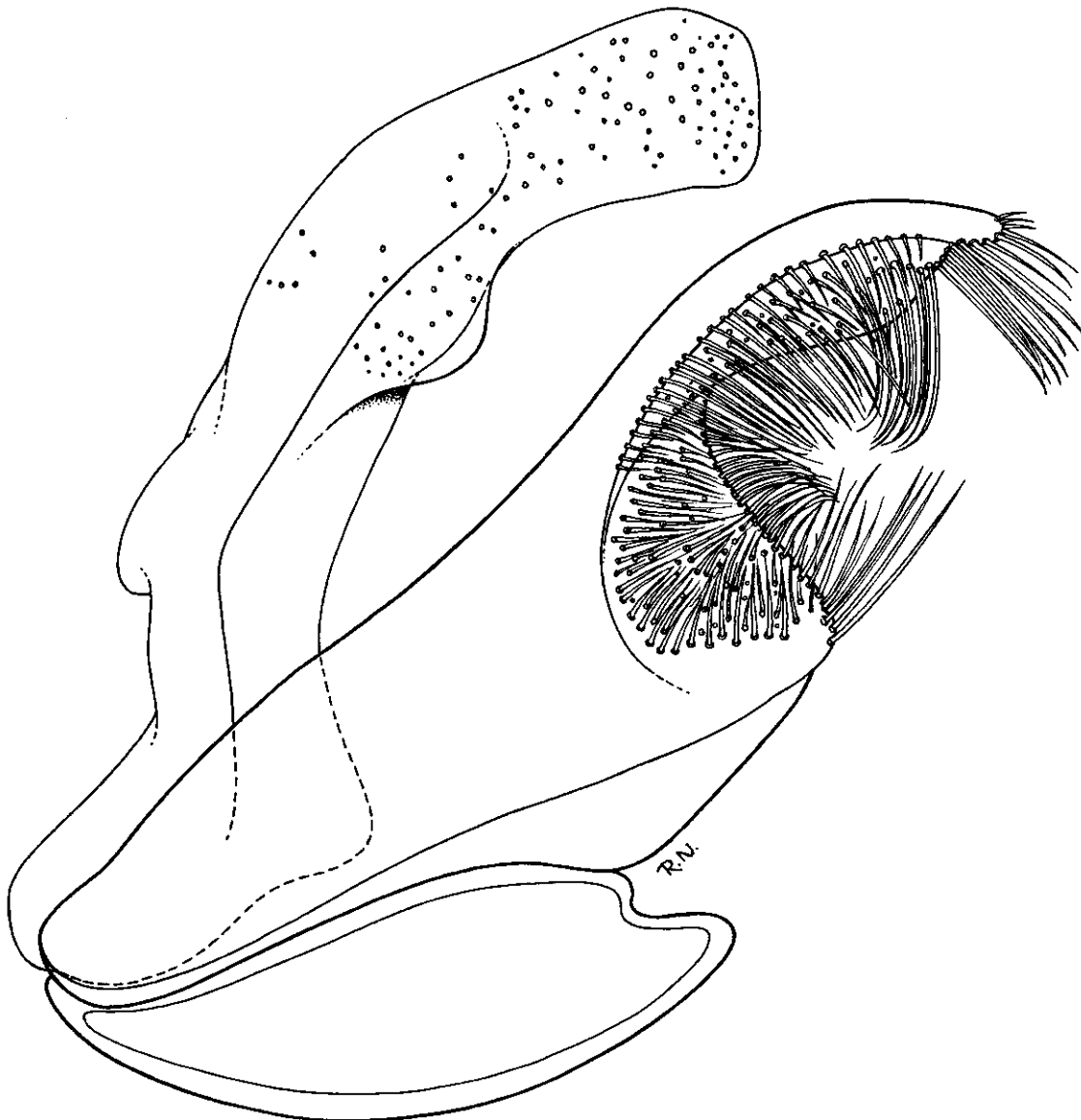
DRAWING WASP GENITALIA

by

Ole Lomholdt

(Zoologisk Museum, Universitetsparken 15, DK 2100, Copenhagen, Denmark)

We all know the importance of male genital characters for separating "difficult" species. In some sphecid groups these sclerites display good characters distinguishing taxa at genus or species level, but their taxonomic significance is not recognized in all sphecid genera. The morphology of the male genitalia has not yet played any particular role in phylogenetic considerations [not true Ole - see Sphecid Wasps of the World], but close examination of the gonostyle setae, the aedeagal dentation and the shape and setation of the volsellar sclerites certainly provide good and constant characters valuable in reconstructing evolutionary events. I have used these characters in my thesis "A redefinition of the larrine tribes with a revision of the Miscophini of Southern African and Madagascar (Hymenoptera, Sphecidae). - (Ent. Scand. suppl. 1, in press) and in "A revision of Sphodrotes Kohl, 1889 (Hymenoptera, Larridae) (Steenstrupia, in press). I would like to suggest that genital drawings should present the organs in right lateral view unless some particular detail is better illustrated otherwise. SEM pictures are good, but membranes cannot be distinguished from sclerites.





My drawing technique is as follows. The genitalia are placed on a slide in glycerol, right side up. A series of 3-6 photographs is taken at different levels of focus until the midline of the preparation is reached. The pictures are taken at equal intervals so that all structures are pictured sharply. An interference contrast microscope gives good pictures on Agfapan 25 professional film. The copies are placed on opaque glass with light from beneath and the sharp contours from each copy are drawn on semitransparent paper with an ordinary pencil. The resulting drawing is redrawn with india ink. The genital sclerites of a Sphodrotes are shown in the accompanying figure. Although such a drawing is simplified, I think that its information content is sufficient for comparative studies. Sternum 8 can be drawn using the same technique. It is my hope that drawings of sphecid genitalia can be standardized in such a way that comparisons are made easier.

