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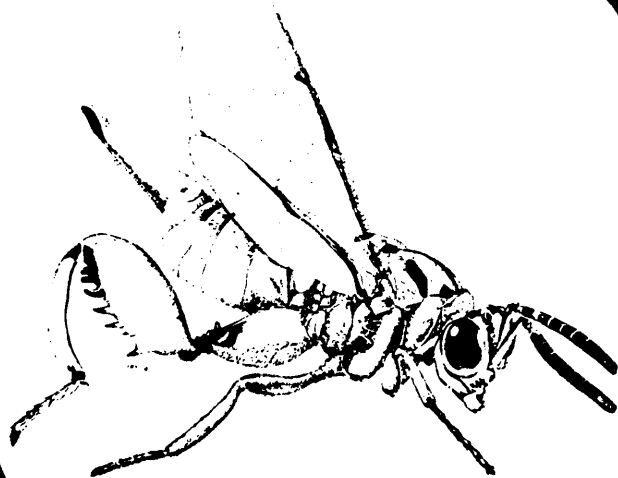
A Forum to Promote Communication
Among Chalcid Workers

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Spilochalcis sp.

EDITORS' NOTES

Many of you will have noticed a subtle change in the format of the masthead of this issue of CHALCID FORUM. It is our little way of informing you of a small but insignificant upcoming change in the editorship of CF. For the rest of 1986 CF will continue to be put out here at the USNM. However, starting with CF 8 in 1987 we will be temporarily transferring the chief editorial duties to our colleagues in Canada. Producing this newsletter has proven to be fairly time consuming and sharing the editorial duties is one way of spreading some of the burden. Most of you have been aware that Gary Gibson has been listed as co-editor since the inception of CHALCID FORUM and he is finally in a position for us to shove off the work to him. In addition, John Huber who is also at Ottawa doing a postdoc will be coming on as co-editor to help Gary. John has been interested and active in CF since the beginning and should be an excellent addition to our small staff. The only noticeable change for readers will be that the address for the submission of material for inclusion in CF will change when we make the transfer to Ottawa. That will occur in January of 1987. We thank G. Delvare for the negative of the masthead drawing and Arnold Menke for his custom printing job (at no charge to our readers).

Due to the large number of demands on our time over the last couple of months, we have been forced to postpone reissuing a complete updated mailing list. The original list issued in CF No. 2 has had so many changes and additions that it is largely obsolete. We hope to get a new list finished for the next issue.

RESEARCH NEWS:

Gabriella Perez (Paris, France): "Since August 1985 I am doing a research stay at the University of Paris XIII and I am going to stay here until September 1986. I continue working on the biology and ecology of hymenopterous parasites of the bean weevil and nowadays I am dealing with the host-selection process of two species of chalcidoids: Eupelmus cushmani and Chryseida bennetti."

Yoshito : "I have been working on the reproductive biology of Chalcidoidea and theoretical aspects of biological control for several years. I am currently interested in sex ratio control, egg number adjustment to host size and host discrimination in Trichogramma and Spalangia." [For some reason we have no address or records for Mr. Yoshido. Could someone please send us his address? Otherwise we can't send CF to him! Editors]

Banpot Napompeth (Bangkok, Thailand): (In a recent letter to Grissell, Dr. Napompeth extends the following generous offer to CHALCID FORUM readers): "National Biological Control Research Center is also serving as "watering hole" for some of the Hymenoptera taxonomists collecting beneficial parasites and other groups of insects of interest when they want to go through [this] part of the world. In case you yourself or any colleagues of yours need such cooperation please let us know. We are most willing to cooperate and collaborate."

Sonia Kretzschmar (San Miguel de Tucuman, Argentina): "I am beginning the study of the family Signiphoridae from Northwestern Argentina. This study includes biology, ecology and taxonomy of these parasitoids."

