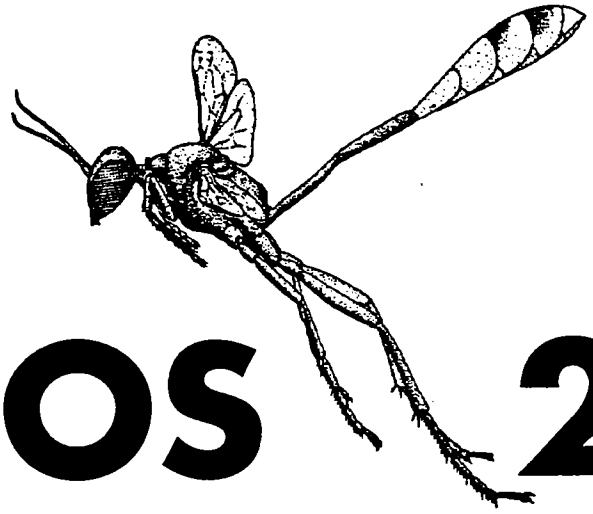
DECEMBER 1993

SPHECOS 26



A FORUM FOR ACULEATE WASP RESEARCHERS

$$$ SEND MONEY $$$ PLEASE!

As of December 16 I have not received my budget for FY94, but the feeling of leadership is that in all likelihood it will be very small, and thus insufficient to pay for reproduction of one issue of **Sphecos**. Thus your editor is going to pay for this issue out of personal funds (Ouch!). In order to recoup my outlay (591 dollars) for **Sphecos** 26, I would appreciate contributions from the readership. If each of you sends $5 (or whatever you can afford) that should defray my expense for issue 26, and hopefully provide money for issue 27, and possibly also 28. I know of no easier way to resolve this problem, and I hope that most of you regard this rag as sufficiently wonderful that you will come through with monetary aid. If you send your contribution with a personal check, please make it payable to Arnold Menke. Thank you!

NOTICE

We now have a link to the Internet. Terry has a logon with the USDA computer at Beltesville, Maryland, and can receive E-MAIL and download files to his own computer. Those of you who wish to contribute to **Sphecos** with an article written on a computer and have access to the Internet can choose to send it via E-MAIL instead of mailing us a floppy disk. We can handle both ASCII files and word processing documents, just as long as we know the format of your document. Diacritics sometimes don't convert very well when going from a DOS machine to a Macintosh, so you might want to include an explanatory note to help us with these. Terry's address is:

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RESEARCH NEWS

Alexander Antropov (Zoological Museum of Moscow Lomonosov State Univ., Herzon Street, Mowcow, 103009, Russia) reports: "I intend to submit an application for a long-term grant from the International Science Foundation in September [1993]. I am planning to review the Palearctic *Belomicrus* [one paper is listed in Recent Literature and two others are in press] as a project. The ISF conditions imply that the work is to be completed in two years and mainly in the territory of the former Soviet Union, and I want to use this opportunity to visit some places in the Central Asian republics as well as the BM(NH) to study type material." [Alexander is also applying to the Smithsonian Institution for a short term visitor grant so that he can study North American *Trypoxylon* (*Trypoxylon*) as a part of his revision of the Holarctic species – editor.]

Celso Oliveira Azevedo (Universidad Federal do Espirito Santo, Dept. Biologia, Av. Marechal Campos 1468, Maruipe, 29040-090 Vitória, ES, Brasil) writes: "I am now working as a teacher of zoology at the Universidad Federal do Espirito Santo and am presently working on my Ph.D. program, a systematic and biogeographical revision of the neotropical *Dissomphalus* (Hymenoptera, Bethylidae)."

Eduardas Budrys (Institute of Ecology, Akademijos 2, Vilnius 2600, Lithuanian Republic) is developing a computer database of the Pemphredoninae: "My database already takes up over 5 MB of disk space (I say "my" but most of the data, especially bibliography are really Wojciech's [Pulawski]). It consists of 19 relationally linked data tables (SPECIES, NOMSPEC, GENERA, NOMGEN, AUTHORS, MUSEUMS, SPECREF, GENREF, CHARS, ITEMS, MATERIAL, etc.) and contains not only the bibliography for each species of Pemphredoninae, but also addresses of authors, data about museums and collections, types, collected material, collecting localities, morphometric data of measured specimens, list of characters and states of each character, and even descriptions of species in the DELTA program format (the last can be used for cladistic analysis, too). The database is in PARADOX 4.0 format. Morphometric data are analysed using the spreadsheet QUATTRO PRO for WINDOWS

(the last program can immediately input data from PARADOX data tables and output them back). I hope that by joint efforts of sphecidists a data base of all Sphecidae can be created. I would like to contact everybody working on wasp taxonomic databases to standardize data structure, etc. [You might be interested in the *BIOTA* information system described on p. 4 - editor.]

Derek Daly (133 Linner Road, Speke, Liverpool L24 3OQ, Great Britain) is interested in *Vespula vulgaris*, particulary in foraging behaviour and relatedness among nestmates.

Julio Antonio Genaro (25 no. 466, Vedado 12300, Cuidad de La Habana, Cuba) writes: "I am describing a new species of *Lophostigma* (Mutillidae). This genus is known only from Central and South America. Also, I have other interesting mutillids that are perhaps new for the West Indies."

Edilberto Giannotti (Dept. Zoologia, Inst. Biociências, Univ. Estadual Paulista, Caixa postal 199, Rio Claro, SP, Brasil, 13.560-900) reports: "I am engaged in research on social wasps, mainly *Polistes* and *Mischocyttarus*, concerning their biological cycles, behavior, foraging, and their role in the ecosystem. I just defended my doctoral dissertation on *Polistes lanio* in November, 1992."

Jean Leclercq (Faculté d'Agronomie de Gembloux, rue de Bois-de-Breux, 190, B 4020, Liege - Jupille, Belgium) says: "Last year and this year up to February, I was busy (too busy for anything else) with my book with **Jacques Bitsch**, *Faune de France, Sphecidae I: Généralités, Crabroninae*, and with two parallel papers recording data on the distribution of European Crabronini. The book has more than 300 pages and is due to be published in September, 1993, while the other two papers are due to appear before the end of 1993.

"Having written these papers, I spent much of my time last spring studying Crabronini, including hundreds of North American specimens, received on loan from the Snow Museum (Lawrence, Kansas) and from the Florida Deptartment of Agriculture (Gainesville); I got as far as getting quite a good idea of the N. American *Crossocerus*, based on an unpublished key Richard Miller prepared years ago and on information we exchanged when that unhappy colleague was so remarkably active. So American *Crossocerus* are also in my mind, but not for the coming months. I must also please Krombein with some Sri Lanka material."

Alex Rasnitsyn (Arthropoda Laboratory, Paleontological Institute, Russian Academy of Sciences, Profsoyuznaya Str. 123, Moscow, Russia, 117647) is still completely engaged in administering the program by Mr. George Soros to support biologists in the former Soviet Union, using 4,000 individual grants in biodiversity of $500 each, to be distributed in open competition. This takes almost all his (Alex) time leaving practically none for research. However, Alex hopes that he will be able to finish this program by the New Year and to return to his earlier projects now in suspension. Among these are: (i) The History of Insects (two multiauthored volumes in English, with the first one reviewing the systematic, phylogenetic and paleontological history of the insect orders being nearly ready). (ii) Revision of the Cretaceous Sphecidae known from impression fossils, with numerous new descriptions (with **Woj Pulawski**, nearly half-ready). (iii) An analysis of the insect fauna of the Dominican amber based in particular on the Smithsonian collection (with Don Davis and possibly other contributors, nearly ready). Possibly (depending on the availability of a grant applied for to the International Science Foundation) he also has a new project: The Worldwide Database of the non-Quarternary Fossil Insects, to be completed by the staff of the Arthropoda Laboratory, Paleontological Institute, Russian Academy of Sciences, Moscow, Russia.

Katsuji Tsuneki (Asahigaoka 4-15, Mishima, Japan 411), who is now 85 years old, writes: "At present I am tackling a revision of *Sphecodes* in Japan (possibly my final work.)"

Colin Vardy (Dept. of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD UK) writes: "I would like to place on record my intention of revising the sphecid genus *Podium*. Readers will already be aware that **Servio Amarante** (São Paulo) is revising the closely related *Penepodium*. We will be comparing their biogeography etc. He wishes also to compare the phylogenetics of these two genera, together with *Dynatus* and *Trigonopsis*, since they form a natural group (formerly called 'Podiini') within the Sceliphrini. **Michael Ohl** (Kiel) wishes to take this further and work out the phylogenetics of the entire subfamily Sphecinae."

Rolf Witt (AG Terrestrische Okologie, Fachbereich 7, University Oldenburg, Postfach 2503,26129 Oldenburg, Germany) says: "In the next two years I'll be busy with my doctoral thesis, that deals with the distribution and indicator function of the Sphecidae."

Olaf Zimmermann (Journalistenbüro Zimmermann & Franken GBR, Lürripen Str. 228, D-41065 Mönchengladbach, Germany), an author, is writing a book entitled "Die sozialen Faltenwespen (Vespoidea)."

HELP NEEDED

Work Progress on *Tachysphex pechumani* (Sphecidae: Larrinae)

by

Mark O'Brien & Frank Kurczewski
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Over the last decade, we have been studying the behavior, ecology, and distribution of *Tachysphex pechumani* Krombein. During the past 3 years, we have greatly increased the number of observations, have added many new localities to its distribution, and have travelled several thousand miles searching for new sites. We are concentrating our efforts in Michigan for, until this summer, the only known populations were situated in New Jersey and Michigan. An extension of the Michigan population was discovered this summer in northwestern Ohio (Lucas Co.), which was a nice range expansion. The New Jersey population had been studied previously (Kurczewski & Elliott 1978), and we are comparing it with the Michigan population.

One of our remaining problems is to fully define the current and past distribution of this wasp species. Although we have scoured collections, written letters to innumerable curators, and searched in other areas where the species might possibly occur, we have yet to find any other states besides MI, NJ, & OH where *T. pechumani* occurs. We plan to go to Wisconsin in the summer of 1994 to search in suitable habitats i.e., sandy soil with oak-pine barrens, savannas and woodlands or compacted areas of open sand (such as two-tracks).

We are asking collectors to examine their collections for *T. pechumani.* It is the only medium-sized *Tachysphex* with orange antennal segments and anterior half of the abdomen red in the female. It is otherwise black, including the much smaller males which are all black. If you know of any suitable habitat in the Great Lakes region that we can examine (IN, OH, WI, MI, NY, SW Ontario?), please let us know. The emergence period for these wasps is early June to mid- late July.

The best way to contact us is to send an e-mail message: (userlps5@um.cc .umich.edu), or call Frank at 315-470-6753, or Mark at 313-747-2199. We will appreciate any leads that our colleagues can offer!

References

Kurczewski, F. E., & N. B. Elliott. 1978. Nesting behavior and ecology of *Tachysphex pechumani* Krombein (Hymenoptera: Sphecidae). J. Kansas Ent. Soc., 51:765-780.2

NEW ADDRESSES

John C. Abbott: 1030 Dallas Drive, Denton, Texas 76205.

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David L. Evans: 2616 Lincoln Drive, Montoursville, PA 17754.

Jeremy Field: Dept. of Ecology & Evolutionary Biology, Rice University, PO Box 1892, Houston, Texas 77251.

Jorge E. Frana: E. Oliber 1026, (2300) Rafaela, Santa Fe, Argentina.

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Dr. Alois Kofler: Meranerstaße 3, A-9900 Lienz /Osttirol, Austria.

Gabriel Augusto R. de Melo: Snow Entomological Museum, Snow Hall, The University of Kansas, Lawrence, KS 66045-2106.

Sean O'Donnell: Dept. of Entomology, Univ. of California, Davis CA 95616-8584.

Michael Ohl: II Zoologisches Institut und Museum, Berliner Str. 28, 37073 Göttingen, Germany.

Dr. Margery G. Spofford: 112 Seneca Road East, Trumansburg, New York 11886.

Dr. R.J. Paxton: Department of Genetics, Uppsala University, Box 7003, S-750 07 Uppsala, Sweden (until 30 April 1994).

Dr. Peter F. Yeo: The Store House, Gretton Road, Harringworth, Northants NN17 3AD, UK.

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Wojciech J. Pulawski, San Francisco, CA : WPulawski@calacademy.org

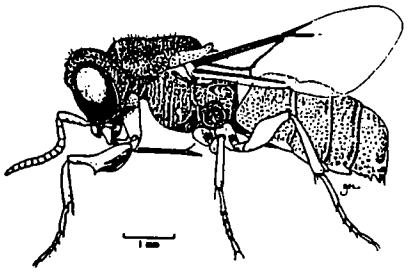
PEOPLE IN THE NEWS

Julio Antonio Genaro (Apartado 6099, Habana, Cuba) is working at the Museo Nacional de Historia Natural (Capitolio Nacional, Ciudad de La Habana 10200, Cuba) as department chief of collections.