THE CICADA KILLER MOTH, AMPHION NESSUS, (LEPIDOPTERA: SPHINGIDAE): A NEWLY  
DISCOVERED MIMIC OF THE CICADA KILLER WASP, SPHECIUS SPECIOSUS  
(HYMENOPTERA: SPHECIDAE)

by

Norman Lin

(Consulting Entomologist, Brooklyn Botanic Garden,  
1000 Washington Ave., Brooklyn, New York 11225)

The cicada killer moth, (Amphion nessus (Cramer)), a sphingid whose striking mimicry of the cicada killer wasp has never been reported, has been observed during the course of studies on cicada killer wasps and other Hymenoptera in the Brooklyn Botanic Garden, in Brooklyn, New York, on several different days during both the summer of 1981 and 1982. Cicada killer wasps have been studied for three years (1980-82) in the Brooklyn Botanic Garden where they are exceedingly common, and which contains at least three major nesting aggregations going back to before 1948.

The following preliminary description of the moth is based on several brief observations made in the field at flowers, which is the only place where the moth had been observed. The size and shape of the moth closely approximates that of the larger female sex of the cicada killer wasp. Like the cicada killer wasp, it is brown with two yellow bands around the middle of the abdomen. The bands also closely resemble the two posterior bands of the wasp in size and spacing. The shade of yellow was almost identical, but the brown was a bit redder in most places than the wasp's. The wings also resembled those of the cicada killer wasp in size, shape, and transparency with a slightly reddish brown tint.

The moth also mimics a frequent but not exclusive way of behaving by the wasp at flowers. It flits to and from the flowers in a very rapid cicada killer wasp-like flight, typically spending periods of less than two or three minutes in total feeding, and less than 30 seconds at any one flower, and rapidly flit from the area immediately following feeding in the manner in which they came. Like the wasp at the flowers, (in the above situation), they are very wary and difficult to approach, and dart away with unbelievable speed if frightened. Indeed, my single attempt to capture one in 1982 ended in failure apparently for this very reason. It should be pointed out that day flying hawk moths in general have these characteristics of flight and escape. Like typical hawk moths and unlike cicada killer wasps, the moths hover like hummingbirds in front of tubular flowers while sucking up nectar with their long proboscis. Cicada killer wasps have short tongues and consequently, must feed while resting on flowers which, in addition, have shallow nectaries and are always or usually non-tubular. During one cool evening and in total shade it was found that the moth and wasp fed in the same manner on the same kind of flowers.

The moth was observed at four separated flower rich sites, the two farthest spanning about one-half the length of the fifty acre Brooklyn Botanic Garden. All four of these sites were also frequented by the wasp which is much more common in all areas, and that have been observed in a much larger area of the Brooklyn Botanic Garden, which encompasses the sites where the moths were observed.

In all other respects, both the cicada killer wasp and the cicada killer moth appear to have all the ideal characteristics of the Batesonian model and mimic. Some Mullerian mimicry is also not ruled out if the moth proves to have some degree of distastefulness or other noxiousness.

The moth, like the wasp, is active during the day and during the summer and is quite rare in the area, whereas the wasp is common.

The female cicada killer wasp has a reputation for giving a very painful sting, and presumably tastes bad, (unconditioned stimuli) which is accompanied by the most common color warning pattern of wasps and an extremely large size (conditioned stimuli). Furthermore, I have discovered that both the female and the male cicada killer wasp have, in addition to the above, a multi-modal aposematic system which goes into effect when provoked, and consists of many components. Among the most striking of these, a very loud buzzing, a powerful and revolting odor like that of a rotting carcass, opening the mandibles in a threatening manner, and when the male is held in the hand it often pricks with the pseudo-sting, or bites with the mandibles. Females were reported to sting when held tightly in the hand. Presumably, this system evolved as a protection against vertebrate predation, with birds being the most important predators. Doubtless, the cicada killer moth also evolved this pattern because of the protection it confers against bird, and possibly other vertebrate predators, who mistake it for the cicada killer wasp, or other similarly marked wasps.

#### ANOTHER WAY TO LOWER A SPIDER

By

Chris Starr

(Visayas State College of Agriculture, Dept. of Plant Protection,  
Baybay, Leyte 7127, Philippines)

My friends John and Alan Burden recently watched a spider-hunting wasp using a novel tactic (or circumstance) in prey carriage in the Philippines. The wasp was about 1-1 1/2 cm long, and dark except for a wonderfully bright orange abdomen (it was this which first attracted the Burden's attention). They didn't recognize the species in the collection of our Biological Museum, but it could only have been a pompilid. The spider was notably larger than the wasp, had its legs intact, and was most likely Heteropoda venatoria.

The wasp was carrying the stung spider down a series of outside concrete steps. She finally took it into a nest under the bottom step, after they had watched them pass about 8 steps. The novel feature had to do with descending over the edge of one step to the next. About half of the time the wasp just heaved the spider over and then went down to retrieve it and proceed. The spider still had some movement in it. It twitched its legs much of the time, and about half the time it secured a dragline before being heaved. In those cases, both the spider and the wasp rode down in orderly fashion on the spider's dragline.