J.-Y. Rasplus (Lamto, Ivory Coast): (The following information is altered slightly from material sent to CHALCID FORUM): "I'm just a "rookie" in the world of chalcids but the way is now well defined since I'm A.S.C. (Attache Scientifique Contractuel) for I.N.R.A. on the biosystematics of chalcids. Actually I work on my thesis (Biosystematics and ecology of chalcid parasites of seminivorous insects on legumes, with revision of African Dinarmus) at the ecological station of Lamto (Ivory Coast) for ECOTROP C.N.R.S. On the other hand I try to collect chalcids by sweeping, trapping, and rearing especially from Lepidoptera, Diptera, Homoptera (coccids), Vespidae, xylophagous and phytophagous beetles, eggs etc. (15000 during the first year, all mounted and ready for study). I'd like to begin, just after my thesis, the revision of a few African genera of Chalcididae, Pteromalidae or Torymidae and possibly other families, and try to put in order the chalcid collection of M.N.H.N. Paris!"

A Davis (London, England): "I am surveying the ecology and taxonomy of the genera Ixodiphagus and Hunterellus (Encyrtidae: Ixodiphagini) gregarious endoparasitoids of ticks (Ixodidae)." [Please also see HELP WANTED in the ETCETERA section of this issue].

Mohammad Hayat (Aligar, India): "Recently we (Subba Rao, Narendran, Farooqi, Verma, M.Y.Khan, Hussain, Islam and I) have completed a two-part work on Chalcidoidea of India and the adjacent countries. Part I contains brief reviews and keys to the families and genera, and will be published in Oriental Insects, vol. 19:163-310, Figs. 1-362 (+ 11 pages containing figures 363-495), which for various reasons could not reach the publisher in time). Part II (approx. pages 430) contains a catalogue and is expected to be published by the middle of 1986 in vol. 20 of the same journal. Because of lack of funds we will not be able to purchase extra reprints beyond the 40-50 gratis copies and so those who want copies may have to purchase these from the publisher. (But first see if these are worth your money !!) I have already published the catalogue of Oriental Trichogrammatidae and review of Coccobius species (please see Chalcid Forum 2) and have just begun with Encarsia. Anybody willing to part with his/her collections of that genus is welcome, but care, I will not reimburse expenses. So spare me your collections of Indian Encarsia for the sake of 'science' and I will definitely acknowledge your help."

D. Chris Darling (Toronto, Canada): [Chris has moved since the last CHALCID FORUM, so please see the change of address section of this issue.] "As you may have already heard through the grapevine, I have recently accepted a curatorial position at the Royal Ontario

Museum in Toronto and will be leaving Oregon State University at the end of July [1985] to begin my new duties. This is primarily a research position and I will be devoting considerable effort to my revisionary studies of the Perilampidae. In particular, I will push forward on the revision of the New World species of Perilampus and I will continue trying to decipher the relationships of the world species of Perilampus and related genera. I am in the final stages of completing a revision of the New World species of Chrysolampus and have recently spent time in the field and lab trying to determine the host and biology of Chrysolampus sisymbrii. To date, this study has provided little in the way of concrete information. If you have species of New World Chrysolampus in your personal or institutional collections, I would be pleased to include these in the revision. In addition, Paul Hanson, Jim DiGiulio and myself spent much of last winter extracting insects, via berlese funnels, from the needle mat at the bases of Douglas fir trees in the vicinity of Corvallis and in other parts of Oregon. There are two undescribed species of Spalangiopelta in Oregon and we are trying to discern the life history and hosts of these species. Of general interest is that the females of one of the species exhibits continuous variation in the development of the wings, from brachypterous to fully-winged. We are trying to finish up the manuscript before I leave Oregon but this study has been complicated by the "discovery" of additional "species" during recent visits to museums. Most of these are represented by single specimens. Apparently, Spalangiopelta is widely distributed and diverse in North America but infrequently encountered. If you have access to any berlese samples with Hymenoptera, it may be worth sorting through the proctos and ceraphronoids for these gems. I am assembling material in this genus and would like to see additional specimens."