Roy Snelling (Dept. of Entomology, Natural History Museum of Los Angeles County, 900 Exposition Blvd., Los Angeles, CA 90007) comments: "Well, guys, it finally happened, though not on the schedule I had hoped for. But, thanks to the concerted efforts the administration here at good ole LACM, I was forced into an untenable situation and therefore chose to retire. Effective 1 September 1993. As everybody knows by now, the economic situation in the Golden State can only be described as a disaster, precipitated by too many State and Federal administrations convinced that what's good for them and their buddies is more relevant than what's good for the people at large. (Sounds sorta like what happened here on a smaller, more personal scale.) Whatever. LACM took a terrible series of 'hits' in personnel reductions, first in January, then again in August. Very nearly all County positions were eliminated; most of these were 'rolled over' to the LACM Foundation. With one minor exception, all these cuts came from areas other than Museum administration. Why is this no surprise? The Foundation has suffered from serious fiscal mismanagement and I think that a lot more people will be lost from here before all is said and done. The option to return under contract to the Foundation was offered me, but on terms that I found morally repugnant.

"Over the last few years the research and collections component of the Museum has been seriously compromised, with some sections, such as Botany, entirely eliminated. On the more positive side, our current Director will retire in 6-8 mos. and we may be fortunate enough to acquire a new Director who will be better able to manage this place. I do continue to be optimistic that once the present national economic crisis is over, the LACM can be rebuilt to its former status as an institution of some importance.

"I am now a Research Associate, so will continue to come to the Museum with fair regularity. I will, finally, be able to conduct my research with a minimum of disturbance, thereby increasing the liklihood that some of my numerous projects will actually see completion. I admit that it is sort of neat to be able to say to myself, when the alarm goes off at 0430: 'I don't have to go to work if I don't wish to.' Then I get up and go to work."



Cephalopamops denticulatus Spinola, male. (Chrysididae, North Africa, Middle East)

Frank Parker retired from his USDA job in Costa Rica at the end of September. He will spend his retirement in Nevada or Utah. We will publish his new address when available.

MISSING PERSONS

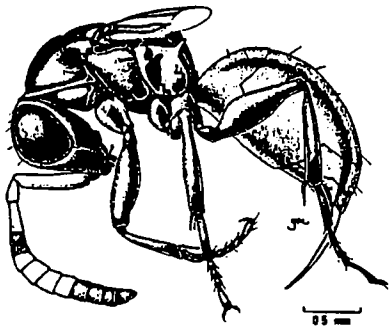
Dr. E.O. Grechka of Kherson, Ukraine
Dr. Henry Hermann of Athens, Georgia
Dr. Daniel T. Jennings of Orono, Maine
Mark Parrish of New Brunswick, New Jersey.
Dr. Tadashi Suzuki of Tokyo, Japan.

JOURNAL OF HYMENOPTERA RESEARCH

Coup Attempt at J. Hym. Res.

An insidious plot was uncovered to turn the latest issue of the *Journal of Hymenoptera Research* into an American publication. On the spine was printed "AMERICAN JOURNAL HYMENOPTERA RESEARCH VOLUME 2, NUMBER 1, 1993." Quick thinking and some deft work with black markers by **David R. Smith, Arnold** and **Nancy Menke**, with the approval of editor **Paul Marsh**, saved the day. We would like to assure President-Elect **Donald Quicke** of Sheffield, England, that his office is secure.

Volume 2, number 1, was mailed November 17, 1993 and that's the correct publication date for this issue. The September 30 date printed on the inside front cover is erroneous.



Nesogyne taino Krombein, female. (Chrysididae: Amiseginae, Dominican Republic

BIOTA

BIOTA (Biosystematic Information on Terrestrial Arthropods) was developed as a project to create a nomenclatorial database of the insects of the world. It has since assumed a broader meaning and now serves as an umbrella to cover all of the computer-related information resources existing or under development within the Systematic Entomology Laboratory (SEL) of the United States Department of Agriculture. Information tools underway in the SEL are catalogs (Biosystematic Database of World Diptera, systematic catalog of worldwide cutworm moths), specimen label databases, the Fruit Fly Expert System (automated identification tool for extension specialists and quarantine inspectors), and other automated identification systems. We envision the day when a global network of information databases and other tools developed by a union of individuals and institutions (including SEL) will exist and when anyone, anywhere will be able to access all available information on a terrestrial arthropod species from his/her computer.

The first project of *BIOTA* is a nomenclatorial database. A nomenclatorial database has many uses, among them are the following:

1. A nomenclatorial database is a compendium of the known species of a group, literally a phone directory of the biological sciences. It is the first step in any biosystematic or biodiversity program.
2. A nomenclatorial database can be used to investigate fundamental questions of biodiversity. For example, how are species distributed among the biogeographical provinces? Are predator or herbivore groups more diverse?
3. A nomenclatorial database provides stability for names and serves as an authority list for users of biosystematic names.
4. A nomenclatorial database is the first component of any comprehensive biosystematic information system on insects.
5. A nomenclatorial database has vital information for anyone doing biosystematic work on a group of organisms, be it revisionary, curatorial, or biodiversity.
6. The nomenclatorial database in *BIOTA* provides access to the literature by giving the source of the name (revision, catalog, check list, unpublished data) and an authority who may be contacted to provide further information.

A current nomenclatorial database of all the scientific names (species-, genus-, and family-group names, including synonyms, homonyms, misspellings, and misidentifications) applied to insects and other terrestrial arthropods has the highest priority because it is the backbone of all information services. The database is an SEL-wide project and is under the supervision of Ronald W. Hodges (chair), Robert W. Poole, and F. Christian Thompson.

The *BIOTA* nomenclatorial database is divided into four data tables: species, genera, families, and ranges (biogeographic regions). A data entry program has been developed for the use of specialists and other contributors. A manual, which provides full documentation on the check list, accompanies the program.

Each individual contributing to the database and his/her institutional affiliation will be fully acknowledged. First, there will be an introductory acknowledgment screen in the finished product. Second, each record of each database contains a memo field. If data are based on the unpublished resources of a contributor, this fact will be noted.

The first two years of the nomenclatorial database project will be spent assembling all of the names for the North American fauna. Data entry will not be restricted to North American species because this is a global project; however, the emphasis will be on the North American fauna. A date for completion of the check list on a world level cannot be estimated accurately because it depends on the collaboration and cooperation of our colleagues throughout the world. Similarly, no accurate estimates of the final size of the project are available. Probably, well over two million names are involved.

The database will be available on the Internet and on CD-ROM.

Contact Ronald W. Hodges for further information.

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FORUM

Subgenera and Species Groups

by

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I do not agree at all with the view [See **Sphecos** 10:11-13, 11:11-13, etc., for discussion of this topic - editor] that subgenera are best re-placed by species groups. I believe that subgenera are needed to indicate an evolutionary (or cladistic) level higher than species groups and I really fail to see that nomenclature is simplified if instead of using subgenera in which there is one name and one author, imposed by the law of priority, we have longer names such as "*Ectemnius lapidarius* group". (In that case why *lapidarius* and not *sexcinctus*, and why not the name of the species which finally will appear to be either the commonest, the best known, or the obviously most primitive?)[1]

In any case, I think that all formal names in a classification are hypotheses to be tested and tested again, that the species level is the only one likely to represent a final, duly tested and retested, natural category. Subgenera, genera and other higher categories express something, certainly, but not always the same evolutionary reality; indeed they are subjective, pragmatic taxa: they are drawers which must have a name and a coherent content, but which for practical reasons, should not be too large.

Although I believe that subgenera mean something and are to be used in certain projects, e.g. when there are reasons to make the nearest species more easily compared, I am against the use of subgenera in many pratical circumstances:

(a) on determination labels!

(b) in collections – here I favor the alphabetical order of the genera within a subfamily and of species within a genus. The purpose of collections is not to express or suggest taxonomic relationships. When searching in a collection, the curator or the specialist needs to easily determine if a particular species is represented, not to check its place among its nearest relatives.

(c) in files, computerized or not, in atlases of geographic distributions, and other practical documents.

So there is no contradiction in the fact that in the Faune de France – Sphecidae, with J. Bitsch, the species are commented, grouped under their subgenera (this is a comprehensive treatise in which e.g. *Ectemnius borealis*, *dives* and *guttatus* must come together because they are related (in the same subgenus *Ectemnius*), with information which must be readily compared) and the fact that species are simply in alphabetical order in my list "Hymenopteres Sphecides Crabroniens d' Europe et du Bassin Mediterraneen" (N.F.Gx n° 26, 1993) and in our set of maps J. Leclercq & Y. Barbier "Atlas de repartition des Crabroniens de France et des regions limitrophes" (N.F.Gx, n° 27, 1993).

[1]The generic name need not be part of the species group name, *lapidarius* group is sufficient. As far as which species name to use, the type-species of the subgeneric name seems a logical choice – Editor.

On Identification Keys

by

Jean Leclercq

[The following was prompted in part by material in **Sphecos** 19:18 and 20: 6-7 – editor.]

I would like to recount my recent experiences with the keys of R.M. Bohart to the North american species of *Crabro* (1976), *Ectemnius* (1979) and *Rhopalum* (1974). They proved to be concise keys near to perfection. However I think that a user would make 5 to 10% of his determinations wrong and 5 to 10% or more determinations with a "?" if he were a hymenopterist without a reference collection, because there are not enough characters in these keys to verify his results for every species, not enough even if he continued reading what is given further on in the paper. Furthermore, if while using these keys he wanted to know whether one particular Mexican or South American specimen belongs to one of those North American species in the key, well again, there is no answer without a good reference collection.

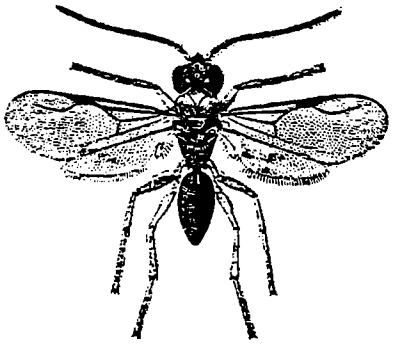
My experience with the keys of Kohl for Crabronini and other Sphecidae and of Blüthgen for Vespoidea leads me to conclude that these works guarantee more certainty of a correct identification, or more reasons to believe you are seeing another species, because more characters are given, implying that the authors did not so easily think they had selected the most "essential" characters of value for the practical separation of taxa.

In my own work, I often produce keys with more characters than necessary, or wanted by the user. But that is because I deal with exotic faunas, and usually with divergent specimens and small series; careful examination of these specimens does not reveal the characters which would make it easiest to recognise the relevant taxa. Very often I am not sure I am dealing with a true species (named or to be named) but I feel it is important to present my hypothesis of the status of these species (or subspecies) in order to encourage further research by others. So in practice, my keys are a practical system to present the results of my comparisons and to help future taxonomists check their material against my experience, eventually producing improved keys due to better characters. Thus, for exotic material (of course not the European fauna), my keys are not built to permit the easiest determinations by anybody who thinks that should already be possible. Colleagues in a hurry to find a name must be discouraged but those who will intend to do better taxonomic work with new material should, I hope, appreciate that I leave to them a record of what I found and of the problems I faced.

ONE MAN'S WISDOM ON TAXONOMIC CONTROVERSY

"My personal preference is to keep disagreements polite and respectful, just in case the person with whom I disagree turns out to be right after all."

ex litteris **Byron Alexander**



Haplogonotopus sp. male (Dryinidae), Australia

PET PEEVE

Serving the User

I wish to support strongly Arnold Menke's "Pet Peeve" in **Sphecos** 25:7. Workers who fail to add identification labels to every specimen they have named are simply wasting their initial investment of time – they are not communicating. They should remember that "No man is an Island": the human species, being a social animal, makes progress by cooperating – that includes communicating. Entomologists (and other authors) divide into two classes, those who publish for themselves and those who publish for others. The first should not publish at all. The second category are distinguished (in both senses) by producing papers which are straightforward for others to understand and use; when they have to decide whether to include or exclude an item, or on a particular way to set out something, the decision is always taken with the user in mind. Ask yourself, "Would I find my own publication convenient to use?" If this aim is not consciously borne in mind, then something less than good communication will result. One small but significant instance happened a while ago: a reviewer of a short paper I had submitted suggested that I give only the author and year of works cited in text-references. In my reply to the editor, I strongly resisted this. If you give author, year and page, it makes it so much easier to find the reference. How often have you either spent a long time trying to find the part quoted, or given up on finding it altogether, simply because of lack of a page number which was instantly available to the author himself? This is sheer lack of consideration for the user. Incidentally, many editors will not accept taxonomic works without identification keys – if you cannot understand their reasons, you should not be publishing!