Possibly this was just an accidental happening without significance. After all, what difference does it make whether the spider is lowered 20 cm onto a bare concrete ledge or just tipped over and retrieved? Under more natural conditions, though, with vegetation and uneven ground as part of a complex microenvironment, it might make quite a difference. If a large spider is captured on a bush or tree, it may be very hard to carry on the ground and undesirable to just drop it. It could be hard to find again in the ground layer.

I haven't found mention in the literature of pompilids lowering prey in this manner, and Frank Kurczewski says he has never seen it happen.

## Collecting Reports

LOWER RIO GRANDE VALLEY, TEXAS - Charles Porter  
(Dept. of Biological Sciences, Fordham Univ., Bronx, N.Y. 10458)

As usual, my 2 collecting localities were Bentsen R. Grande Valley State Park, 12 miles west of McAllen near Mission, and the McAllen (olim Valley) Botanical Gardens at McAllen.

Collecting at McAllen between 11 and 21 March turned out very good. We had some substantial rain after an 8 month drought, but days were mostly clear with temperatures in the mid 70's to high 80's. A lot of flowers embellished the landscape (pink verbenas, blue-bonnets, poppins, Verbesina, Helianthus, etc.). Looking at aculeate Hymenoptera I can mention a good variety of common but interesting species that had not been conspicuous for more than a year. There is a black and yellow Sapyga which normally swarms in March. I take it sweeping in open places in arid woods, along trails (etc.) and, especially, where the cruciferan Lepidium is in bloom or fruiting. The Lower Rio Grande Valley, with its diverse but often scarce fauna, curiously, is the only place I have ever found sapygids of any kind abundant. I got 40-50 specimens this time and have collected 100's in other years. Scolidae were represented by Campsomeris tolteca, mostly on Verbesina flowers.

Among eumenids, I took Zethus montezuma, Z. miscogaster, Z. aztecus, Minixi mexicanum, and unidentified Eumenes of the consobrinus type, various Stenodynerus, several Parancistrocerus, Pachodynerus "nasidens", a most elegant little Symmorphus, Leptochilus acolhuus, and several Euodynerus (sl). I was sorry to miss Dolichodynerus tanynotus, which sometimes appears at McAllen in March. Best collecting for eumenids was around the twigs and foliage of Bumelia celastrina and Condalia obovata and on flowers of Teucrium cubense. Vespids were scarce, but Polistes instabilis holds its own and P. exclamans remains conspicuous but uncommon. Pompilids provided a lot of Aporinellus, Ageniella, Auplopus, Monagenia, Cryptocheilus attenuatum, and some assorted small male Anoplius.

The sphecids were beginning to achieve summer-like abundance and diversity, with Isodontia mexicana, at least 3 species of Ammophila (we look forward to Menke's published keys), 2 species of Cerceris, Philanthus gibbosus, 2 species of Trypoxylon, some assorted tiny miscopines nesting on a sandy road, a small Oxybelus in the same place, Crabro on Bumelia and Condalia, at least 3 species of Liris, 1 Tachysphex, etc.

Among Apoidea, there were many spring taxa--Hylaeus, Colletes, Perdita spp., Augochloropsis metallica, Agapostemon texanus, a few Megachile, Heriades spp., Osmia subfasciata (a very common spring indicator species in so. Texas), several Nomada spp., and Xylocopa tabaniformis plus X. mexicanorum.

Best collecting was effected by sweeping in lush vegetation along trails and in tangles of Serjania vines. As to be expected for the time of year, parasitic Hymenoptera still predominated with respect to the aculeates (in Dec.-Jan. this predominance is still more accentuated). I won't bother you with an account of Parasitica, except to mention the capture of an impressive female Acanthochalcis nigricans, as it explored the trunk of a partly dead Acacia greggii. This is a truly gigantic chalcidoid and my 1st record for the Lower R. Grande Valley. Otherwise, I've taken it (1 male and 9 females) only at Cuatrociénegas (Coahuila), Mexico on flowers of Baccharis neglecta in Aug. 1981. The Mexican locality is in Chihuahuan desert, and it was surprising to find A. nigricans in our semihumid (wet places with epiphytic bromeliads) Lower Rio Grande Valley.

## MAYAGUANA ISLAND, BAHAMAS - Arnold Menke

Thanks to the generosity of Walter Adey, Dept. of Paleobiology, Smithsonian Institution, I had an opportunity to briefly visit this southern island in the Bahamas. Originally I was to have a whole day on the island, but torrential rains in Florida while enroute to Mayaguana in Adey's Grumman Albatross, delayed us a day and I only had about 3 hours collecting time in the late afternoon of April 24. I hurriedly put up 1 malaise trap and then collected.

Mayaguana is xeric and the area in which I collected, the coast of Abraham Bay, had a dense stand of mixed scrubby vegetation. Small palms were scattered here & there. Although many plants were blooming, not many insects were about, possibly because it was late in the day. I collected a series of an apparently undescribed Pachodynerus (Eumeninae) related to cinerascens, the only wasps caught, but I saw and could not catch, large carpenter bees whose males were wholly yellow. The trap produced very little material other than small Diptera and a few parasitic Hymenoptera. One interesting nymphalid butterfly was taken, tentatively identified as Anaea intermedia Witt, described in 1972 from Grand Turk I., and previously known only from that island.

Mayaguana probably has never been visited by a hymenopterist and I regret that I had so little time. The new Pachodyneus and this nymphalid suggest an exciting fauna on this infrequently visited island.

A final note - the fun of flying in that old amphibian, the largest currently still flying, was an experience I'll not soon forget. The airplane attracted a crowd whenever we landed.