S. Victor Rajakulendran (College Station, Texas): "I am a Sri Lankan national, finishing my Ph.D. at Texas A. & M. University. I did my M.S. also at A & M in insect toxicology. I started my Ph.D. research in summer of 1982. My main investigation was to look for the parasitoids of Cotton Fleahopper (CFH) Pseudatomoscelis seriatus in its natural habitat (on weeds). My field surveys indicate that there are only two species of parasitoids, Anaphes probably anomocerus and Erythemelus psallidis both are mymarids, attacking CFH in this ecosystem. I carried out field sampling on 3 different host plants to study the population dynamics of these two parasitoids in relation to their host. I successfully colonized both the species in the laboratory on Lygus hesperus reared on an artificial diet. I have studied their biologies and have examined their immature stages. I have taken pictures of all the immature stages of both these parasitoids by dissecting the host egg at various stages of its development. The most interesting findings in this laboratory study are the first and second instar larvae of Erythemelus psallidis. These types of larvae have never been reported earlier in the literature. Most probably these will form a new larval type in insects. I hope to publish my findings soon and hope to continue my work on investigating the biology of parasitoids if I get an opportunity to do so in my career as an entomologist."

Andrew Polaszek (London, England): "I have recently begun working on Chalcidoidea as a CIE taxonomist. Having been offered the position without any previous experience of the group (I am currently writing up a PhD on aphids) I am at the moment just "finding my feet" under the guidance of Drs. Boucek and Noyes. I have been told that initially I will be expected to concentrate on Mymaridae, Trichogrammatidae, Aphelinidae and Encyrtidae, i.e., those groups which are, at the moment, covered by Dr. Subba Rao."

Dr. Rudolf Abraham (Hamburg, West Germany): Dr. Abraham has sent information that he is interested primarily in Pteromalidae, but that other interests include Chalcididae, Perilampidae, other Chalcidoidea, and the biology of parasitic Hymenoptera. He is working on the biology of Nasonia vitripennis and the interactions of hosts and parasitoids living on Phragmites and Salix spp.

Gary Gibson (BRI, Ottawa): Let the bells ring out and the banners fly (Bugs Bunny, ca. 1960), I've left the security of graduate school (University of Alberta, Edmonton) for the pressures of the real world (BRI, Ottawa). I returned to BRI in August, where I will remain until God or the conservative government decrees otherwise. Being low man on the totem pole I was immediately appointed curator of Chalcidoidea. Consequently, I have the joy of expediting all future loans, etc. Being young and foolish I have a number of immediate (?) plans for the chalcidoid collection: 1) those of you who have visited BRI know that we have a large collection of miscellaneous Hymenoptera in alcohol. To lessen work by future visitors we have established a separate alcohol collection for Chalcidoidea. Chalcidoids are now being culled from all incoming, mass collected material, and stored in 3-dram vials in racks that are arranged by biogeographic region and country. Vials are further arranged by province and state for Canada and the USA. All vials will have the year the material was culled printed on the stopper, except that all material is labelled as 1986 since we started the collection. We hope to gradually work back through the miscellaneous Hymenoptera collection and retrieve the chalcidoids. These vials will be marked as "1985". This may sound confusing, but is being done to aid recent visitors who have already gone through the collections. 2) We plan to have an extensive campaign of mounting chalcidoids from alcohol this summer. Certain target groups have been established based on weaknesses in the CNC collection, or known projects of individuals. These specimens are being segregated for immediate mounting, or sending in alcohol to the respective specialist. Manpower is of course limited, but if you have a project in progress or planned for the immediate future (and the taxa are readily identified in alcohol) write me a letter and I will add the taxa to the "target list", if feasible. 3) I would like to improve the CNC collection of Palearctic chalcidoids, particularly northern Palearctic for Holarctic species. I am anxious to hear from individuals who are willing to exchange material (identified or mass collected), or who would be willing to run Malaise and pan traps for us in Europe. We would send all material necessary for trapping and would be able to provide a nominal sum of Canadian money for this service. Alternatively, we could exchange mass collected material from around Ottawa. 4) I will do anything within the limits of morality (not necessarily legality) to get my hands on eupelmids (including tanaos) from everywhere and anywhere in the world (or extraterrestrial if A.A. Girault reads this). I am open to offers.