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SCIENTIFIC NOTES

Passaloecus pictus in Brasil (Sphecidae)

by

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and
David Vincent,
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In the New World the sphecid genus *Passaloecus* is restricted to North America (Vincent, 1979). No species are known in the Neotropical Region, the genus being replaced there by *Polemistus*. Amarante collected specimens of a *Passaloecus* in São Paulo, Brasil, and sent them to Arnold Menke for identification. He tentatively identified them as *pictus* Ribaut, a European species. Menke forwarded the specimens to Vincent who confirmed that they were indeed *pictus*.

In the Old World, Merisuo (1974) recorded *pictus* from southern France, the Crimea Peninsula, and Yugoslavia. Dollfuss (1991) listed the species from southern Europe and Turkey. When Ribaut (1952) described *pictus*, he stated that the species nested in the soil in southern France, near Toulouse. Janvier (1961) confirmed that this wasp nests in the ground, and he provided a detailed description of the nesting behavior of *pictus* in France. Janvier found large aggregations of the wasp nesting in sand banks at an abandoned sand quarry of the Fertes-Alais.

Four females of *pictus* were collected January and November 1989 and January 1990, and one male was taken December, 1991 in Parque da Independência in the Ipiranga district of the city of São Paulo. The grounds of the Parque include some French gardens designed to copy those of the Louvre, and the Museu Paulista (a historical museum), including its former Horto Botanico. The Horto Botanico is now nothing more than a wooded area and this is where the wasps were collected. Hermann Lüderwaldt, one of Brasil's first entomologists, was formerly employed as a gardener in the Museu Paulista. He planted representatives of the main vegetation zones of Brasil: Cerrado, Caatinga, Atlantic Rain Forest, Amazon Rain Forest, and so on in the Horto (Lüderwaldt, 1918). The Horto Botanico, incidently, is the type locality for many species described by Herman von Ihering, Lüderwaldt, and other entomologists. The French gardens contain some exotic plants, and perhaps *pictus* was introduced with soil of some of them. In an attempt to acquire more material of the wasp and its biology, the Horto and nearby French gardens are being searched for likely nesting areas of sand banks and slopes. Trap nests have been set out as well in case the nest building of *pictus* in the neotropics is not limited to soil.

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Crabroninae vs Larrinae (Sphecidae)

by

Arnold Menke

Usage of family-group names is governed by priority just as with generic and species level names. When Bohart and Menke (1976) published their book, *Sphecid Wasps of the World*, subfamily names were not studied to see if those in use had priority. In the newly published *Hymenoptera of the World* edited by Goulet and Huber (1993), I examined Bert Finnamore's section on Spheciformes. I noted his use of Crabroninae instead of Larrinae for the assemblage containing both Larrinae and Crabroninae of Bohart and Menke (1976). My curiosity was piqued because there was no explanation for using the sub-

family name Crabroninae instead of Larrinae, but I assumed that Bert had discovered that Crabroninae was the older of the two family-group names. Fortunately Handlirsch's treatment of Hymenoptera in *Handbuch der Entomologie*, volume 3, edited by Schröder (1925) lists most family group names (including synonyms) and their authorship. Thus it provides a good starting place for the origin of many higher category names in Hymenoptera. From Handlirsch's work I ascertained that Latreille authored both names: Crabronites dating from 1802, page 340, and Larrates dating from 1810, p. 438. Thus Finnamore was correct in using Crabroninae instead of Larrinae. I should point out here that Finnamore accepted the views of Evans (1964), Lomholdt (1985) and Menke (1988) in uniting the Crabroninae and Larrinae (sensu Bohart and Menke) to form one subfamily. Of course Finnamore recognized all of the subfamilies of Bohart and Menke as families, but that is another matter (see review on page 17).

Michener (1986) reviewed the family-group names for bees. In view of the considerable study now being given to the classification of Sphecidae by Alexander, Prentice, Ohl, van Zuijlan, and others, and the possible changes in groupings resulting from their work, it is time that the family-group names be investigated so that priorities will be easy to determine. Woj Pulawski and I have to deal with this problem in connection with our work on a new Catalog of Sphecidae and may, therefore, produce a separate paper on family-group names and their authorship.

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Larra altamazonica in Panama

by

Arnold Menke

This species is known from northern South America including western Colombia (Menke, 1992), but *altamazonica* has not been recorded from Central America. In February, 1993, Roberto Cambra collected one female in Panama: Darien: Cruce de Mono, Estacion Inrenare, Parque Nac. Darien (Museo de Invertebrados G. B. Fairchild, Panamá, Panamá). The specimen represents the form with a red abdomen.

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Additional records for New World *Pison*

by

Arnold Menke

Pison eu Menke

PANAMÁ: Darien: Cruce de Mono, Estacion Irenare, Parque Nac. Darien (Museo de Invertebrados G. B. Fairchild, Panamá, Panamá), one male.

This specimen has weak tyli on flagellomeres V-VII. The OOD is .9X the HID and the UID is . 9X the LID. This is the first record of *eu* from Panama.

Pison gnythos Menke

PANAMÁ: same locality data as above, one female.

This is the first record of *gynthos* from Panamá although it is known from Costa Rica and Colombia.

The Possible Prey of *Laphyragogus aijer* deBeaumont

by

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In **Sphecos** 10, Kazenas presented brief observations on *Laphyragogus turanicus* Gussakovskij describing a wasp provisioning with pyralids of the genus *Crambus*. Previously, nothing had been known of the habits of this peculiar sphecid genus which Bohart and Menke (1976) place in its own subfamily. To Kazenas' observations, I may add that I found many moth scales on a female specimen of *Laphyragogus aijer* deBeaumont sent to me by Kenneth Guichard. Possibly this species, like *turanicus*, preys on small Lepidoptera, although the scales may, alternatively, be the result of collecting. Perhaps Guichard knows whether the collector (I. L. Hamer, Oman, April 17, 1992) was likely to place moths and wasps into the same jars (obviously a poor practice). Since *aijer* is the most distinct of the six species of *Laphyragogus*, it seems likely that all prey on moths and that the

unusual morphology of the genus is in part a specialization for moth collecting.

Early Cretaceous Aculeata from Lebanese amber

by

Michael Prentice

With the help of Dr. George Poinar of U. C. Berkeley, I have had the opportunity to examine two interesting collections of Lebanese amber. This amber has the distinction of being the oldest known to contain insect inclusions and is minimally dated to 135-120 Ma (Earliest Cretaceous), an important period in aculeate evolution. The insects preserved are for the most part small (usually 5mm or less), although a few particularly interesting ones exceed this and there are many fragments of larger insects. My impression is that the amber is comparatively rich in Aculeata (seemingly more so than Dominican amber) although I have only been able to look through a fraction of the material to this point.

There are at least 15 aculeates, some just represented by wings. Several of the wasps may be tentatively assigned to extant families including Scolebythidae, Dryinidae(?), Bethylidae and Sphecidae, while others are probably new. The most impressive is a female ampulicine, approximately 4mm in length, which, unfortunately, lacks a portion of the metasoma and most of the wings. I have been able to only briefly examine it, but can report that it is unquestionably an ampulicine, resembling *Ampulex* to a high degree with an elongate pronotum. However, it lacks the wedge-shaped clypeus and greatly elongate mandibles of female *Ampulex*. This is the oldest undoubted sphecid and indicates that the family (in the broad sense of Bohart and Menke (1976)) may extend well back into the Jurassic! That it appears so close to an extant genus is incredible, and indicates Ampulicinae have changed little since the beginning of the Cretaceous. In one of the collections there is also a much smaller ampulicine-like wasp, around 1.5mm in length, that I have not had a chance to study in detail.

Among the other finds is a well preserved scolebythid which I am currently describing. It has the characteristic propectal morphology of the family, but is more primitive with respect to the pronotum which is dorsally long, unlike the derived, short pronota of living scolebythids. This feature, by the way, supports Brothers' (1975) and Carpenter's (1986) view that the shortened pronota of Scolebythidae and Plumariidae evolved independently. Another less well preserved wasp has a scolebythid appearance, and a number of disassociated wings have scolebythid-like venation suggesting that the family was considerably more common in the Early Cretaceous than today.

Among the forms that may represent new families is one comparatively large wasp (around 5mm in length). Due to the present state of polish of the piece, it is impossible to provide many details except to say that this wasp appears very primitive, resembling a squat scoliid in outline. The remaining aculeates are in need of extensive polishing, but are all chrysidoid-like in appearance.

When properly studied, these specimens, along with others that will surely be uncovered, will provide an unequaled view of early aculeate evolution.

A Social Wasp Which Stores Nectar

by

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My friend Dr. G. Onore of the Universidad Catolica in Quito tells me that *Polybia a. aequatorialis* Zavattari, a social wasp of the montane zone in Ecuador stores nectar in its nest. At Oyacachi, a village in the province of Imbabura at 3,200m, the country folk relish the combs containing nectar as a delicacy. It is well known that two species of the Neotropical genus *Brachygastra*, *lecheguana* (Latreille) and *mellifica* (Say) also store nectar in their nests.

I examined a nest of *aequatorialis* which Onore had collected. It was a typical *Polybia* nest built around the twig of a shrub: pyriform, 12cm long by 9.5 cm wide with four combs. The envelope was pale brown, 1-2cm wide with pockets forming air spaces between 3-4 layers of carton. The spaces in the envelope probably help to insulate the nest during the cold Andean nights. I found neither nectar nor brood in this nest which had been collected four months previously.

A. aequatorialis in Colombia and Ecuador forms a mimicry group with two other social wasps: *Agelaia baezae* (Richards) and *Mischocyttarus rufomaculatus* Richards. This mimicry group is not recorded by Richards (1978 p.30). The ground colouring of the wasps is black except for the anterior half of the gaster which is yellowish or pale reddish-brown. I found all three species in the Banos Vally of Ecuador together with other insects belonging to the same mimicry group. These were: a *Cerceris* sp. (Sphecidae), a halictine bee, an ichneumonid wasp and a *Tipula* (Diptera) which flies in a manner reminiscent of a hunting social wasp.

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Defensive Behaviour of *Chartergus chartarius* (Oliver)

by

Martin Cooper

It is well known that wasps of the genus *Synoeca* make a noise like someone sawing wood when their colonies are alarmed; hence the name "guitarrera" (guitar player) in Columbia. The wasps make the sound by rasping the envelope with their mandibles in unison. Another species of social wasp which makes a sound when alarmed, though less intimidating, is *Chartergus chartarius* (Oliver).

When I once disturbed a nest of this species the workers aggregated on the outside of the envelope with their abdomens raised. As I continued to molest them (I wanted the nest as a trophy) the wasps became more excited and began to beat their abdomens against the envelope to make an audible drumming sound. Such a noise could serve either as a warning to a potential predator or to arouse the workers still inside the nest.

The envelopes of *Chartergus* nests are white and the wasps black so they are very conspicuous when assembled on the envelope. Some nests have black patches, perhaps to simulate an aggregation of wasps. Other species which are black and have nests with white or whitish-grey envelopes are: *Pseudopolybia compressa* (Saussure), *Epipona* sp. and some *Parachartergus*.

Unusual Behaviour of Female *Agelaia testacea* (F.)

by

Martin Cooper

When in a Bolivian forest a few years ago I came across two *Agalaia testacea* (F.) behaving in a manner such as I have never seen before in a social wasp. The wasps were repeatedly flying without touching at about two feet from the ground. I have seen a similar confrontation between two male *Trypoxylon* (*Trypargilum*) of a species in the *nitidum* group (Sphecidae) and two males of an unidentified bombiliid fly. However when I caught the two *A. testacea* they turned out to be females.

Unusual Mating Behavior

by

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While collecting *Bombus* and *Polistes* from flowers on the afternoon of 24 October 1993 in Beaufort Co., North Carolina I saw what appeared to be an attempt by a male of *Bombus fraternus* (Smith) to mate with a young queen of *Bombus impatiens* Cresson. These were together inside my net along with a couple males of *impatiens*, another male of *fraternus*, and a male of *Bombus pennsylvanicus* (Degeer). The rather senescent *fraternus* male persisted in mounting the female and extruding his claspers. As far as I could see, the female was not receptive and I doubt the male had much success. They remained together even after being placed into a rather weak cyanide jar. Unfortunately, no *fraternus* queens were seen that afternoon, in order to give this male a choice. I find it amazing that a male from a different subgenus would attempt this mating. Perhaps their being as close together as they were in a net artificially bypassed isolating mechanisms that would otherwise prevent it, but what if these two had landed by chance on the same flower? Comments or questions are welcome. I should add that neither of the *impatiens* males were observed attempting to mate with this queen, which appears slightly callow.