## NEW HARMONY, INDIANA and the SAND HILL COUNTRY OF NEBRASKA - Arnold Menke

In late June, Eric Grissell and I embarked on a collecting trip. Our main destination was Nebraska, but we stopped enroute at New Harmony, Indiana. Thomas Say, the father of entomology in North America, spent his last years (1825-1834), died and was buried here. New Harmony is the type locality for many of Say's new species and we wanted to collect there in an effort to build up a topotypical collection of Hymenoptera. Rainy weather thwarted this plan, but we did examine a very old collection of insects thought by some people to be authentic Say material. The insects are contained in 5 old wooden boxes which are housed in the archives of the New Harmony library (in the Workingmen's Institute). The insects are a mixture of North American and tropical forms, and the vast majority have only a small label with a number. The pins appear to be very old, and many of the insects are in poor condition. In some cases the contents of a box are now more or less covered with a layer of dirt and grime suggesting that the insects were on display with the box tops off for a long, long time. We found very few labels with names, and saw nothing to indicate that Say had anything to do with the material. That is not to say that Say material is not present - it would take considerable time and effort to make such a decision. It is the opinion of Ms. Josephine Elliott, a New Harmony historian affiliated with the library, that the collection is not Say's. She believes that it was assembled by Margaret Chappellsmith, a contemporary of Say's. Apparently no catalog is known for the numbers on the specimens.

After leaving New Harmony we drove on to Nebraska. We made our first collections along the Middle Loup River near Halsey in the Nebraska sand hill country. Nearby was the Nebraska National Forest, an artificial forest planted in the 1930's by the Civilian Conservation Corps. This forest was largely destroyed in a fire a few years ago. In the sandy soil along the river I took Ammophila harti, A. ferruginosa, A. procera, Sphex lucae, Tachytes, Tachysphex, Bembecinus, Microbembix, Bicyrtes, Philanthus and chrysidids.

Next we collected for 3 days along the same river near Mullen in the heart of the sand hill country. Much of Nebraska north of the Platte River is sand hills, probably about one-third of the state. It is very sandy, hilly country, but grasses cover most of it. Sand is exposed primarily in numerous blowouts which are largely devoid of vegetation. The water table is very high and in some sand hill areas there are numerous lakes, marshes, and meadows. Trees are essentially non-existent.

Our first day in the Mullen area was very hot (90's) and uncharacteristically humid. On the river about a mile and a half north of town collecting was terrific. Sunflowers (Helianthus) and Melilotus were abundant and we got plenty of Hymenoptera and other insects. It turned unusually cool the next two days and very windy. Collecting was much poorer as a result. Our malaise trap kept blowing down. Among the sphecids caught at this location were: Ammophila varipes, kennedyi, ferruginosa, and azteca, Tachysphex, Mellinus abdominalis (abundant on Helianthus foliage), Oxybelus, Ectemnius, Cerceris, and Philanthus.

From Mullen we drove north to the area around Valentine. The most interesting area here was in the gallery forest on the canyon walls of the Niobrara River. It contains the easternmost stands of Pinus ponderosa, although the trees are smaller than those in the far west. Unfortunately, the collecting was poor due to the delayed summer season. Eric and I did manage to net a few Ammophila procera, urnaria, and kennedyi however. The next day we collected along an intermittent tributary of the Niobrara south of the tiny hamlet of Nenzel (west of Valentine). There were Ponderosa here and the sandy stream bed was fairly swarming with wasps and other insects. I collected a tremendous number of Ammophila including macra, procera, juncea, urnaria, azteca, and kennedyi. Some other sphecids taken were Alysson, Tachysphex, and Oxybelus.

Next we visited some "badland" country north of Crawford in the northwestern part of Nebraska. We went to a state park called "Toadstool Park", so named because of the peculiar erosion formations. Fortunately (because of the heat) there was well water and picnic tables with shade. The place was deserted. There were several dry washes coming out of the surrounding hills and Melilotus and other plants were blooming in profusion. We had excellent, although somewhat slow collecting here - even saw rattlesnakes! Got Pseudomasaris and various eumenid genera. Among the Ammophila taken were varipes, stangei (good record), kennedyi, ferruginosa and azteca. Other sphecids caught were Oxybelus and Tachysphex.

The next day we collected in the mountains southeast of Crawford. Again we concentrated our efforts in a sandy stream bottom, and I got plenty of Ammophila: procera, urnaria, juncea, strenua and kennedyi. Philanthus, crabronines and eumenids were also taken.

We left Nebraska and headed eastward to Michigan. Enroute we stopped at the dunes along the southeastern shore of Lake Michigan, collecting in Indiana at a private residential area called Dune Acres. Here we were able to find unaltered dunes and had fair collecting. A species of the chrysidid genus Parnopes was common, flying close over the sand in a decidedly unchrysidid-like manner. Microbembex, Tachysphex, and Cerceris were taken along with mutillids, pompilids and some unusual tiger beetles. We also investigated the dune state parks in Indiana and Michigan but were frustrated in our attempts to locate good sites for collecting due to countless people and insufficient time. All in all these dunes are fascinating and well worth collecting. They obviously harbor a fairly large endemic fauna.