A bit about my thesis. I wrote the thesis as four separate papers, three of which have been submitted for publication in the Canadian Entomologist. One, "Some Pro- and Mesothoracic Structures Important for Phylogenetic Analysis of Hymenoptera...." has just been published. The other two should be published in 1986: "Evidence for Monophyly and Relationships of Chalcidoidea, Mymaridae, and Mymarommatidae", and "Mesothoracic Skeleto-musculature and Mechanics of Flight and Jumping in Eupelminae". Hopefully, the titles are self-explanatory. The last paper is without doubt the most interesting. In it I describe 19 pairs of mesothoracic muscles for chalcidoids, correlate differences in external structure of male and female eupelmines with differences in placement and form of muscles, and describe how the modified mesothorax of female eupelmines combines the independent flight and jumping mechanisms of males into a single mechanism for improved jumping. This paper documents that if it can be done, some chalcidoid does it, and that eupelmids are the most elegant creatures on earth (excluding women). In the fourth, unsubmitted paper, I revise the genera of the world for Calosotinae plus a new subfamily proposed for some taxa now classified in Eupelminae. Interestingly, the most "primitive" calosotines are from the new world, from the southwestern USA! I also have a preliminary cladistic analysis of relationships and monophyly of the eupelmid subfamilies, tanaos., encyrtids, aphelinids, and cleonymines. Evidence indicates that tanaos. are indeed more closely related to encyrtids (a subfamily of Encyrtidae anyone?), but that Eupelmidae (including or excluding tanaos.) is a grade-level taxon. However, many questions remain unanswered, and I want to expand the analysis before publishing. We need more basic studies and less new classifications in Chalcidoidea.

Finally, because of my interest in comparative and functional morphology, I have started a separate alcohol collection at BRI for specimens to be used in anatomical studies. There are seemingly innumerable taxonomic collections, but no collections specifically for anatomical studies. BRI seems like a logical place for such a collection because of the large amounts of mass collected material we process each year. My ultimate aim is to get representatives of all families of Hymenoptera, but I am initially concentrating on symphyte families and "rare" families of Apocrita, such as monomachids, megalyrids, plumariids, stephanids, etc. I do not foresee this collection as a resource for complete studies, but for specific taxa needed to fill "gaps" in studies. I beg anyone who reads this, and someday collects a series of rare or interesting (phylogenetically or morphologically) Hymenoptera to not immediately mount everything (as is usual), but to donate a couple of specimens in alcohol to this new, fledgling collection."

John Huber (BRI, Ottawa): "After 5 years at the University of California, Riverside, where I completed my Ph.D. sorting out the species groups of Gonatocerus (Mymaridae) and revising two of them for North America, I am now a postdoctoral fellow at the Biosystematics Research Institute, Ottawa. I have started working on Anaphes (Mymaridae) for N. America, a project that will likely take several years."

Tova Nivnay (Rehovot, Israel): Tova writes that as of two months ago she started a new job at the biocontrol laboratory of the citrus marketing board of Israel. This project is a bit far removed from her previous work, but this was the best, if not the only working proposal within entomology available since her return from the U.S. She hopes to be able to return to work on parasitic wasps in the near future. Her new address appears in the mailing list section.

Mike Schauff (USNM, Washington, D.C.): I have completed work on the Nearctic species of Blachertus and Hyssopus and am now working intently on revising the Northern Hemisphere genera of entedontines. I am also working (somewhat slowly) on the N.A. species of Brythmelus (Mymaridae) and I plan to start work on the Nearctic species of Entedon later this year or next. This genus has never been critically worked up and I would not be surprised to find that some of our species are the same as those in Europe. I would be most grateful for specimens of these groups. In particular, European entedontines of all genera and Entedon in particular.