Similar Mating Behavior in Ants

I once observed similar behavior in flying ants. One night on the campus of North Carolina State University in Raleigh, many species of ants were having their mating flights. In an aspirator I collected a diverse group including a female *Pheidole vinelandica* Forel (Myrmecinae) and some male *Paratrechina vividula* Nylander (Formicinae). Upon finding themselves in close quarters in a collecting bottle, all the male *Paratrechina* attempted to mate with the female *Pheidole* dispite being from different subfamilies. I assumed that such unusual behavior was an artifact of being in unnatural conditions. Somehow, being confined short-circuited the normal behavioral sequences that would allow proper descrimination of the correct female species.

Terry Nuhn

TECHNIQUES

Yellow Pan, an Easy and Very Effective Way for Catching Spider Wasps.

by

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Ma fille cadette séjournant pour une année au pair dans une famille américaine, à Alexandria (Virginia), je profitai de cette occasion pour une première visite au USA où je séjournai une douzaine de jours dans sa famille d'accueil (Family Teague, Emerald Drive), dans un environnement résidentiel boisé, à Waynewood, à proximité immédiate du parc de Fort Hunt. Derrière l'habitation, la pelouse donne sur une parcelle boisée avec de hauts arbres tels: *Liriodendron tulipifera, Liquidambar styraciflua, Sassafras albidum, Robinia pseudoacacia, Hamamelis virginiana, Acer nigrum, Fagus grandifolia, Quercus alba* et *coccinea*, etc. La strate arbustive se compose principalement de *Cornus florida* et de rares *Ilex opaca*. Le sous-bois, à sol en majeure partie couvert d'une litière de feuilles mortes, est relativement sombre avec toutefois quelques spots ensoleillés peu étendus, se déplaçant au cours de la journée suivant la position du soleil.

Ayant aperçu et capturé, sur la pelouse, un *Tachypompilus ferrugineus* ♀ traînant sa volumineuse proie (*Dolomedes tenebrosus* Hentz, Pisauridae, det. Coddington) en direction d'un mur de l'habitation (preuve de la présence de Pompilides), je disposai à la lisière de la forêt et dans le sous-bois une vingtaine de bacs en aluminium léger (20 cm x 13 x 5), peints en jaune clair et remplis d'eau additionnée de quelques gouttes de détergent (matériel utilisé en alimentation pour la présentation des hors-d'oeuvres et plats préparés). Ces bacs restèrent en place pendant 6 jours seulement, du 9 au 14.VIII.93 (laps de temps, que d'expérience, j'estime largement suffisant pour une première analyse). Chaque soir, je prélevais les hyménoptères piégés pendant la journée, nettoyais les bacs et rajoutais, si nécessaire, un peu d'eau pour compenser la perte par évaporation.

Ce système est particulièrement efficace pour les Pompilides généralement considérés, avec raison, comme de capture difficile. Il permet notamment la prise d'espèces de petite taille lesquelles, se déplaçant dans la végétation ou au sol dans la litière de feuilles mortes, passeraient autrement inaperçues. Dans ce milieu apparemment peu propice, j'ai pu ainsi récolter sans peine 51 spécimens répartis en 15 espèces.

Je ne saurais donc trop recommander l'utilisation de ces bacs, peu coûteux et faciles à placer. Moins encombrants et plus discrets que d'autres pièges, comme le MALAISE, leur emploi, voire en complément de la chasse traditionnelle au filet, permet, sans y consacrer trop de temps et d'efforts, de dresser un inventaire relativement complet des espèces les plus représentatives d'un milieu donné.

Pepsinae:

Priocnessus nebulosus (Dahlbom) 3 ♀
Priocnemis (s.str.) scitula scitula (Cresson) 1 ♀
Caliadurgus fasciatellus alienatus (Smith) 2 ♀
Dipogon (s.str.) brevis recalvus Townes 2 ♀
Dipogon (Deuteragenia) papago anomalus (Dreisbach) 1 ♀
Dipogon (Deuteragenia) sayi sayi Banks 2 ♀
Auplopus mellipes mellipes (Say) 5 ♀
Auplopus nigrellus (Banks) 1 ♀
Ageniella (s.str.) norota Banks 10 ♀

Pompilinae:
Tachypompilus ferrugineus ferrugineus (Say) 1 ♀ avec sa proie, *Dolomedes tenebrosus* Hentz [det. Coddington]
Episyron biguttatus biguttatus (Fabricius) 2 ♀ 1 ♂
Evagetes parvus (Cresson) 2 ♀
Aporus (s.str.) niger (Cresson) 2 ♀
Allaporus pulchellus (Banks) 12 ♀ 2 ♂

Ceropalinae:
Ceropales hatoda Brimley 2 ♀ 1 ♂

Chloroform Gun Again

by
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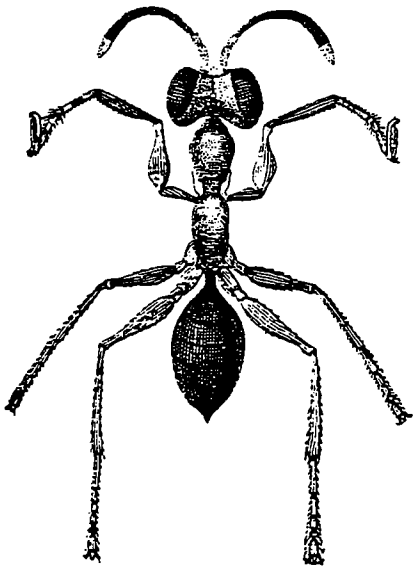
Servio Amarante's account (**Sphecos** 25:16-20) of his collecting trips is interesting, but he's apparently never heard of the "Chloroform Gun" technique! I think Arnold Menke just had bad luck with trying it (on *Ampulex*, see **Sphecos** 18:17-19). I also failed once (or almost so) with *Sphecius* in Argentina. These two genera must have some kind of armour-plated resistance; it doesn't work on tarantulas, either. But I can assure you it worked very well with all the other wasps (and bees) I tried it on – even giant *Pepsis* in flight "crashed" in only 2-3 seconds; I got them as they rose from a muddy pool. Great sport!



Haplogonotopus americanus female (Dryinidae).

COLLECTING REPORTS

Egypt Revisited

by
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My first acquaintance with Egypt was back in 1957/58, when I spent seven and half months in that country owing to a cultural exchange agreement with Poland. It was a tremendous experience which influenced the rest of my life. All these years I remembered the proverb "elli ishrab maya el Nil, yerga tani". For those who are not fluent in Arabic, this means "whoever drank water of the Nile, will come back again." Indeed, I came back in April 1993, as a leader of a tour group sponsored by the California Academy of Sciences, my mother institution now. When the tour (7-20 April) was over, I stayed an additional six weeks wasping, leaving 2 June.

Egypt has changed dramatically during these years. The population has doubled, Cairo has become a 15 million monster (up from some 4 million people in the old days); roads have been upgraded and new ones built; the old oxen or camel driven sakiahs (irrigation wheels) have almost disappeared and been replaced by modern pumps; new houses and particularly new, pretty looking mosques can be seen everywhere. Yet, many things remain the same: the canals, the fellahin, the crops, the ruins, the sun, and the unique sense of eternity.

The demographic explosion and overall progress have greatly affected nature. The classic collecting sites near Cairo, the type localities for hundreds of species, are nearly all gone. In the old days, I collected insects on the desert outskirts near the Ghiza pyramids, at Abu Roash, and Maadi. All these places are now under construction, or are covered with industrial and house rubbish. Sad indeed. The road from Cairo to Alexandria that I remembered as running through the desert is now boordered by plantations and even new cities (such as Medina el Sadat). The most dramatic changes can perhaps be seen along the Mediterranean coast between Alexandria and Marsa Matruh. Some 200 kilometers are almost entirely covered by new resorts, on a massive scale. An extraordinary engineering, construction, and overall planning achievement, but what habitat destruction! The uncontrolled population growth (about 2% a year) is doubtless the most serious problem that the country is facing. For example, for the first time in its history, Egypt became a food importer, and most people have to wait years in order to get a new apartment in spite of all the government efforts. New jobs can barely keep up with the number of new babies. The standard of living just cannot be raised as long as most women continue to became pregnant every 10 months.

One question that I was frequently asked before the trip concerned the muslim fundamentalists, following their attacks on tourists back in 1992. The danger was grossly exaggerated, indeed blown out of proportion by the press and television. Although our group was escorted by police in Cairo, I never encountered an unfriendly gesture, either while being part of the tour, or traveling on my own. People depend so much on tourism that any decline in visitor numbers badly affects merchants, guides, producers of souvenirs, feluca and camel owners, hotel and restaurants owners, taxi drivers, literally millions of people. Besides, Egyptians are just naturally friendly. True, one is constantly exposed to commercial harassment in all touristy places: "Come and see my shop," "Do you want a camel?" "A feluca, Messiew, a feluca," "Do you need a guide?", "Where are you going?", "What country are you from?", "What's your name?", "Taxi, taxi!", "Give me a bakshish!", to give just a few examples. Since I learned some rudimentary Arabic, I was able to demonstrate that I was not a novice and did not need all these services. After landing on the west bank in Aswan, I was immediately approached by a group of camel drivers vehemently offering their services. I just explained that I was not a tourist, showed my net and killing jars, and I how I catch insects. All the boys were greatly interested. When I asked if I could go into the gardens, the answer was: "You can go everywhere." I was never molested again there that day or any of the subsequent days. I used this strategy everywhere, especially when collecting near someone's field or garden. After all, they were entitled to know what I was doing there, and ignoring them would only create

justified animosity. Many places in Egypt are incredibly cheap these days. Our group stayed in a Hilton hotel in Luxor, but I moved out as soon as I was on my own (because of its limited resources, California Academy of Sciences is not renowned for paying high salaries or being overly generous in financing fieldwork). I found a hotel with air conditioning and a separate bathroom with shower that charged 15 Egyptian pounds per day, or US $5. It was simply a little deeper inside the local section of the town, just a 15 minutes walk away from the temple and the Nile. One can stay in Cairo for the same price, although these places are rather drab. Hotels in Sinai or along the Mediterranean coast, however, are markedly more expensive.

Collecting in Egypt is notoriously difficult. On one hand, most of its territory is desert, a large part of which is absolutely sterile, with no trace of life. The Nile valley, on the other hand, has been turned into fields and gardens since pharaonic times. In addition, the valley was annually inundated until the first Aswan dam was constructed early this century. The best chance for an insect collector is the narrow contact belt between the desert and the cultivated zone. Another good possibility for insect life is offered by numerous wadis, or arroyos as they are known in North America. Several of them became accessible recently owing to new roads.

Well, when the group left, I stayed in Luxor for another week and went back immediately to my old collecting site on the west bank, no more than a hundred meters away from the spectacular Medinet Habu temple. Yes, it was there, an unspoiled garden, even better than before. Wasps and bees were swarming, both on the ground and on parsley flowers. Many found their way to San Francisco.

A week in Aswan was another success. Although most areas are either fields or human settlements or just a sterile, stony desert, the west bank offers possibilities for wasping. There are some small gardens, several of which were unused and thus full of insects, and further south you find steep cliffs and sand dunes. Good habitats could be found just along the water. And the water is still clean: I swam in it, a refreshing experience during the oppressive heat. I could see fish, plenty of algae, many herons and all kinds of other birds. Amazingly, there were no people there, and I was completely alone, just facing Kitchener Island, one of the famous tourist attractions.

I would like to mention three other places in Upper Egypt. One is Abydos, the birthplace of Osiris and a famous archaeological site. I went to El Balyana by the 6 AM train from Luxor, and took a communal taxi from there for a ridiculous price of US $0.30 or so (the distance is about 10km). We ended near the temple, and then I walked through flat sands toward the steep limestone cliff and the canyon that I remembered from the old days. I reached the canyon's mouth in about an hour and indeed, here it was again. Another half an hour up the canyon, perhaps, and I found a blossoming bush full of sphecids and pompilids. I had a badly upset stomach that day (the only time during the trip), and had just enough strength to sit down under a vertical canyon wall, in the shade, to watch the insects fly and to hear a pair of ravens crowing over me. The silence was absolute, the air pure, the sand and rocks unpolluted. I regenerated soon and did my work. And what a pleasure it was to find, higher up, the old sand dune that crossed the canyon and functioned as a natural dam! It was about my own height back in 1958, but now up to perhaps 60 meters. I went over it and found, on the other side, hundreds of small black, dead bushes, but two or three large ones were still alive. What a catch that day!

Another trip from Luxor took me to Qena-Safaga road. This is a recently constructed road that goes from the Nile valley to the Red Sea. I had observed it from the air-conditioned bus, in which our group traveled from the Red Sea to Luxor. We stopped at a small restaurant in the middle of a lush wadi and I knew I would return there again for collecting. When on my own, indeed, I took a taxi to Qena, walked to the Safaga road, and asked the policemen at the road checkpoint, how to go to "kilo hamsa oo tamaneen" (kilometer 85). We expressed all possible greetings first (Salam Aleikum! Aleikum salam u rahman Ullahi wabara katuh! and so on), then one of the men stopped a huge truck and put me on. The driver knew perhaps 10 words of English, my Arabic was only marginally better, but we had a great time conversing all the way to my destination. Collecting was slow but quite valuable. I subsequently discovered that I could go to the place directly by bus from Luxor.