Our last stop was at Henry Townes' American Entomological Institute in Ann Arbor, Michigan. When we arrived Henry was busy skinning a woodchuck (Marmota). It had been caught feeding on Henry's vegetable garden and was destined for his dinner table. While we were there, he caught and skinned two more, and all three went into his freezer. Marjorie prepared a fine dinner that night, and fortunately the main course was not the woodchuck! Eric and I spent most of the day sorting through chalcidoid and sphecid wasps in Henry's collection. He has some really fine material from various parts of the world. Of course his collection is strongest in Ichneumonidae. The collection is housed in a special building and is complete with an extensive library and work areas. After seeing the several acres of beautiful natural woodland

surrounding the Townes' home and institute, it is hard to appreciate his planned move to Florida with its heat and humidity. But Henry says he wants the collection close to a major entomological center (Gainesville, Florida).

PAPUA NEW GUINEA - Scott E. Miller and Pamela M. Miller  
(Harvard University, Cambridge, Mass. & Tufts University, Medford, Mass.)

We spent July and August working for the Smithsonian Institution in Papua New Guinea (PNG), and were based at the Wau Ecology Institute (WEI) in Morobe Province. Our collecting was conducted mainly at WEI and nearby Mt. Kaindi. In mid-August, we traveled to the highlands to collect at Mt. Gahavisuka Provincial Park, in the Eastern Highlands Province near Goroka (in cooperation with the PNG Forest Department), and at Kuk Agricultural Research Station in the Western Highlands Province near Mt. Hagen.

WEI is located above the town of Wau at about 1200 m in montane rain forest just below the upper edge of the Araucaria zone. Much of the 80 hectare grounds are in coffee (which provides a basic income), the rest is secondary forest. Facilities include an office, laboratory (with basic equipment, dry rooms, library, darkroom, and reference collections of local biota), hostel and several houses for visitors, a small zoo of native animals, arboretum, experimental garden, and several vehicles. A branch research station is located on top of Mt. Kaindi at 2360 m. The institute had its beginnings as the Bishop Museum Field Station started by the late Dr. J. L. Gressitt in 1962. It was incorporated as an independent facility in 1971. Use of its facilities allows research in PNG at reasonable cost (about \$10 a day for lodging). Interested persons can contact WEI at Box 77, Wau, PNG. A good general introduction to PNG, from a travel viewpoint, is Tony Wheeler's Papua New Guinea, A travel survival kit (Lonely Planet Press, South Yarra, Victoria, Australia, 1981).

A general background on entomology and the natural history of New Guinea has been well treated in three books by Gressitt and co-authors: Bibliography of New Guinea Entomology (Pacific Insects Monog. 18, 1968), Guide to Mt. Kaindi: Background to montane New Guinea Ecology (WEI Handbook #5, 1978), and The biogeography and ecology of New Guinea (Junk, The Hague, 1982). In general, the flora and insect fauna have Asian affinities, while the mammal fauna is related to Australia. The insect fauna consists of a large Asian element, a more recent (small but significant) Australian element, and a strong endemic element due to local evolution promoted by the rugged topography.

PNG still has vast areas of primary forest, but in many places (especially in the highlands) they have been reduced to "kunai" grassland by thousands of years of slash and burn agriculture. Recent growth in population, resulting from better health care, is putting increasing pressure on many forest areas. A secondary destructive force is logging, since logged areas are usually reforested with high yield, exotic species. Logging is controlled by the government, but control of slash and burn agriculture is almost impossible, especially due to traditional land ownership concepts. Education is crucial to forest preservation, and more efforts such as the WEI Subsistence Agriculture Project need to be established.

Our research was directed toward microlepidoptera, but Hymenoptera were also collected using Malaise, blacklight, pan, and window traps, as well as sweeping and general collecting. All the specimens are in the Smithsonian Institution and are available for study (duplicates and paratypes will be returned to PNG). Anyone interested in New Guinea insects should also consult the extensive collections of the Bishop Museum in Hawaii.

We are grateful to the Smithsonian (especially Dr. Donald Davis) for sending us, and to the National Academy of Sciences, Harvard University, and Charles and Helen Miller for additional funding. WEI (esp. Dr. Allen Allison and Agnes Safford), PNG Forest Research Station (esp. Dr. Hywel Roberts and John Doburaba), and Kuk Agricultural Research Station (Dr. Brian Thisleton) provided vital local logistics and assistance. The Aqua-Bug Corporation provided an easily portable 300 watt generator for light traps.

## Necrology

Prof. Keizo Yasumatsu passed away January 25, 1983. Dr. H. Hirashima of Fukuoka, Japan, has promised us an obituary for the next issue of Sphecos.

Dr. Delpha Guiglia passed away July 1, 1983 after a brief illness.

## Obituaries

CLARENCE E. MICKEL  
(1892-1982)

Dr. Clarence E. Mickel, Professor of Entomology and Economic Zoology Emeritus, at the University of Minnesota, died on August 29, 1982, at the age of 90, in Tuscon, Arizona.

He was born February 29, 1892, near Lincoln, Nebraska. He received his B.S. in agriculture at the University of Nebraska in 1917 and, while studying there, developed an interest in insect taxonomy. Mickel pursued his interest in mutillid wasps at the University of Minnesota, where he earned his M.S. in 1923 and his Ph.D. in 1925.

During his first five years in Minnesota, Mickel traveled the state as extension entomologist. Mickel's experience in wasp taxonomy helped him in gathering insects for the University of Minnesota collection and, from 1927 until becoming head in 1944, he was taxonomist for the Department of Entomology and Economic Zoology. During that time, he did much of the work on the insect collection -- gathering, identifying, classifying and putting specimens in their proper places. Today, the insect collection has about 2 1/2 million specimens, including one of the most complete collections of mutillid wasps in the United States.