ETCETERA

HELP WANTED:

A. Davis (London, England): "To supplement the small corpus of published information [on Ixodiphagus and Hunterellus] I would like to hear from workers who can provide additional facts that are not and will not be published. I would be glad too for help in tracking down preserved material of those genera that is held outside the major insect collections." [See address under new addresses below.]

J.Y. Rasplus (Paris, France): "I intend to revise the world Dinarmus Thomson and Oedaule Waterston so I would very much appreciate receiving specimens of these two genera from other chalcidologists all over the world." Please send any material to J.Y. Rasplus, c/o J.R. Steffan, Laboratoire d'Entomologie du M.N.H.N. Paris, 45 rue Buffon, 75005 Paris, France.

Steve Heydon (Illinois, USA): "I would like to trade lots of unmounted parasitic Hymenoptera swept from North-Central United States prairie habitats for similar lots of unmounted or mounted Pteromalidae. Please include a note about your groups of interest and I will do my best to ensure the material I send contains these groups. I am especially interested in Palearctic, Oriental, or Neotropical material". send material to Mr. Steve

Heydon, Illinois Natural History Survey, 287 Natural Resources Building, Champaign, Illinois 61820 USA.

Eric Grissell (Washington, D.C., USA): Does anyone out there know of a case of dimorphic hypercephalization (i.e., normal females, males with enlarged heads) in Hymenoptera? I believe I have found the first known instance of this condition in Hymenoptera but my overview of the order is rather provincial to say the least. The hymenopterists here at USNM cannot provide any examples. I have discovered a species of pteromalid (genus unknown, of course) from South America that appears to exhibit this condition and am trying to ascertain if this is unique. I know there are female eurytomids that have enlarged heads, but in the case of the pteromalid only some males have greatly enlarged heads. The data I have shows that there is a perfect correlation between body size and head size; that is as the body becomes longer the head becomes disproportionately wider until it is dish-shaped. I would appreciate hearing from anyone who knows of this situation in other Hymenoptera and literature citations would be appreciated.

FORUM

Platygasteridae or Platygastriidae, Miscogasterinae or Miscogastrinae?

by

Z. Boucek (London, England)

For more than 100 years the family-group name Platygasterini, Platygasterinae or Platygasteridae was used. Then Kozlov (1970, Ent. Oboz. 49: 219, footnote) changed it to Platygastriidae, claiming that "the spelling of Platygasteridae adopted previously by all authors is incorrect, since the genitive case of gaster is gastros." (translation from Ent. Review 49:123). That means that all those authors who actually wrote or even spoke Latin in the past committed a mistake. Or did they?

When going through Stearn's "Botanical Latin", I found on p. 78: "gaster (f.: gen. sing. gasteris or gastri...)," which confirmed what I vaguely remembered from when I learned Latin. Namely, that some nouns have a variation in declension and that gaster is one such noun. Perhaps it came into Latin from Greek. This point is also proved by other usage (e.g. Gasteromycetes, gasteropod (although this is more commonly used as gastropod)), in groups apart from insects. In our case it means that Kozlov was not right to call the spelling '-gasteridae' wrong, because that spelling was established by long-term usage it should be regarded as the valid spelling. The greek word gaster was accepted into Latin without change (including the feminine gender) and Latin is the language of our scientific names according to the code (Art. 11b), not Greek. Apparently this is where Kozlov was misled.

The case has some impact also on some other family-group names in Chalcidoidea and Braconidae. From the above I have learned that there is no need to change Miscogasterini to Miscogastrini, Sphegigasterini to Sphegigastrini, etc. In addition, there is no need to change the established braconid name Microgasterinae to Microgastrinae. In each case, the individual usage should decide the valid spelling, because both variations are correct.

Ref. Stearn, W.T. 1973. Botanical Latin. History, Grammar, Syntax, Terminology, and Vocabulary. 2nd Ed. 566pp. David & Charles, Newton Abbot, U.K.

