

ICHNEWS

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EDITOR'S COMMENTS

Here is another issue of *Ichnews*, not too late this time. The next issue will be published in early 1995 and will cover newsworthy items from 1994, therefore please respond to the enclosed questionnaire near the end of 1994, so that you can accumulate a year's worth of news. Most of the items in this issue are taken from responses sent to me almost a year ago. Fortunately, for the newsletter, what was current a year ago remains so today.

There are a number of items to respond to in this issue of *Ichnews*. In my article on venation on page (??) I request feedback. I would also like to see some responses to Scott Shaw's article concerning a common name for the Ichneumonoidea.

DEATH WASPS

*by Scott R. Shaw
University of Wyoming*

It really bugs me that we don't have a decent common name for the Ichneumonoidea. I'm not talking about a modified derivation of the scientific name like ichneumons,

ichneumon-flies, or braconid wasps. I'm talking about a nice, wholesome, down to earth, simple common name like butterfly, bug, ant, beetle, etc. Here we are talking about one of the most diverse lineages of living organisms (conservatively estimated at 50,000 species), one of the most economically important groups of organisms (enormously valuable because of biological control applications), and certainly one of the more fascinating groups in terms of its diversity of life history strategies, and still we do not have a single common name to unify the group. Surely this is one of the great, quirky artifacts of the history of science! At first glance it's tempting to think that the ichneumonoids have been overlooked in this regard because of their generally small body size. But how can that be the case when the tiniest creatures in the Hymenoptera, the mymarids, do have a common name (fairy flies). Ultimately, we the scientists who work with braconids and ichneumonoids must take the blame for not addressing this problem, for if we don't deal with it, who will?

Do we need a common name for the Ichneumonoidea? What good will it do us? Maybe it won't make any difference at all, but then again maybe it might. Consider that the absence of a simple common name for our group may be preventing us

from effectively communicating our science to the public (and ultimately to our administrators). Lots of other less diverse, and probably less economically important groups, get more attention by the public simply because they do have a common name (e.g. grasshoppers, butterflies, ants). Do you think Holldobler & Wilson would have won the Pulitzer Prize for 'The Ants' if they called their book, *The Formicidae of the World*? I think not. Obviously, what we need is a really neat common name for this most important group, the Ichneumonoidea. Something to capture the attention of the public, and to stimulate and attract students to the study of these wonderful organisms. The International Commission of Zoological Nomenclature doesn't apply to common names, so who can say that we shouldn't make one up.

Having actually given this matter considerable thought, my suggestion is "Death Wasps." Why "Death Wasps" you ask? Why not? What feature more succinctly describes the ichneumonoids than their ability to bring death to the hapless host victim. With only a few exceptions they are true parasitoids, eventually killing the host insect. And it is this ability to cause death that makes them valuable to us (as biocontrol agents). Certainly the public has a real fascination with parasitoid life style. Just look at the success of the

"Alien" movies. The public is fascinated with stories of parasitism, but it's up to us to relay the information in a form they can understand. Finally, many generic names relate to the ability of the wasp to hunt, attack, or kill (e.g. *Microctonus*, little murderer; *Orion*, the hunter, a reference to the sword of Orion; *Doryctes*, hunter with a spear; *Sesioctonus*, moth killer; *Leptodrepana*, slender sword). You can probably find other examples.

Critics might argue that the name "Death Wasps" could be applied to any other group of parasitoid wasps as well. Why restrict its use to the Ichneumonoidea? Well, there is the matter of historical precedence, since the earliest observations of parasitoid behaviour were made with the Braconidae. The first published account of insect parasitism is claimed to be Aldrovandi's 1602 work that includes an account of the gregarious parasitoid *Cotesia glomerata* attacking larva of the cabbage butterfly.