For 31 years, Mickel taught a course in introductory entomology on the Minneapolis campus, and, for 33 years he taught a course to graduate students. In addition to the insect collection, he helped to build up the entomology library to a point where it is now one of the most complete book collections of its kind in the United States.

He was appointed head of Entomology and Economic Zoology in 1944, a position in which he served until his retirement in 1960.

Dr. Mickel studied in England, Germany, France and Italy on a John Simon Guggenheim Memorial fellowship from 1930-31. In 1957, he spent six months as advisor for the College of Agriculture at Seoul National University of South Korea.

A long-time member of the Entomological Society of America, he served as secretary-treasurer from 1936-43, and president in 1944. He was also a member of the Royal Entomological Society of London, the American Association for the Advancement of Science, and the International Great Plains Entomological Conference, of which was president from 1946-55.

From his retirement in 1960 until his death in 1982, Mickel divided his time between Minnesota and Arizona. Even in retirement, he remained active in mutillid taxonomy. He always remained willing to assist others. I am personally indebted to him for the assistance that he gave me as a graduate student getting started in the study of mutillids. He authored more than 50 papers on mutillid taxonomy, including many of the key publications on that group.

He was married in 1914. He is survived by his wife of 68 years, Mae A. Mickel and two daughters, Mrs. James Littlefield of LaGrange, Illinois, and Mrs. Thomas Klick of Black River Falls, Wisconsin. A son, Stanley, died in 1959.

Donald G. Manley  
PO Box 5809  
Florence, S.C. 29502

THEODORE BERTIS MITCHELL  
(1890-1983)

Theodore B. (Ted) Mitchell, emeritus professor of entomology, North Carolina State University and a world authority on the taxonomy of megachilid bees, died 10 February 1983 in Southern Pines, N. C. Ted was born in Cambridge, Massachusetts, 26 October 1890 and attended Massachusetts Agricultural School at Amherst (now University of Massachusetts). In 1917, the first World war interrupted his college career when he was inducted into the army. His unit reached France in 1918, but the armistice brought an end to hostilities before he reached the front. Returning to the United States in 1919, he resumed his schooling and graduated in 1920 with a B.S.

Shortly after graduation, Ted accepted a position in North Carolina as Nursery Inspector for the N. C. Department of Agriculture. As part of his responsibilities, he was required to collect insects for the state insect collection and during the winters devoted long hours to the identification of the collected insects. In this way he developed a keen interest in the taxonomy of insects. Lack of field work during the winters enabled him to pursue advanced academic studies at N. C. State College (now N. C. State University), receiving his M.S. in 1924. This was also the year he married Olivia Gowan of Raleigh. During this period his taxonomic interests began to narrow to the study of solitary bees.

In 1925, Ted joined the faculty of the Department of Zoology and Entomology at N. C. State College. In 1926, he was accepted for graduate study by Harvard University, receiving his D.Sc. from there in 1928. During World War II, he worked during the summers for the U.S. Public Health Service, helping with the malaria control program at Fort Bragg, N. C. After the war he began working on the bee fauna of the entire eastern United States. This work culminated with the publication in two volumes of The Bees of the Eastern United States.

He retired from North Carolina State University in June 1961. The remainder of his life was devoted as an Emeritus Professor to the taxonomic study of the megachilid bees of the Western Hemisphere fauna. With NSF support, he did extensive field and museum work in Mexico, Brazil, Puerto Rico, Trinidad, Argentina, Chile and Peru. These efforts resulted in the publication of two additional books on megachilids.

Failing health in 1981 forced him to cease work and eventually to move to Southern Pines, N. C. to live with his son. He is survived by his son, Richard T. and daughter-in-law, and three grandchildren, Nancy, Susan and Linda.

Dr. Mitchell was truly an outstanding man both personally and professionally. Through his students, undergraduate and graduate, and his relationships with colleagues, his influence will continue significantly for many years. His high standards, outstanding performance and warmth of personality continue to inspire all who knew him.

Kenneth L. Knight  
Department of Entomology  
North Carolina State University  
Raleigh, North Carolina

## Profiles

### ALEXANDER VALENTINOVICH ANTROPOV

I was born in 1955 in Dzerzhinsk (Gorky district). In two years my parents left for Moscow where I have been living since then.

From 1963 to 1973 I have been studying at school. I have been interested in animals since my early childhood, but especially in Arthropods. But it was only after 1970 that I began collecting and studying insects seriously. My first step was



connected with butterflies. In the period between 1970 and 1979 I have been passing gradually from Rhopalocera to Noctuidae and Sphingidae.

In 1977 I entered the Biological Faculty of the Moscow Lomonosov State University. In 1979 I got acquainted with G. M. Dlussky (he was a specialist in Formicidae) who showed me the diversity of Hymenoptera. After this meeting I became a student of Hymenoptera and turned to research work on Aculeata, especially Sphecidae.

After graduating from the University in 1982 I began working for the Zoological Museum, where I am a curator of Aculeata. I devoted myself to systematics research of sphecid wasps, especially Trypoxylini.

Now I am collecting material on the Old World Trypoxylini for my review of this group in the USSR and in Palearctic region and then probably in the Old World in general.

STEPHEN G. REYES

I was born in Bacolod City, Negros Occidental, sugar capital of the Philippines. My interest in nature started early and the insects that fascinated me at that time were dragonflies, bees and butterflies. We used to go out camping every summer just for the fun of it.