Kom Ombo is only about 50km north of Aswan, with its spectacular Ptolomaic temple facing the Nile. The old gardens that were full of insects between the temple and the shore have been all replaced by pavement. Yet, abandoned rice fields east of the temple turned into nesting sites for aculeates and the trip was not a waste of time.

Finally I flew to Cairo and met Signor Alessandro Mochi of Rome, with whom I previously traveled to the Ivory Coast and Senegal. He was born in Cairo and speaks Arabic in addition to English, French, German, and his native Italian. He knows the country very well and was an invaluable guide. I should remind the **Sphecos** readership that Mr. Mochi owns an excellent collection of Sphecidae (see **Sphecos** 14:42-44 for details). Most of the original collection, which was built by his father in the 1930s, ended elsewhere as a consequence of the war (in the A. Alfieri collection in Cairo, from where many types and some other specimens were transferred to the USNM, Washington). Nevertheless, Sandro has been able to increase its size significantly through extensive collecting in various parts of Africa during his employment with the World Health Organization, and particularly in Egypt since his retirement several years ago. One difference between us is that he has never been stung by *Miscophus mochii*, but I was during our expedition. In any case, I greatly enjoyed Sandro's company and I only hope that my feelings were reciprocated. We chatted over various subjects and I would like to record one conversation that we had in Marsa Matruh:

Him: "How many specimens did you collect today?"
Me: "I do not know".
Him: "What would Arnold Menke say?"
Me: "Ignorance is no excuse."

Sandro and I rented a car in Cairo (there are no car rental agencies in Luxor or Aswan, hence I had to rely on public transportation there). We went to Sinai, from Suez to the southern tip of the peninsula and then north again. We explored the area east of Mitla Pass, went to the famous St. Catherine monastery, and almost made it to El Arish on the north coast. We were stopped at a military post (the road was closed to the civilian traffic, a fact not indicated

on the map). We had to drive all the way back to Ras Soudr on the west coast, but it was worth it. The following two days we discovered new places with flowering bushes that were loaded with wasps, especially in Wadi Gharandal. Remember this name if you ever go to Sinai.

The last part of our trip was to the Mediterranean coast of Egypt. We passed the World Word II cemeteries at El Alamein and stopped at Marsa Matrouh. What a contrast! The wind from the sea was cold, and it was chilly at night. I saw many plants that I remembered from southern Europe, particularly various composites. Here again we were quite successful, prospecting the area west of the town. The best sites were areas covered by a prostrate *Polygonum* in full blossom, teaming with species that we had not found in other parts of Egypt.

Our last day was spent at Karanis in the Fayum Province, some 65km south of the Ghiza pyramids and next to Greco-Roman ruins. Sandro knew of several *Tamarix* bushes just on the sands edge. They were excellent for wasps and bees indeed. We came back to Cairo that afternoon, returned the car to the renting agency, and I was flying back to London the following morning. Shall I ever see the pyramids again?

Unfortunately, we were not able to meet Giles Roche, who has actively collected around Cairo in the past eight years, discovering excellent new collecting sites (such as Karanis or Wadi Hagul). He had just left Egypt by the time we were there, but his experience was not lost: he had shared his knowledge with Sandro in previous years, and Sandro passed it on to me.

As a whole, the trip was quite a success in spite of the initial disappointment near Cairo. Studies on the Egyptian Sphecidae started more than a century ago (Spinola, 1839), and yet species previously unknown from the country are constantly being added. This trip brought several such additions. I was able to solve some taxonomic problems in *Tachysphex*, although new ones came to light. The most interesting discovery was an unusual prey of a *Gastrosericus*, about which I will give details in my monograph of the genus to be published soon.

Collecting Hymenoptera in Southern Maine

by
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On August 13, I was invited to attend a summer field trip organized by the University of Maine at Orono. Entomologists from the state Insect & Disease Lab, the Maine Department of Agriculture, and the Cooperative Extension Office Pest Survey Group participated. The collecting/survey site was the Kennebunk Plains, an extensive area of sandy, open, low-bush blueberry fields along Route 99. There are about one thousand acres of blueberry, scrub oak, shrubby pitch pines and American hazelnut bushes. The land is managed and protected by the Nature Conservancy and is well known locally as a birder's hot-spot.

The expedition was not actually focussed on Hymenoptera at all, but there were a few highlights that **Sphecos** readers might be interested in. At least three *Pelecinus polyturator* females were found. Two of these were easily approachable, user-friendly specimens which I could hand-pick from the vegetation and inspect with an Agfa loupe. Magnification (8X) of the thoracic surface showed intricate sculpturing and textures – a tough challenge to any illustrator looking for a great black-and-white study subject!

Sandy roads twine across the plains, so we caravanned from one site to another, getting out to scout along the dry dusty lanes. I had the fortune to be standing puzzled by a group of small holes at the edge of the road, when a hefty great golden digger wasp (*Sphex ichneumoneus*) flew up, and I netted her. These diggers are recorded (see reference) from three other sites in Maine, and also at the Maine Audubon sanctuary, but nevertheless it's a real treat to observe one of these colorful, industrious wasps.

About thirty feet farther down the road, another digger was struggling on a bush and then glided down to a hole right in the center of the road. She'd had some trouble flying because she was bringing in a katydid about as long as her own body. She left the katydid carcass at the entrance, and immediately crawled down the hole. By this time everyone had gathered around to watch her efforts. She re-appeared shortly, dragged the katydid down out of sight, and for about thirty seconds we could hear her buzzing exuberantly in her burrow, loudly enough for those standing by to hear her!

I observed several suspected pompilids, crawling and searching the ground with their distinctive where-did-I-drop-my-keys behavior; however, these were not collected or identified that I know of.

One unidentified mutillid was collected early in the day by Don Ouellette from the I&D Lab. This specimen was a rich reddish brown, and the end of the abdomen was black with at least two white lines. At the end of the day when we decided to wrap things up, someone discovered a second mutillid and gave a shout, since Dick Dearborn from I&D was anxious to see a second specimen. The little wasp was in the dirt road, but scurrying rapidly. I helped to corral her by hand, and at one point she even crawled around on my hand, but without any deployment of weaponry. Dick got her into a container, and his day was made!

Field collecting and observing in a unique habitat area like the Kennebunk Plains is a pleasure, especially when one is used to Maine's red maple swamps, and mixed hardwood/softwood second-growth forests. I was impressed by the sharing, cooperative nature of all the participants, their enthusiasm and sense of humor, and was grateful to Don for the invitation to attend such a wonderful field trip!

Literature Cited

Dearborn, Bradbury & Russell, 1983. Forest Insect Survey of Maine: Order Hymenoptera. Augusta.

Back to the Virgin Islands

by
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I have, of course, been back to the British Virgin Islands. Twice. Mid-April to mid-May, then mid-June to mid-July. The earlier trip began at the end of the dry season and it was dry, indeed. Also damned little in the way of flying Hymenoptera; the creepies (ants) were there

as usual. Between the two trips I managed to collect a few more specimens of the new species of *Psorthaspis*; I've decided to describe the thing myself and I have an illustrator doing a color rendition of the female, a truly gorgeous thing. Also picked up more specimens of the little *Pseudomethoca* (Mutillidae), including a female. I'm now pretty sure that this is undescribed, but mutillids are someone else's worry, at least those of the Caribbean. Mike Ivie sent me some really nifty ones from Hispaniola, most of which seem to be undescribed species. Oddly, there seem to be no records from Puerto Rico. That is surely an artifact of collecting and I'm willing to bet they're there; somebody needs to look in the dry forest areas around Guanica. Females of the Guana Island species are hard to spot. They run about in the leaf litter and at the slightest hint of danger duck into the leaves, never to be seen again. I managed to collect only one; so far, none have turned up in pitfalls.

Incidentally, I must thank Francois Schwartz of Paris. He wrote to advise me that I erred in stating in an earlier **Sphecos** [24:17] that no mutillids had been previously recorded from the Virgin Islands. There are two, both in *Pseudomethoca*: *P. olgae* Schuster (St. Croix; ♀ only); *P. unicincta* Ashmead (St. Vincent; both sexes, but the association may or may not be correct – why else would there be an Ashmead Club?). Schuster (1945, Bull. Brook. Ent. Soc. 40:7-8) gives a key to the few then-known "West Indian" (actually Greater Antillean) species.

To the wasp fauna of Guana Island we can now add *Tiphia* sp. Since the Greater Antillean species of this genus are yet to be worked out, there is little that can be done with it at this time. It doesn't seem to match up with any of the Cuban or Hispaniolan *Tiphia* recorded by Allen & Krombein (1961, Trans. Amer. Ent. Soc. 87:57-66). Only one female.

That reminds me. Here's a PUZZLEMENTIA for all you brainy types out there. A "how come". How come male and female tiphiids of the same species often have very different wing venation? Since I've never been much of a tiphiid fan, I never really looked at wing venation in the group until I had to make up a key to the families of aculeates found on Mona Island. I made note of a certain venational feature, then when I went back to verify, I happened to pick up a specimen of the opposite sex from the one I'd first examined. Male and female *Myzinum* have very different venation. Weird. I knew there was a good reason I didn't trust tiphiids.

Also to add to the wasp fauna of Guana Island: *Stenodynerus* sp. (Vespidae). Cute, but I don't know what species. And I got a single male of a *Priochilus* (Pompilidae). There is a species of *Priochilus* known from Jamaica, but apparently none known from the Puerto Rico Bank.

Pachodynerus atratus (Fabricius) (Vespidae) was accidentally left off my list (**Sphecos** 24:18); it is common there and was recorded from Guana and various other islands in the area in Menke's paper (1986, Proc. Ent. Soc. Wash. 88: 650-665).

Staying on the subject of Guana (and the V. I. generally), some addenda et corrigenda to my list re the Sphecidae. The wasps that I recorded as *Sphex ichneumoneus* should have been *S. dorsalis* (Fabricius). I goofed.

Tachytes tricinctus (Fabricius). A female collected by Mike Ivie on Saba I. (nr. St. Thomas) was determined by Dick Bohart as *T. distinctus*; looks to be the same as my species and I don't know how they differ or if they do. Fabricius' species was described from the West Indies; *T. distinctus* is a mainland form.

Hoplisoides ater (Gmelin). Bohart determined a specimen from St. Thomas as *H. tricinctus* (Fabricius); I think that its the same as my Guana Island species, probably the correct name, too.

Bicyrtes spinosa (Fabricius). Bohart identified species from St. Thomas for Mike Ivie as *B. discisa* (Taschenberg). J.B. Parker (1929, A generic revision of the fossorial wasps of the tribes Stizini and Bembicini with notes and descriptions of new species; Proc. USNM 75: 1-203) notes that male *discisa* have flagellar segment 5 enlarged and metasomal sternum 2 with a distinct process. My stuff from Guana and the St. Thomas wasps agree with *spinosa* rather than with *discisa*.

Bembix americana (Fabricius). A female from Anegada I. was identified by Bohart as *B. multipicta* F. Smith; it is the same as my specimens from Guana. Both sexes of the Guana population will go straight to *B. americana* in the key by Evans & Matthews (1968, North American *Bembix*, a revised key and suggested grouping, Annals ESA 61:1284-1299).

WHEN WILL SOMEBODY WORK ON CARIBBEAN SPHECIDS AND CLEAR UP SOME OF THESE PROBLEMS?

Got a whole bunch of Bethylidae down there on Guana on these last two trips, mostly from flight traps. A quick glance through this material suggests a minimum of 17 species; my list of Guana aculeates in **Sphecos** 24 included 8 species. I will report further on these cute little kids in a later issue, after I've had a chance to look at them in some detail.

I have made some progress on a puzzling little wasp that superficially looked like a bethylid, but wasn't. It turned out to be a species belonging to the subfamily Amiseginae of the Chrysididae, a group that I've never collected before. So, one more aculeate for Guana Island: *Adelphe* sp. – 1 female specimen from a Malaise trap in open forest. This may be the first record for the family Chrysididae in this area; I have not yet seen a copy of Kimsey and Bohart (1990. The chrysidid wasps of the world. Oxford Univ. Press. 652 p.). One species of *Adelphe* has been reported from Cuba. These curious little wasps are egg parasites of phasmatids. I'll know more about this one after I send it to Bohart.