"Am I mad," you say? Perhaps. But I challenge any of you to come up with a better common name for our group. Certainly we have all had the experience of watching someone's eyes glaze over (Roll back, and flutter) as you begin to explain what you do for a living. The next time you are at a party and someone asks you what you do, tell them that you study Death Wasps, and see what happens.

"AM I MAD?" - A RESPONSE TO SCOTT SHAW.

by Michael J. Sharkey
B.R.D., Agriculture Canada

In a letter to the editorial department of this newsletter Dr. Wahl took some objection to the article by Dr. S. Shaw. Specifically he was rather miffed by the suggestion that the name Ichneumon-flies was ridiculed. In his letter Dr. Wahl noted that it is the braconologist's who lack a common name for their group. Being the magnanimous individual that

he, is Dr. Wahl has kindly passed along a few suggestions that Braconologists can deliberate. "The oldest common name for the Braconidae known to Dr. Wahl is 'The supplementary Ichneumon-flies'. The reference is Sharpe, D. 1895. *Peripatus*, Myriopods, Insects (Vol. 5 of Cambridge Natural history Series), p. 558. Another name is 'Garbage Ichneumons'." According to Dr. Wahl this probably refers to the propensity of some alysiines and opiines to habituate foul environments. One could simplify these names to 'garbage wasps' or 'filth wasps' or 'filthy garbage wasps' and have quite a catchy name; although, personally I would like to have one of these names apply strictly to the Opiinae and Alysiinae (and this opinion is unrelated to the fact that I would be able to say that Bob Wharton is a specialist in filth wasps). By the way, if Dr. Wahl is right in thinking that Ichneumonologists are content with the common name Ichneumon-flies, perhaps Braconologists might do well to consider Braconid-bugs?

All this bantering still leaves the superfamily without a common name; and I agree wholeheartedly with Dr. Shaw that coining one is a valuable aim. I'm of the opinion that 'death wasps' is a little too dramatic and offer a drier suggestion, 'silk wasps or cocoon wasps'. This name refers to the fact that Ichneumonoidea have retained the ability, as larvae, to produce silk with labial silk glands. Ichneumonoids (with the rare loss) use labial silk to spin cocoons and to tie leaves. Besides the Aculeata, the only other hymenopterans to have functional labial silk glands are the Aulacidae, Gasteruptiidae and Trigonalidae. These latter groups can be safely ignored, and as for the aculeates, well, they already have their own common name. Cladists might be thinking that the lack of functional labial silk glands might be a synapomorphy for the remainder of the Apocrita, i.e. the Apocrita minus (-) Aculeata, Ichneumonoidea, Trigonalidae, Gasteruptiidae and Aulacidae). I believe that they would be right.

To the chalcidologists: yes, some chalcids do spin silken cocoons, but with anal silk glands. It seems fitting somehow, where chalcidoids manifest a reversal, they get it ass backwards. Please give us your suggestions for the next issue of Ichnews.

ANOTHER LOOK AT WING VEIN/CELL NOMENCLATURE.