I majored in Entomology and started my course work in 1977 at the University of the Philippines at Los Banos. It was during this time that my perspective about Entomology changed. I thought that entomologists were a bunch of boy scouts trying to exterminate insects. It was all pest and pesticides before I met Dr. Clare R. Baltazar. I was her first advisee and I studied nesting habits of aculeates though I have less success with trap-nesting. I still love to observe and collect nests of solitary and social wasps in addition to the study of the taxonomy of Philippine Cerceris. Presently, I am teaching at U. P. Los Banos, and although my load bugs me down, I still find time to collect together with some of my colleagues in the UPLB Museum of Natural History.

JEFFREY A. HALSTEAD

I was born August 30th, 1959 in Fresno, California and have resided there since. Like many other entomologists, I had an early interest in insects, but as I entered junior high school and high school this interest dwindled without the encouragement or direction of others. However, I can still remember back to the summertime sport of chasing pierids up, down, and around the neighborhood with flyswatters and the many hours spent watching the feeding behavior of the preying mantis.

My interest in the biological sciences was rekindled at Fresno City College while studying under influential instructors such subjects as zoology, botany, and an exceptionally interesting field biology class. After receiving my AA (Associate of Arts = 2 year college degree). I transferred to California State University, Fresno where in 1981 I graduated with a BA in Zoology. It was during this time, that I finally had the opportunity to reveal my suppressed interest in insects and take my first entomology class from Dr. D. J. Burdick, who stimulated my present interest and desire to study insects.

I have worked for the past three summers for the California Department of Food and Agriculture on the biological control of the Western Grapeleaf Skeletonizer, Puncturevine, and Russian Thistle. During the summers, I have gained valuable experience and have had the opportunity to collect with my supervisor Baldo Villegas (fastest net in the West). He is responsible for my obsession with Hymenoptera. Since then, I have collected every and any Hymenoptera possible and have been addressed as "Big Sweep".

I am presently a graduate student at California State University, Fresno, working on my MS degree. I am also employed by the university as a student assistant for the

general and economic entomology classes. For my masters project, I am working on a revision of the genus Hockeria (Chalcididae, Hymenoptera) in California, although considering and actively working on the entire subfamily Haltichellinae (Chalcididae) from this area.

My main research interest involves the biosystematics of the family Chalcididae and other Parasitica (Hymenoptera), although I actively collect and am working on biological notes concerning aculeates and bees. I am also interested in bat ectoparasites and have made a couple attempts to collect and examine various bats for ectoparasites. Unfortunately, none of the bizarre Streblidae or Nycteribiidae (Diptera) have been found.

#### JACQUES BITSCH

I was born in Paris in 1928 and attended secondary school through University in that city. In 1949 I was named Zoology assistant at the Faculty of Sciences of Dijon. Then in 1966 I obtained a professor position at the University Paul Sabatier of Toulouse in the Southwest of France. Besides teaching I conducted research on the anatomy of insects, particularly that of primitive insects (Apterygotes), then with the biology & physiology of these same insects. My specialization on insect morphology led me to participate in the editing of the *Traite de Zoologie* directed by professor P. P. Grasse (tome VIII, generalistes sur les Insects). I have always been interested in the fauna of certain groups of insects. First I frequented the Museum National d'Histoire Naturelle de Paris, occupying myself especially with Coleoptera. Upon arriving in Toulouse I met Mr. Henri Nouvel, professor of general Biology, who had been working on Hymenoptera a number of years. He was himself initiated into the systematics of these insects by an older colleague from Toulouse, well known for his work on Homoptera, professor H. Ribaut. H. Nouvel dedicated a large portion of his University leave to collecting Hymenoptera. His most numerous collections were from the South of France: Banugls sur mer (Pyrenees orientales), Hautes Pyrenees, the Toulouse region, etc. He thus established an important regional collection consisting of nearly 400 19x26 cm boxes including especially Sphecidae (127 boxes), as well as Eumenidae, Vespidae, Chrysididae, Pompilidae, Mutillidae, Scoliidae, Tenthredinidae, and Apidae.

On the friendly advice of H. Nouvel, who was greatly fascinated with systematics, I became interested in Hymenoptera. After M. Nouvel's death in 1974 following a cruel sickness, his family gave me his entomological collection, along with the corresponding literature from his library. Since then, I have maintained the collection, not only for the benefit of various amateurs and specialists, but also for the enrichment of my own collections made each summer or on weekends. Residing in Toulouse is a fortunate opportunity, permitting quick access to the region of Languedoc and the mediterranean coast (approx. 150-200 km.) where the Hymenoptera fauna is plentiful. In addition, I am in contact with excellent regional amateurs (Isidore Dufis, Marc and Hubert Tussac) who make fruitful and interesting collections in the Midi (South) of France, as well as in Spain and North Africa. In this manner, we accumulate valuable material for a better knowledge of the fauna of France and the mediterranean surroundings. We think that there is still much to be discovered in this area.

Naturally, the identification of insects collected poses a number of problems for the amateur who has not concentrated on all of the vast & varied groups. However, with the help of existing collections and publications in our possession, it is possible to identify a large portion of the species. We are also trying to become more specialized in certain families. I have mainly been working on the Pompilidae for a number of years, but dedicating much too little time. I also have corresponded with various specialists, French as well as foreigners, and have sent them specimens, even entire groups, for revision or identification. Experience shows that when the

shipments are prepared with care, dried & pinned insects travel through the mail with no damage. Thus, the collection remains somewhat "alive", growing every year and benefiting from being seen by many specialists.