Evidence of Cycling Parthenogenic Reproduction in a
Trichogramma species.

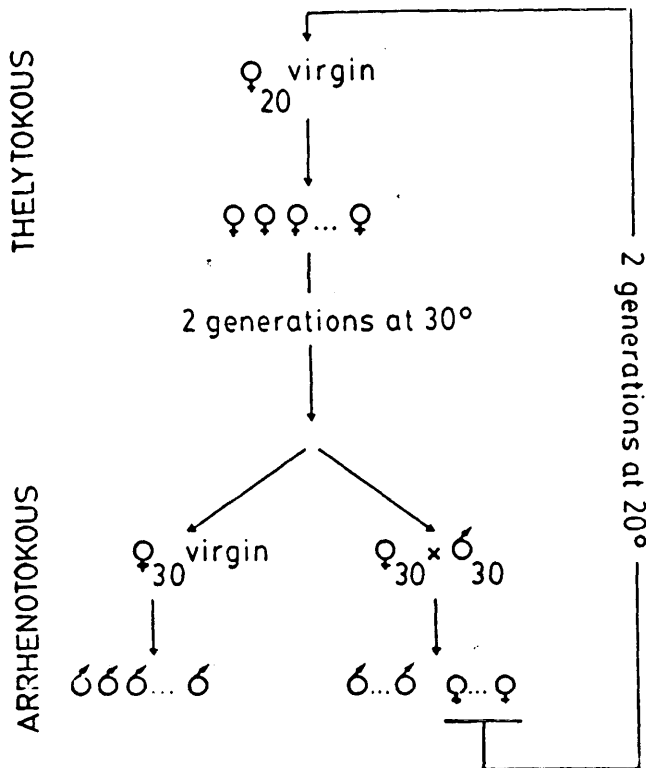
by

P. Vargas and T. Cabello (Cordoba, Spain)

This communication reports a change in form of reproduction of laboratory culture of Trichogramma cordubensis Vargas and Cabello (1) from uniparental to biparental (with the production of sexual mosaics in certain cases) and vice versa according to the temperature of rearing.

Most of the species of this genus exhibit arrhenotokous parthenogenic reproduction (2) in which virgin females give rise to only male progeny and mated females produce both sexes. However, some instances of thelytokous Trichogramma species (3) or strains (4,5,6) have been reported. These peculiar examples may give rise from time to time to a small proportion of male forms and sexual mosaics in the lab due to overcrowding (5) or rearing temperatures (3,6). The resultant males, however, are neither functional or fertile (3,5,6). In contrast, T. cordubensis which is thelytokous when reared at 20 degrees C appears to be capable of changing to arrhenotoky with fertile males with temperature rises above 28 degrees C and will revert to thelytoky if the temperature falls below a critical level.

Females from thelytokous lines reproduce in this form regardless of the presence of males. However, with females from arrhenotokous lines, the influence of the males is clear and indicates that they are functional and fertile, unlike the observations of previous workers with other Trichogramma (3,5,6). Our findings (7) (summarized in figure below), strongly suggest the existence of a reproductive strategy in T. cordubensis that varies according to temperature and leads to a cyclical parthenogenic reproduction in our cultures. Such a phenomenon appears to be new in this genus and also in the Hymenoptera parasitica.



Reproductive pathways of T. cordubensis according to temperature. (Numerical subscripts indicate the rearing temperature of the progenitor line).

Acknowledgements

The authors want to acknowledge Dr. K. G. Wardhaugh (C.S.I.R.O., Australia) for the correction of the original manuscript from which this communication has been extracted.

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8
RECENT LITERATURE

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The Palearctic species of Chrysocharis are revised. 59 species are recognized and 10 of these are described as new. All of the species are redescribed and a key is presented. The genus is divided into 11 species groups and previous subgenera are not used. 58 new synonymies are established and lectotypes are designated or validated for 77 names. A table of host and distribution records is given. Related genera and their relationship to Chyrsocharis are discussed. The paper is illustrated with 225 figures.
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