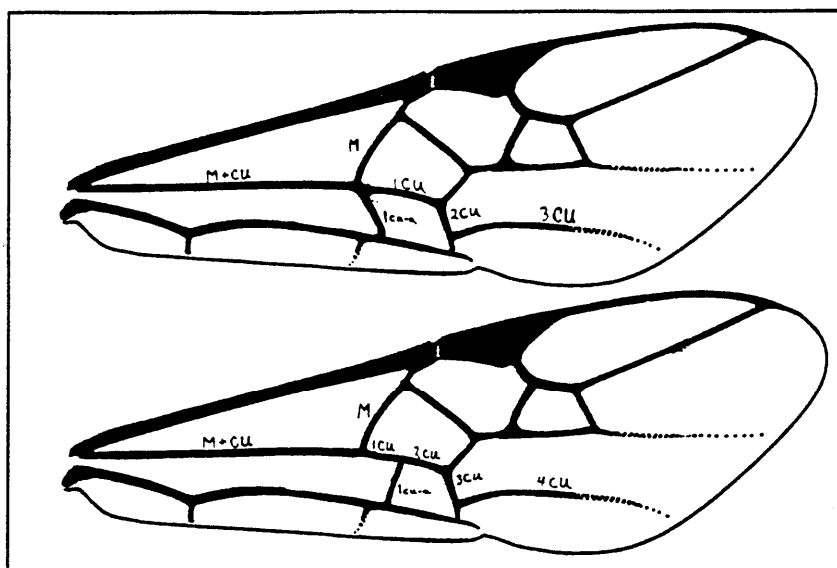
Michael J. Sharkey
Agriculture Canada

As many readers know, a group of us, known as the Parasitic Hymenoptera Advanced Research Team (PHART), have embarked on a project to key the New World genera of Braconidae. One problem that we have had to overcome is to agree on wing nomenclature. Most of us are settled on the fact that we will use some version of the Comstock-Needham system.

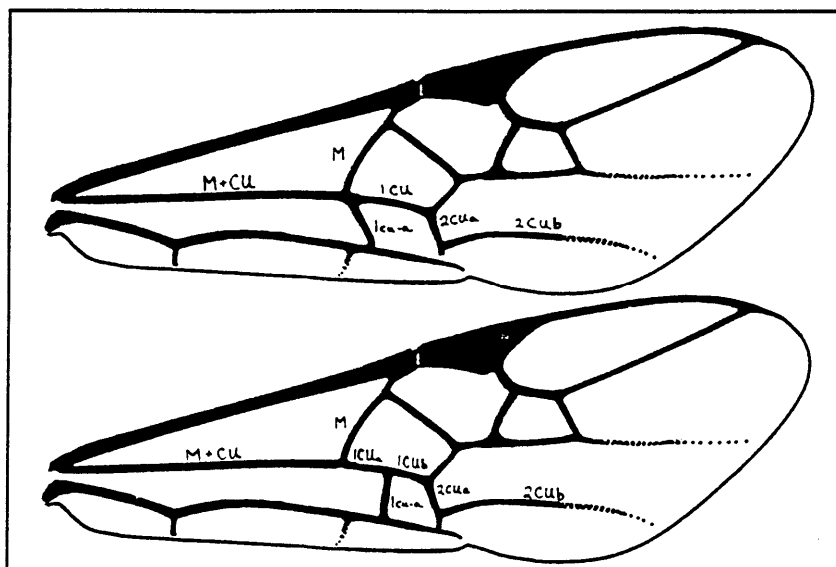
In the paragraphs that follow I will outline the Comstock-Needham system as it has been employed, for example, in the "Hymenoptera Of The World". Following this I will introduce some modifications that we are thinking of incorporating. I would like anyone who has criticisms or suggestions for improving the system to get in touch with me as soon as possible.

The Comstock-Needham system recognizes eight major longitudinal veins, abbreviated by capital letters. Starting from the anterior margin of the wing they are: costa (C), subcosta (Sc), radius (R), medius (M), cubitus (Cu) and 3 anal (1A, 2A, 3A). In addition, there may be a short jugal (J) vein in some Symphyta.

When a vein is branched the most anterior branch is given the subscript 1 and the more posterior branches the subscripts 2, 3 . . . This is done for all veins except R. When R branches the most anterior branch is called R₁ but the second branch is called the radial sector (RS).



Figs. 1a & 1b



Figs. 1c & 1d

A vein may have several segments or abscissae. They are delimited by the intersection of other veins, usually crossveins. Thus a vein that is intersected by two other veins has three abscissae, numbered consecutively from the base to the apex of the wing, e.g., when Cu has three abscissae, they are 1Cu (the basal portion of Cu), 2Cu and 3Cu (the apical portion of Cu). Vein abscissae may vary interspecifically, therefore 3-Cu of one species is not necessarily homologous with 3-Cu of another.