The California Deserts
by
Roy Snelling

Spring in the California deserts was mostly disappointing. Because of the heavy rains last winter, everybody assumed that there would be a great display of flowers and a great collecting season. Well, the great display of flowers generally didn't happen (except in the usual places like Anza-Borrego and Joshua Tree), and the collecting was definitely hard work. My son Gordon and I went out a few times on day-trips; got some pretty good stuff, but had to work hard for all of it. Our best collecting turned out to be on a species of prostrate euphorb (*Chamaesyce*, species still undetermined): we'd sit down on the ground and aspirate critters coming to these tiny blossoms. An amazing array of species! Karl Krombein (1961, Ent. News 72:80-83) wrote a "quickie" on the results of his casual collecting on *C. albomarginata* near the Southwestern Research Station, Portal, Arizona; he recorded 31 species of aculeates, mostly Sphecidae. Gordon and I have

collected about half a dozen times at one spot, near Adelanto in San Bernardino County, dates ranging from 22 May to 14 August. We have a minimum of 75 species. I have only begun to sort the stuff, so cannot now provide anything looking like a list, but can state that the diversity of sphecids is pretty impressive. Most of these species are in the small to tiny range in all groups. In May we picked up many specimens of both sexes of a very small *Pseudomethoca*. The females were very timid and tended to hide under the euphorb mats when disturbed. The species appears to be undescribed. One female of yet another species was collected at a different site. I expect that Gordon and I will continue to work this resource, probably picking several sites in both the Mojave and Colorado deserts here in California and see what we can come up with. Hey, Wasbauer: got some neat little pepsines, too.

So much for 1993. A very interesting year! I can hardly wait for what 1994 will bring. Stay tuned.

Mona Island, Puerto Rico - 1992

by

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My friend and colleague, Juan A. Torres, just sent me a copy of Roy Snelling's article in the February 1993 **Sphecos** 24:17-19, which describes several of Roy's collecting trips to the Caribbean. I appreciate the effort that Juan made to arrange an excellent collecting trip to Mona Island and I thank him for inviting me to join his and Roy's expedition during November 1992. I didn't understand the extensive background preparations that Juan had endured, until I tried to arrange another collecting trip to Mona Island in March 1993 (eventually very successful). But that's a story for the International Isoptera Society newsletter.

I must agree with Roy that Mona Island is a wonderful site, both for collecting Hymenoptera, as well as Isoptera, although I find the latter much more interesting. Located 74 km off the west coast of Puerto Rico, Mona Island is a 55 km^2 limestone plateau whose vegetation is categorized within the subtropical dry forest life zone. Its occupants include the giant Mona rock iguana, the Mona boa, four bat species, and introduced feral cats, goats, pigs, mice and rats. Since Roy described our live rat encounter in some detail (and which makes me sound like a wimp), I thought it appropriate to include:

"And Now for the Rest of the Tale...
El Grande Rata de Isla Mona"
(The Big Rat of Mona Island)

I awoke on the fourth morning of our collecting trip to find Juan shaving in the bathroom of the casita that he, Roy, and I shared. There was a full day of collecting ahead, so I decided to make a brief excursion to the mess hall to start my coffee before cleaning up. Had I drank a cup or two of my delicious Louisiana coffee, my suspicions immediately would have been alerted as I reentered our casita, since Roy and Juan hastily exited without our usual prolonged conversation.

Imagine my horror when I walked into the just vacated bathroom and immediately discovered a "dead" rat (at least 8 inches long, excluding the tail) floating in the toilet bowl. I ran outside and called to Roy and Juan that "THERE'S A RAT IN THE TOILET!" Please note that I had yet to be informed of the Gatorade® hypothesis that was formulated (concocted) by my distinguished colleagues. With his usual dry sense of humor, Roy informed me that I was a biologist and should "Deal with it!" Well, I needed to use the bathroom, so I saw little use in a prolonged argument with Roy. I had been taught that the first person to encounter a problem should try to deal with it, rather than leaving it for someone else. Unfortunately for me, some people apparently disagree with this philosophy.

I returned to the bathroom and pondered my dilemma. Should I remove the rat and place it in either Juan's bed or Roy's bed? No. As a biologist, I reasoned that a water burial of Roy's cousin would be the most expedient ... so I flushed ... and the large "dead" rat began scrambling up the sides of the toilet bowl!!!!!! I rushed into the outer room and grabbed Roy's walking stick to prod the rat, which eventually disappeared out of sight. I had to repeatedly flush the toilet in order to unplug the pipe. I then thought back to a few hours earlier, when I had trekked to the bathroom in the dark while the generator for electricity was turned off. I'm thankful that the rat hadn't yet taken the plunge into the bowl, for I would have wakened everyone at Playa Sardinera if that rat had made a move!

After I calmed down, I returned to the mess hall to find my colleagues enjoying a nice breakfast. I was rather upset that, as a third party to the crime, I had to "deal with" the rat. Their rationale – I had left a package of Gatorade®, which the rat had ravaged and then consumed; the rat subsequently had fallen into the toilet trying to quench its powerful thirst. Now, I'm a reasonable person, but this hypothesis requires a considerable stretch of one's imagination. Juan later sent a letter outlining another insightful hypothesis, again based on the Gatorade®. He figures that since the rat lived on Mona Island, it couldn't read English and had interpreted the wording as "Gato" (cat, in Spanish). Hence, the vicious attack on the package.

The rest of the tale ... Feral rats and pigs have previously been reported on Mona Island, but I've discovered that this island paradise is frequented by more than one of either species. The reader will have to decide if the title of my story pertains to a 2-legged or 4-legged mammal!

Yes, Roy, I did see some humor in the situation. For Christmas, Roy and Juan each received a plastic rat in the mail.

More About Biological Control of Rats

by

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We aculeatists who fancy wasps should broaden our interests and occasionally come to the aid of humanity as a whole. After all, we owe society a debt for allowing us to indulge in the wonderful activity of studying the most interesting insects on earth (we could be studying whiteflies).

This brings me to the subject of biological control of rats as described by Roy Snelling in **Sphecos** 24:18. He relates the story on Mona Island of sharing a cabana with Susan Jones (a termitologist), who fed a fine rat specimen her dried Gatorade® (for those not familiar with Gatorade®, it is a mixture of salts and glucose designed to provide energy and replace the salts lost by sweating athletes). Gatorade® is generally consumed with copious quantities

of water, but in this case, Susan neglected to inform the rat of that. Thus, after consuming most of the packet of Gatorade® the poor rat probably developed a nasty tummy ache (as the Gatorade acted like a sponge in its stomach), and discovered that Susan had also neglected to provide a water dish. So the poor animal sought the only water available – that in the privy. Unfortunately, the toilet bowl was not shaped with rats in mind, so it had to jump (fall?) in to get a drink. This was its fatal undoing, as it now could not get out. After some fanfare which I will not repeat here, Susan unceremoniously dispatched the rat.

I relate this story because I believe Roy was entirely out of order in picking on poor Susan. Did he not realize the brilliant discovery Susan had made? Did he not realize that she possibly had just made one of the most monumentous leaps forward in our ongoing battle against rats? Rather than making life difficult for her, he should have praised her and proclaimed what a wonderful discovery she had made – a nontoxic and effective means of biological control of rats! Just think what a service Susan has done for humanity to discover this biological control method and possible rid us of rats. Roy, shame on you.

"The Gatorade® Rat" – a Response

by

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Here's a comment on the tale of the "Gatorade® Rat" (not related to the Stainless Steel Rat). Susan Jones clearly did not like my account of the incident and put forth her own version. Sheer calumny (how I've awaited an opportunity to use that wonderful word; nobody ever gave me a chance before, inasmuch as everything people have said about me in the past has always been plain, unvarnished truth [and if you believe that maybe we could get together and talk about some real estate deals I have in mind]). Arnold very kindly sent me an advance copy, thereby permitting me to respond to this dastardly and unwarrented attack upon both my character and veracity.

Susan's telling does twist the tale/tail. Imprimis: When Susan prepared to enter the Place of the Rat, Juan and I did not immediately exit the cabaña (= "casita" of her version), inasmuch as I was already without and Juan, in fact, had earlier repaired to the cocina for a first cup of coffee. I was on my way there when she yelled at me to come and get rid of that "big rat in the toilet." Secundus: I certainly did not imply that she was a "wimp". Indeed, quite the opposite: I informed her that as a biologist she should be able to take care of the problem, thus making clear my full faith in her machisma. As for the rat being a problem: I encountered no difficulty whatsoever with respect to the small mammal (and it truly was not a very large rat), nor did Juan (and she failed to comment to the fact that it was Juan who saw it first, not I). She is the one who for some reason I comprehend found it to be problematic. Tertius: what "walking stick"? Neither Juan nor I (both older than she) uses a "walking stick". What rot! Susan may think she's a reasonable person – maybe she is. However, before casting unfounded and unsupported aspersions on the Gatorade® hypothesis, I suggest she consume an ounce or two, sans H_2O; she might well then be inclined to ingest a drop or two of that sublime liquid that led to the downfall of our not-much-lamented cousin. On the other hand, that was a darksome and cruel deed she did; the poor water-soaked rodent did her no harm, yet she pitilessly put it to death by drowning, rather than solicitously lifting it from its dire peril by means of that handy handle, the tail. This heartless person even took the trouble to determine that the inoffensive animal was female (*rata*); probably she orphaned a whole litter of dependant youngsters, too! Other, rather minor, imperfections in her account of "*El Grande Rata de Isla Mona*" (Juan, I'll bet you didn't believe that she knew Spanish) I shall let pass. But, what can you expect from someone who thinks that those pale, squishy termites are more interesting than ants and other Hymenoptera?

MUSEUM/COLLECTION NEWS

Types in the Manfredo Fritz Collection

by

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The following is a list of the types in my collection, comprising 137 Holotypes and 30 Allotypes. I intend to donate all these types to the Museo Argentino de Ciencias Naturales in Buenos Aires in the near future. As you know, two young, enthusiastic hymenopterists [Genise and Roig] are working intensively in that institution with wasps and bees, and I think this is the best heritage that I can leave for them.

PERGIDAE

Lagideus ucratus D.R. Smith – Holotipo
1990. Revta bras. Ent. 34:123.

CHALCIDIDAE

Leucospis leptomera Boucek - Holotipo
1976. Studia Ent. 17:430.

ICHNEUMONOIDEA

Stephanus alvarengai Orfila – Holotipo
1960. Actas Ier. Congr. Sudam. Zool. 3:125.
Stephanus brasiliensis Orfila – Holotipo
1960. Actas Ier. Congr. Sudam. Zool. 3:132.
= *orfilai* nom.n. De Santis, 1980. Cat. Hym. Bras. Parasitica p. 8 (1982)
Stephanus camposseabrai Orfila – Holotipo
1959. Rev. Soc. Ent. Arg. 21:39.
Stephanus carioca Orfila – Holotipo
1960. Actas Ier. Congr. Sudam. Zool. 3:129.
Stephanus sanmartinianus Orfila – Holotipo
1949. Acta Zool. Lilloana 7:350
Stephanus willineri Orfila – Holotipo
1949. Acta Zool. Lilloana 7:345
Neostephanus fritzi Orfila – Holotipo
1956. Rev. Soc. Ent. Arg. 19:6.

CHRYSIDIDAE

Cleptes (Neocleptes) fritzi Kimsey – Holotipo
1981. Proc. Biol. Soc. Wash. 94:816.
Ipsiura fritzi Bohart – Holotipo
1985. J. Kansas Ent. Soc. 58:715.

TIPHIIDAE

Anthosila argentina Genise – Holotipo 1984. Rev. Soc. Ent. Arg. 43:216.
Tiphiodes chaco Genise – Holotipo 1984. Rev. Soc. Ent. Arg. 43:209.
Tiphiodes toba Genise – Holotipo 1984. Rev. Soc. Ent. Arg. 43:216.

ORUSSIDAE

Guiglia chilensis Benson – Alotipo 1955. Proc. r. ent. Soc. Lond. B 24:112.