Personally, I have never published on the systematics of Hymenoptera. However, H. Nouvel, in collaboration with H. Ribault, has supplied 11 published articles between 1953-1969, mostly in the Bull. Soc. Hist. Nat. Toulouse. In 1981 the Tussac brothers published a revision of French species of Allodynerus (L'Entomologiste 37: 195-203). Other articles are in the making, on Sphecidae.

(translation by Rebecca Friedman)

# DEREK S. BUNN

Reading other profiles, I find I am unusual in being without a degree or doctorate of any kind. In fact I regard myself as just an amateur naturalist and, although there are not many groups that I don't know something about, I have no deep knowledge of any group of animals or plants as a whole. Having said that, over the years I have become very involved in studying particular species or groups of related species. I must confess to having a leaning toward the more striking species - in appearance or behaviour - and of course the social insects fall into this description. My interests, however, are virtually entirely confined to British species.

Born in 1937, my interest in natural history began almost as soon as I was out of the pram, so I am told, and insects and spiders, particularly Lepidoptera (butterfly collecting and later breeding), were my first attraction. Then it was amphibia, reptiles, fresh-water fish, small mammals, birds and finally botany.

Animal behaviour has always been my most absorbing interest and, not surprisingly therefore, spiders had an early appeal. My first scientific note (in the EMM) was about an argiopid spider. For about five years, in the early 60's, I studied the British shrews which I observed in captivity and actually succeeded in breeding. I kept one water shrew for about 18 months which may be a record for maintaining these delicate creatures in captivity. The outcome was a short paper on fighting and moult which appeared in the Journal of Zoology, but I have always been dissatisfied with this end product, knowing that I had discovered much more than I had published. Maybe I will finish the job one day.

Some of the knowledge gained from my live-trapping of small mammals aside my next study which was of the Barn Owl. After years of concentrated observation, in collaboration with two other ornithologists I wrote a detailed monograph on the species which is currently on sale in Britain, the U.S.A. and Canada.

Another long-term project was my observation of British sea creatures which I began to maintain in aquaria at a time when, in this country at least, very few private aquarists had dared to tackle the keeping of marine life. I should mention here that many of my studies of widely different subjects have taken place concurrently.

For many years the over-whelming number of plant species discouraged me from even making a start on botany, but in the mid-60's I was obliged to learn to recognise at least the more obvious species in order to provide ecological reports for the then Nature Conservancy (now the Nature Conservancy Council) to help with their designation of important habitats as 'Sites of Special Scientific Interest' - a very necessary exercise for which the N.C. had to rely heavily on amateur naturalists. This eventually led to my becoming reasonably competent as a field botanist, though I am still far from expert. Once again I took a deeper interest in certain groups, such as ferns, orchids and willows. Another botanical interest is the cultivation of insectivorous plants from various parts of the world.

Our social wasps have interested me more than most groups since childhood. My first encounters were of a dare-devil nature and involved attempts at destroying nests

without getting stung, but when I was 14 my observation of some incipient D. sylvestris nests changed that attitude in a flash. From then until this day I have been observing nests whenever the opportunity arose and since 1978 I have taken particular interest in the hornet which, frustratingly, I have only been able to study when I have been able to stay with a relative who lives in hornet country 150 miles south of my home. I am particularly keen to discover the real significance of usurpation by queen wasps and would like to find out if nest relocation in the hornet occurs in Britain.

TILL OSTEN

I was born September 2, 1944 at Potsdam, and grew up in West-Berlin (Germany). Although my interest in animals, especially in fishes and reptiles, developed in my very early years, I was not familiar with insects before I studied at the Free University of Berlin, 1965. There Prof. K. Gunther raised my special interest in Entomology, Morphology and Systematics. From 1969 on I continued my studies in Zoology, Botany and Palaeontology in Munich and finished them in 1972 with the diploma in Biology. In the same year I started working on Hymenoptera under the guidance of Prof. W. Hennig, Stuttgart. In 1976 I was appointed conservator in the entomological department of the "Staatliches Museum fur Naturkunde Stuttgart". Here I am building up the collection of Hymenoptera. The sudden death of Prof. W. Hennig (1976) delayed the finishing of my thesis "The Head and Mouth in Scoliid Hymenoptera: a Study of Form and Function". Under the guidance of Dr. U. Roesler and Prof. K. Schmidt (Karlsruhe) I finished it with the doctor degree in 1981. In recent years my interest focuses on the ethology of xylocopine bees with special reference to the functional-morphological problems of their mating behavior. On the other hand I am working on problems of social life in Hymenoptera ("Staatenbildende Insekten und ihre Bauten").

## A Poem discovered by Woj Pulawski

Once upon a time  
a handsome honey bee  
fell in love with  
a butterfly  
he met in a tulip tree.....

He said: "I love you madly,  
and I want to share your life.  
Let's fly away together.  
Will you be my wife?"

She shook her head in sorrow.  
"No, No, No" cried she  
"for I am a Monarchs daughter  
and you are just  
a son of a bee!"

## Grisselliana

From time to time Eric Grissell jots down funny things as those of you that read his life story (Sphecos 4:9) will recall. The following accompanied a recent annual report submitted by Eric to his supervisor:

Analysis of scientific investigator shows extensive brain damage.

Analysis of brain tissue taken from research entomologists demonstrates that preparing reports leads to break-down of the neural synapses and in time leads to severe retardation.

Analysis of administrators shows no brain damage.

Extensive search for brain tissue in administrators has lead to a positive correlation between the absence of brain damage and the absence of brain tissue. However, it was found that administrators who tried to use their brain, often demonstrated a tendency toward severe hemorrhoids.

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