Crossveins, indicated by lower case letters, take the name of the veins they connect, with the anterior vein given first. Thus, a crossvein that connects R with M is r-m. If there are several r-m crossveins they take numerical values as well e.g. 1r-m, 2r-m, etc. If a crossvein joins two branches of the same vein the crossvein takes the name of the major longitudinal vein, e.g. a crossvein between R₁ and R_s is called r. This simplification is possible due to the rarity of this type of crossvein.

Two veins may fuse for part or all of their length, appearing as one vein. The resulting vein takes the name of both component veins joined by a plus (+) sign. For example, R_s and M are often fused for portions of their lengths. The fused portion is called R_s+M. Veins may fuse end to end so that it is impossible to know exactly where the first one ends and the second begins. In these cases the composite veins are joined with an ampersand (&). For example, in all Ichneumonidae and many Braconidae the first abscissa of vein R_S+M is often completely lost and in these cases veins 1R_S and 1M cannot be distinguished from one another: the composite vein is therefore termed R_S&M.

Wing cells, abbreviated with capital letters, take the name of the vein lying anterior to them. If several fused veins form the anterior boundary of a cell, the cell takes the name of the vein that is theoretically most posterior. Thus, the cell posterior to C+Sc+R is the radial cell (R). If more than one cell is directly behind a vein, the cells are numbered consecutively from the base of the wing, e.g. three medial cells would be 1M, 2M, and 3M.

New wing veins may arise in certain lineages. Such veins are either given a new name or are named (often misleadingly) after the vein to which they are most similar in position. I follow the latter approach for convenience but distinguish the new vein from its namesake by an apostrophe ('). Thus veins followed with an apostrophe (') are not (or probably not) homologous with the same vein lacking an apostrophe (').

SUGGESTED MODIFICATIONS

One problem inherent in the system described above is that although veins, crossveins and vein branches are potentially homologous across the Hymenoptera, the abscissae are not. This is because the abscissae of a particular vein are named based on the position of veins **and** crossveins