BRADYNOBAENIDAE

Bradynobaenus bidentatus Genise 1986. Physis 44(C):50. – Holotipo
Bradynobaenus cordobensis Genise 1986. Physis 44(C):52. – Holotipo

MUTILLIDAE

Eotilla typhoctoides Martínez & Fritz 1975. Rev. Chil. Ent. 8:23. – Holotipo
Euspinolia casali Martínez & Fritz 1976. Neotrópica 19:113. – Holotipo
Lophomutilla calva Fritz – Holotipo 1990. Rev. Soc. Ent. Arg. 48:130.
Lophomutilla ophomuti Fritz – Holotipo 1990. Rev. Soc. Ent. Arg. 48:132.
Lophomutilla suarezi Fritz & Pagliano – Holotipo 1993. Boll. Soc. ent. ital. 124:214.
Lophomutilla braulioi Fritz & Pagliano – Holotipo 1993. Boll. Soc. ent. ital. 124:213.
Lophomutilla inca Fritz & Pagliano – Holotipo 1993. Boll. Soc. ent. ital. 124:215.
Lophomutilla vina Fritz & Pagliano – Holotipo 1993. Boll. Soc. ent. ital. 124:213.
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SPECIES IN PRESS OR WITHOUT DATE OF PUBLICATION

Apterodryinus fritzi Olmi – Holotipo

Lynchiatilla tuzai Fritz – Holotipo

Horcomutilla ypane Fritz – Holotipo

Horcomutilla willineri Fritz – Holotipo

Xystromutilla tingoensis Fritz – Holotipo

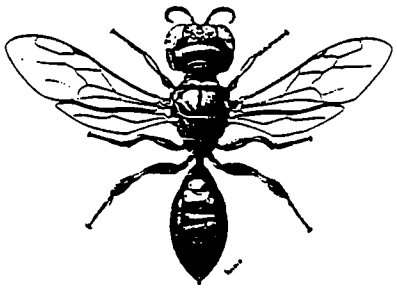
Megischus townesi Fritz & Scaramozzino
– Holotipo
Hemistephanus amazonicus Fritz & Scaramozzino – Holotipo
Hemistephanus bolivianus Fritz & Scaramozzino – Holotipo
Hemistephanus cariocanus Fritz & Scaramozzino – Holotipo
Hemistephanus orfilanus Fritz & Scaramozzino – Holotipo
Coelioxys quechua Toro & Fritz
– Holotipo
Coelioxys balastos Toro & Fritz
– Holotipo
Coelioxys trancas Toro & Fritz
– Holotipo, Alotipo
Coelioxys noa Toro & Fritz
– Holotipo, Alotipo
Coelioxys alisal Toro & Fritz – Holotipo

Coelioxys saltensis Toro & Fritz - Holotipo

Coelioxys tastil Toro & Fritz – Holotipo

Trimeria bequaerti Willink – Holotipo

Paragapostemon implexus Moure
– Holotipo
Psaenythia capnistoptera Moure
– Holotipo



Crossocerus annulipes (Lepeletier & Brullé), female (Sphecidae), North America.

NEW BOOKS

Hymenoptera of the World. An identification guide to families. Edited by Henry Goulet and John T. Huber. Agriculture Canada Publication 1894/E. Ottawa, Canada, 1993. 668 pages, many illustrations. $63.35 in US dollars (for orders outside of Canada), or $48.75 in Canadian dollars (for Canadian orders) (see **Sphecos** 25:22 for ordering information).

This impressive tome with its impressive title has finally appeared. *Hymenoptera of the World* is printed in large format, 8 1/2 by 11 inches. 99 families of Hymenoptera are recognized by the 11 authors, not all of whom are Canadian, but all of whom are experts in their respective sections. The book is aimed at the novice user (non-taxonomists and students), and therefore, the identification keys are illustrated lavishly with figures. The keys go to the level of subfamily for aculeates and ichneumonoids. Family by family treatments follow the keys and these include habitus figures, diagnoses, statistics on included taxa, distribution, biological notes and important references (mostly taxonomic). The numerous habitus figures are printed one per page resulting in a lot of wasted page space; the figures are so large that *Hymenoptera of the World* is already being referred to by some hymenopterists as the "coloring book". These drawings could have been reduced in size and grouped several to a page without loss of clarity. This would have reduced the number of pages of the book and reduced production costs.

Introductory chapters present a good overview of the order Hymenoptera (which includes a list of newsletters and their editors, etc., a nice touch), and a survey of morphology. The latter is very well illustrated so that anyone should be able to grasp terminology. In fact the chapter ends with a 25 page illustrated Glossary in which nearly every term is defined and shown by an accompanying figure. Excellent!

In Hymenoptera there are often a number of different terms for the same structure, as the authors of the morphology chapter point out. An attempt has been made here to standardize morphological terms using "the simplest acceptable terms", a highly laudible goal. But the aculeate section of the book, a significant hunk of *Hymenoptera of the World*, does not adhere strictly to this goal. For example, the system for naming wing cells in aculeates does not follow the Comstock/Needham system employed in the Glossary. Instead cell names follow those in *The Hymenoptera* by Gauld and Bolton, 1988 (which is similar to the names used in *Sphecid Wasps of the World* by Bohart and Menke, 1976, and other aculeate literature). As usual, aculeate workers lead the way. We were glad to see that standardization resulted in universal usage of pedicel, scape and flagellomeres in this book. No more anelli, ring segments, and so on in Chalcidoidea. Nevertheless the Glossary contains two different terms for one mesopleural area: prepectus and epicnemium. The epicnemial carina of the mesopleuron was called the omaulus in *Sphecid Wasps of the World*. We wonder why omaulus was not used in the Glossary when sternaulus was accepted there (probably because it is also used in some Ichneumonoidea). Use of the word torulus for the antennal socket seems unnecessary and less descriptive to us, and in fact the authors themselves use socket instead of torulus in explaining the term radicle. Not surprisingly the Glossary espouses mesosoma and metasoma instead of thorax and abdomen. The more descriptive term plantar lobe is used in place of plantula. Following the fairly recent work of Wootton (1978) on wings, the anal lobe of the hindwing is called the claval lobe in the Glossary. This reflects the fact that, in general, the morphology section is quite up-to-date.

The keys are certainly user-friendly. Couplet characters are listed line by line, each preceded by a letter. Figures illustrating these characters and indexed by the couplet number and character letter, are inserted above their respective couplet. Thus the user can quickly and easily see a particular character. This has resulted in a novel type of key construction, and it works very well. The figures are mislabeled on page 302. The scutum should be "b" and "bb", and the lateral views of the head and thorax should be "c" and "cc".

The organization of superfamilies departs from tradition. The "sawfly" groups come first, followed by the Aculeata and then the Parasitica. In the discussion of the monotypic living fossil Anaxyelidae no mention is made of the other name sometimes improperly used for this family, Syntexidae. Literature references in the various family treatments include papers published as recently as 1993, but we noted significant omissions. Missing from the tiphiid references was the 1992 *Reclassification of Tiphiidae with description of a new subfamily from Turkey* by Argaman and Özbek, and Genise's 1992 *Las especies conocidas de Tiphiidae de la Argentina y paises vecinos*. Under Sierolomorphidae no mention is made of Argaman's 1991 paper *Generic synopsis of Sierolomorphidae* in which he recognized two genera. *California spider wasps of the subfamily Pompilinae*, 1985, by Wasbauer and Kimsey was not cited under Pompilidae, nor were any of Heinrich Wolf's significant papers on this family.

Recognition of one superfamily, Apoidea, for sphecid wasps and bees follows contemporary thinking and is nice to see here. Following the lead of Brothers' now classic 1975 aculeate phylogeny paper, the Apoidea is divided into two informal groups, Spheciformes for sphecid wasps, and Apiformes for bees. But if only two families are recognized, Sphecidae and Apidae, these suprafamilial names would be unnecessary. Albert Finnamore, author of the Spheciformes section, elevates the subfamilies recognized in *Sphecid Wasps of the World* to family (with minor exceptions), stating that the rationale for doing so is to "make the classification comparable to that widely accepted in the Apiformes". We wonder why this argument is never reversed: why not make bees comparable to sphecids and recognize only Apidae (as is done by Gauld and Bolton in *The Hymenoptera*, and by other European workers). Finnamore says that none of the current higher category systems for Sphecidae s.l. are likely to be correct; thus his elevation of sphecid subfamilies to families seems premature and particularly inappropriate in an identification manual.

In the sphecid section, the group with which we are most familiar, we noted a number of shortcomings. The key presented on page 279 that separates Spheciformes from Apiformes uses traditional characters and omits one of the best, namely the presence in sphecids (and absence in bees) of a cleaning pecten or brush on hindtarsomere I and its apposing pectinate tibial spur. Finnamore has made a number of unilateral higher level changes in Spheciformes without discussing why. It seems to us that such changes are inappropriate in

a book whose main purpose is identification rather than phylogeny. The Laphyragoginae has been included in his Astatidae, and the Xenosphecinae was put in Mellinidae without explanation. Furthermore, there is no discussion of recognizing Mellinidae as an entity separate from Nyssonidae. On the other hand, Finnamore places Entomosericinae in Nyssonidae and his rationale for doing so is explained. Larrinae and Crabroninae were combined as one family, Crabronidae, and although unification of these two groups has been proposed by others (Evans, 1964, Lomholdt, 1985 and Menke, 1988), no mention is made of these recent papers. Furthermore, usage of the family group name Crabronidae for this assemblage, instead of Larridae, was not explained. As it turns out, Crabronidae is the older of the two names. Why was this not discussed?

Apparently species totals for families of Spheciformes were taken from *Sphecid Wasps of the World* without adding taxa described since that book was published nearly 18 years ago. Thus the totals in most cases are out-of-date. For example, 195 species are currently known in the Ampulicinae, 1435 in the Crabroninae and 2572 in the Larrinae (rather than 167, 1300 and 2000, respectively.) Pulawski (1978) was the author of the European USSR paper cited on page 280, not Tobias. Generally the literature for Spheciformes is up-to-date but the following should have been included: Dollfuss' 1991 *Bestimmungsschlussel der Grabwespen Nord- un Zentraleuropas.* Under Heterogynaidae Argaman's 1986 paper *Taxonomy of Heterogynaidae* was not cited and it included one new genus and a key to genera. Also the group is known from Turkmenistan as indicated by Antropov and Gorbatovsky (1992). Finnamore states that "no major works have appeared for Sphecidae [i.e., Sphecinae] since Bohart and Menke (1976)" but this is simply not true. For example Vardy revised *Trigonopsis* in 1978, and Hensen revised the subgenus *Prosceliphron* in 1987, and the genus *Chalybion* in 1988. Literature for Pemphredonidae is very incomplete; only one paper by Finnamore is cited. Menke (1989) established a new subtribal classification for part of the Pemphredoninae, and van Lith (1979) and Finnamore (1983) both published keys to species of some genera of Pseninae. Eighme (1989) revised the North American *Diodontus*, Vincent (1979) revised the North American *Passaloecus*, among other papers that could be mentioned for the Pemphredoninae. Matthews' (1968, etc.) significant papers on sociality of *Microstigmus* are not cited either. Something about the biology of Laphyragoginae is known contrary to what is said on page 296. Kazenas (1985) discovered that one species preyed upon moths of the genus *Crambus*. The improper spelling Trypoxylonini is used on pages 296-297 instead of the correct Trypoxylini. References for Crabronidae omits significant revisions and identification keys such as, for example, Bohart (1976), *Crabro*, (1979), *Tachytes*, Coville (1982), *Trypoxylon*, Krombein and Gingras (1984), *Liris*, Pulawski (1988), *Tachysphex*, Menke (1988), *Pison*, (1992), *Larra*, etc., etc. To the references for Nyssonidae should be added papers by Bohart (1984), *Austrogorytes* and Stubblefield (1984), *Stizus*. Lastly, Rubio's (1976) revision of *Trachypus* was omitted from the pertinant literature for Philanthidae, as were papers on *Cerceris* by Evans, Fritz, Tsuneki and others. Eremiaspheciini was misspelled in the key and in the sketch.

Hymenoptera of the World is a substantial work, and should be very useful to the audience for which it was designed. However, it will also be a handy reference for hymenopterists everywhere. Nowhere else will you find well illustrated, modern identification keys to all of the families of Hymenoptera. If you are a hymenopterist, it should be on your bookshelf.

A. S. Menke & W. J. Pulawski

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Hyménoptères Sphecidae d'Europe Occidentale, Volume 1, Generalites – Crabroninae by Jacques Bitsch and Jean Leclercq. Fauna de France, vol. 79, 325 p. (Available from Faune de France, B.P. N° 392, F-75232 Paris Cédex 05, France. Price: France: FF 441 TTC (TVA au taux actuel de 5,5%) + emballage et port; foreign countries: FF 418 + wrapping and expedition.)

Although this book is part of the Fauna de France series, its scope includes western Europe. Thus it is useful to a far larger audience. The book is only the first part of several (?) anticipated to complete a survey of Sphecidae. Part one includes an introduction to the family and a taxonomic treatment of the subfamily Crabroninae.

The introductory section includes a fine presentation on morphology and terms, augmented with illustrations. Terminology follows that of *Sphecid Wasps of the World* with minor exceptions. It is nice to see such continuity. There are tables comparing terms used by different authors for wing and genitalic structures. No mention is made of the changes in wing terminology proposed by Wootton (1978), or the new theory concerning the nature of the propodeal dorsum (metapostnotum) by Brothers (1976). The morphology of larvae is described and illustrated.

There is a key to aculeate families found in Europe, and then a section on classification of Sphecidae. The last includes a historic overview and a chart showing the subfamilies and tribes recognized by the authors. This follows the same arrangement found is *Sphecid Wasps of the World* except that Dinetini is placed under Larrinae. It is not clear if that was intentional or a copy editor's lapsus. The tribe Mellinini is misspelled "Mellini". No mention is made of the contemporary views of Lomholdt (1985) and Menke (1988), both of whom espoused combining Larrinae and Crabroninae as one subfamily, a change that Evans (1964) proposed 30 years ago. Evans' subfamily and tribal arrangement is given by Bitsch and Leclercq, but not discussed. Since Crabroninae comprises the entire taxonomic treatment of this book, it would have been nice to see some discussion of the merits of combining Larrinae and Crabroninae.

A section on phylogeny follows, and Bitsch and Leclercq have given an up-to-date historic overview here. Included is a simplified cladogram from Alexander's (1990) preliminary cladistic analysis of Sphecidae and bees in **Sphecos** 20. Alexander's (1992) more thorough analysis is cited by Bitsch and Leclercq, but the paper probably appeared too late to incorporate a cladogram from it.

Nesting behavior of Sphecidae is summarized. Distribution of the family in France and the procedure for mapping species is discussed. Records for each species treated are shown on a map of France that depicts all the departments. It is at that level that species distribution is plotted. The section on distribution also includes a list of French museums and private collections, and a comprehensive list of literature dealing with sphecid distribution in other parts of Europe.

The systematics section occupies most of the book, and it begins with a key to the sphecid genera known in Europe. This key is illustated and it looks like it should work well. Genera not recorded from France are surrounded by brackets. The key is followed by accounts of the tribes Crabronini and Oxybelini and their genera and species. The genera are treated in alphabetical order. For each genus there is a list of synonyms (if any) and important literature. These are followed by a description of morphology, and a summary of known biology with citations of papers. The number of species known for Europe, France and other areas of the world is given, and taxonomic problems are discussed (recognition of subgenera, etc.). A key to subgenera is provided if they are recognized, and, of course, there is a key to species for each genus. The species keys are well illustrated and they should prove very useful throughout western Europe, and possibly elsewhere.

Individual species treatments follow the same format used for genera. Occasionally subspecies are recognized and they are keyed as well. In view of the morphological differences mentioned for some subspecies, I wonder if they aren't really species?

After the literature cited section there is a page giving new synonymy proposed in this book, as well as a several page floral record list by wasp species.

In summary, this is a very fine, up-to-date treatment of the Crabroninae of Europe, and a nice introduction to the Sphecidae. The well illustrated identification keys should find a wide appeal in the user community. The authors are to be congratulated on producing such a useful book. I hope that the remaining sphecid groups will get the same treatment soon.

Arnold S. Menke

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PURSUING LEFT-HANDED ENTOMOLOGISTS

When I finished reading the comments on left-handed entomologists (Sphecos 23:15) I thought that this idea could very well be pursued. However, this turned out not to be the case.

In talking with fellow entomologists I found that most are right-handed and do place labels correctly (i.e. they can be read without rotating the pin with the fingers). One of them always places the labels in the inverted position; this person is right-handed, but his dominant eye is that of a left-handed person. I was surprised by the chaos while checking the collection of one of Cuba's best entomologists, Dr. Pastor Alayo. He is left-handed and in his collection labels are oriented in different ways. He told me that his main concern is not the orientation of the text, but rather that the pin does not puncture (and consequently does not deface) the written information.

Not one of the labelers has been guided by an entomological text book.

From the orientation of the handwriting on entomological labels it can not be determined with certainty if the person who prepared the material is right or left-handed. It's well known that many people are strictly one handed in everyday life but show many instances of using the opposite extremity.

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MORE ON THE SHOCKING ANSWERS TO THE PROBLEM OF STINGS AND BITES

Electric shock therapy (treatment ?) for stings and bites of venomous animals, especially insects, spiders, scorpions and snakes, is becoming more widely appreciated and used (see SPHECOS 25:20). The method of action seemed puzzling to the physicians consulted, however. A Dec. 1986 article in *Lancet* provides the best approach to understanding the mechanism of action of this novel treatment: Venoms are complex, fragile mixtures of enzymes and their cofactors, along with many other substances. Electrical currents passing through such mixtures could alter the structure and properties of components of the mixture, rendering them incapable of producing their usual deleterious effects. These alterations could result from the destruction of hydrogen bonds between molecules or atoms of enzymes; reduction of some of the metal ions that normally function as cofactors of the enzymes within the venoms; and/or the current could affect the concerned cellular membranes in the victim, decreasing permeability or transport of the venom within the body. When one considers the difficulties in getting material to study "scientifically" (a bite victim willing to wait for study of individual effects on separate systems before treatment), plus the ethical questions involved in having controls, the tendency to "accept because it works and keep going" is very understandable.

Copies of the Dec. 1986 Lancet article can be obtained from Terry Nuhn, c/o **Sphecos**.

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EARLIEST PUBLISHED USE OF PHOTOGRAPHS OF HYMENOPTERA?

I recently bought several papers by G. Ernst Adolph on the wings of insects. The earliest one, Ueber Insectenflügel, was published in 1879 in Nova Acta Ksl. Leop.-Carol.-Deutschen Akad. Naturforscher, vol. 41. Four of the six plates that accompany the work are photomicrographs of wasp and bee wings: *Tiphia*, *Hylaeus*, *Chrysis*, *Elampus*, *Apis mellifica*, *Nomada*, and *Sirex*. The images are circular and apparently were taken by a camera mounted on a microscope. The wings themselves may have been slide mounted. Does anyone know of an earlier use of actual photographs in a publication on Hymenoptera? More wing photographs appear in an 1883 paper by Adolph titled Zur Morphologie der Hymenopterenflügel. Augleich ein Beitrag zu den Fragen der Species bildung und des Atavismus published in the same journal. These are mostly of honey bee wings.

Arnold S. Menke

PUZZELMENTIA

Response to a PUZZLEMENTIA from an earlier issue of **Sphecos** ("INQUIERENDA: Why do many stinging wasps have red abdomens?" – 22:18): probably not for the same reason that they have black abdomens (or metasomata or gasters). Actually, the question should have been more or less limited to the Sphecidae, inasmuch as red metasomata are far less common among the Vespidae, Pompilidae, Scoliidae, etc. Even within the Sphecidae it seems to be a common feature largely within the Larrinae, less conspicuous to rare in the remaining subfamilies.

Roy Snelling

NEW ZEALAND PLACE-NAMES REVISITED

Dear Arnold:

You will be delighted to know that I have just described a lovely, indeed magnificent, new *Ammophila* with an incredibly long, flutelike "abdomen" (I do so, and I know you will forgive me rather than have its description wait on your long anticipated monograph). It absolutely requires a hippopotomonitrosesquipedalian specific name. And so it now has. I have blessed it as *Ammophila philotetaumatawhakatangihangakoauauotamateaturipukakapikimaungahoronukupokaiwhenuakitanata-huensis* Mihi. Quite unique, nesting among *Sphenodon* on North Island, NZ. The name, I am told via an old Maori, is used both geo-

graphically, and colloquially when specifying that wasp in subtle allusion to its "abdomen"; I put abdomen in quotes for I am sure he means only the truly spectacular petiole.

But a question for you before submission of the MS: is that name preoccupied?

All the best to you,

Ken Cooper
University of California,
Riverside

PS: It seems to belong in your *procera* group.

NANCY AND THE CICADA KILLER

Last July your editor was in his backyard talking to his cat, Spook*, who was sitting on the grass. I noted something moving in the grass behind Spook, and was rather surprised that he had not heard the commotion. Upon closer examination, the moving object turned out to be *Sphecius speciosus* (Drury), the common Cicada Killer. It had a cicada and was struggling to walk with it through the grass. My wife, Nancy, was on the telephone in the house, and I yelled to her to come out and see something interesting. The phone cord is a long one and she came outside, still talking to her real estate agent. I pointed to the Cicada Killer, and she mentioned to her agent that this huge wasp was in the grass with a cicada. Apparently the wasp was looking for a vertical substrate to gain altitude in order to fly away with her prey. Well, as it turned out, Nancy was a suitable vertical substrate because the Cicada Killer headed right for her left leg! It climbed on to her shoe. Seeing the path it was taking, Nancy grabbed her pant leg tightly, preventing the wasp from taking the inside passage (or scenic route). The wasp proceeded up the outside of her left pant leg. Nancy proceded to describe this activity to her real estate agent who was amazed at Nancy's lack of fear. "You mean you are letting that creature crawl up your body!?" The Cicada Killer continued at a fairly fast pace upward past Nancy's midsection. It was obvious that the wasp would continue until it reached her neck and hair, so Nancy put her left arm across her chest, the Cicada Killer climbed on, and Nancy calmly and slowly outstretched her arm. The wasp walked out to her hand and took flight with cicada in tow, disappearing over our neighbor's hedge row. We both had a good laugh over this interesting experience. Our Spook, however, seemed completely oblivious to the whole episode.

* Spook is so named because I obtained him from the animal shelter on Halloween. He is all black and when I saw him in his cage, all I could see were his two gold eyes peering out at me - that was it, he was a Spook. His name is also a fitting because he is easily spooked by sudden movements or sounds. Well, Spook is no ordinary cat. He weighs 20 pounds and he is so huge that we call him our pet leopard. Some people claim that he is attack-trained.

BIG BLUE BOOK ERRATA Part 21

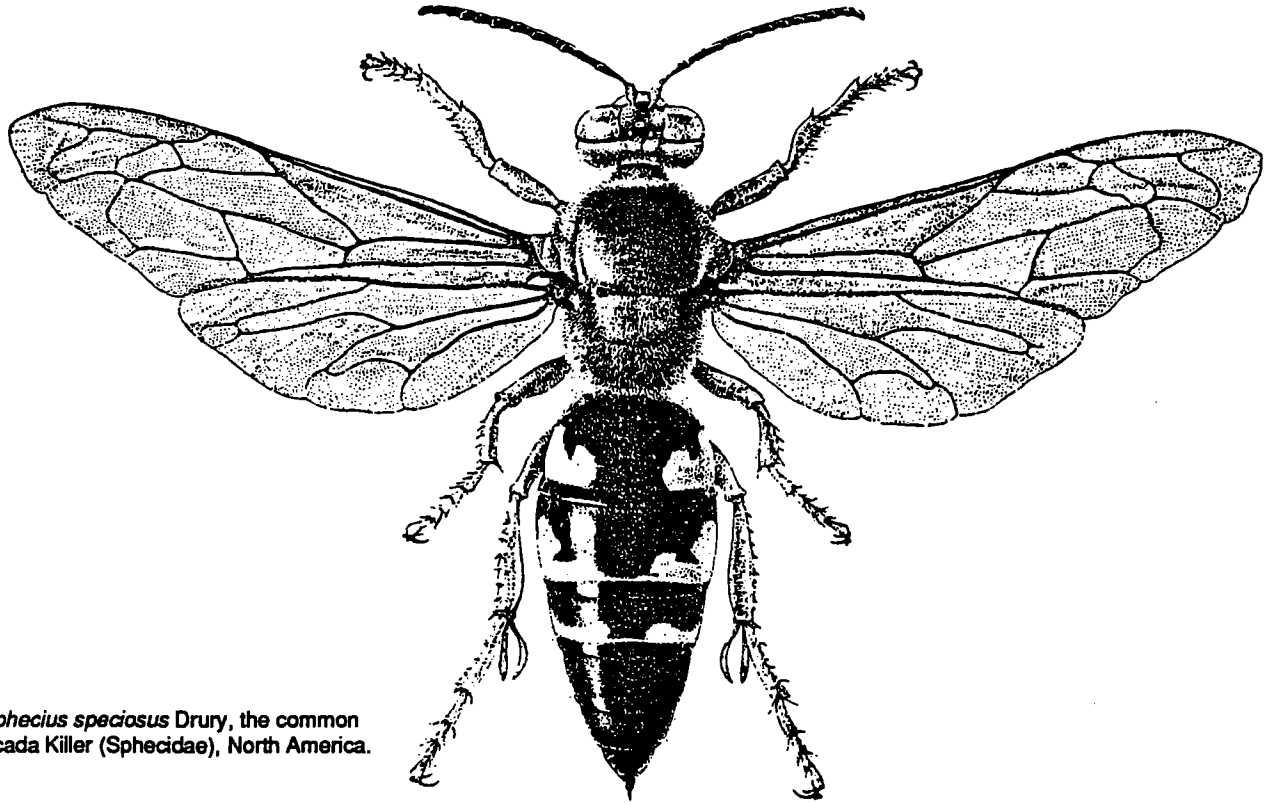
p. 69, LC, L 9: *dahlbomii* is correct, not *dahlbomi*.

p. 77, LC, L 32: *aeneola* is correct, not *aereola*.

p. 164, LC, L 17 from bottom: precede entry with a dagger symbol (†) and add following to end of entry: nec *Psen reticulata* Cameron, 1902.

p. 184, RC, L 7: *dahlbomi* Kohl, 1805 is correct entry.

p. 347, LC, L 27 from bottom: correct distribution is Kenya.



Sphecius speciosus Drury, the common Cicada Killer (Sphecidae), North America.

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