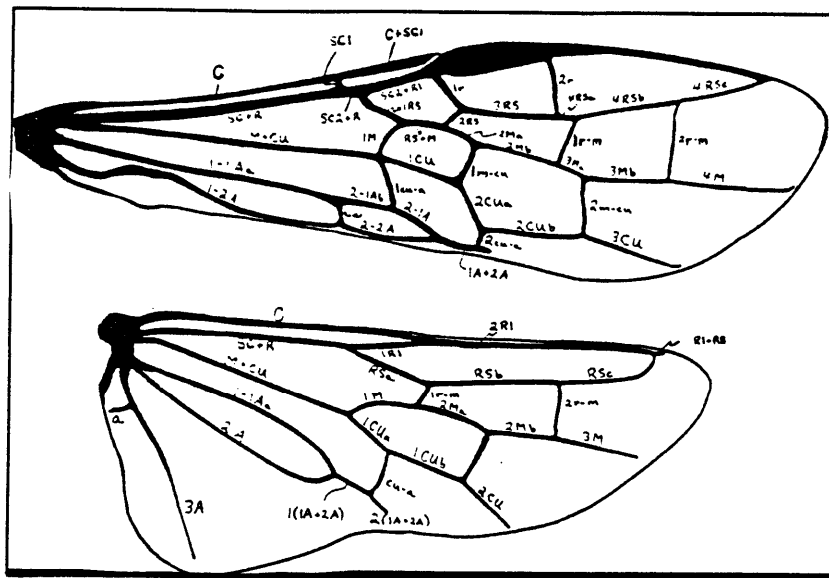


Fig. 2a

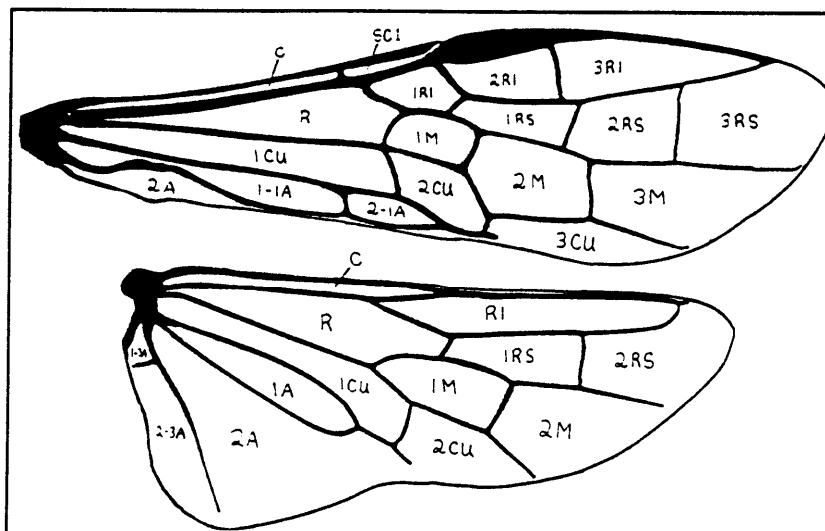


Fig. 2b

that intersect **both** anteriorly and posteriorly with the vein in question. To see how this can be a problem refer to Figure 1a (*Helcon fulvipes*). Note that there are three abscissae of vein CU. Now refer to the fore wing of *Helcon pedalis* (Fig. 1b). Here 1cu-a is positioned towards the apex of the wing such that it intersects 1CU instead of being interstitial with M (I have exaggerated the position for ease of illustration). In this case there is an extra abscissa of CU and none of the abscissae of CU of the two wings (Figs 1a and 1b) are homologous.

To solve this problem the abscissa are numbered based only on intersection with veins or crossveins that meet anteriorly. When crossveins meet the longitudinal vein in question from the posterior side a letter is added to the name of the vein. For example the abscissae of vein Cu of *Helcon fulvipes* are named according to this system in Figure 1c and those of *Helcon pedalis* are named in Figure 1d. In comparing figures 1c and 1d notice that all abscissae of CU are homologous. The only difference in the two wings is that the fore wing of *Helcon pedalis* (Fig. d) has two components to abscissa 1 of vein

CU whereas that of *Helcon fulvipes* (Fig. 1c) has only one component of abscissa 1CU. Nonetheless abscissa 1CU of Figure 1c is easily homologized with 1CU of Figure 1d.

The modified nomenclatorial system is illustrated using the wings of a xiphydriid (Fig. 2a and b) and of *Helcon fulvipes* (Fig. 3a and b). These illustrate some fine points and conventions of the system which are discussed below.

a) When two longitudinal veins meet they are presumed to merge unless there is evidence to the contrary. For example veins 1RS and 1M meet to become RS+M. When two longitudinal veins meet they do not adopt the abscissae letters and numbers of their constituent veins, rather they are numbered independently. So in the case of the xiphydriid fore wing (Fig. 2a) the correct name is RS+M not 1RS+1M. In *Helcon fulvipes* (Fig. 3a) the RS+M vein is intersected from below by crossvein m-cu therefore there are two sections to RS+M, i.e., (RS+M)a and (RS+M)b. The brackets () are used to imply that the sections a and b refer to the composite vein RS+M and not to the M component of RS+M which might be inferred if the vein was named RS+Ma.

Notice that (by convention) C+SC both terminate at or before the stigma of the fore wing or, in the case of the hind wing, at or before the point where R splits into R₁ and RS.

When two fused longitudinal veins diverge, the new abscissae of the constituent veins take on an extra numerical value. Thus in the case of the xiphydriid (Fig. 2a), vein 1RS fuses with M to become RS+M and when they separate they give rise to 2RS and 2M (In this case 2M is divided into 2Ma and 2Mb).

I would appreciate your comments.

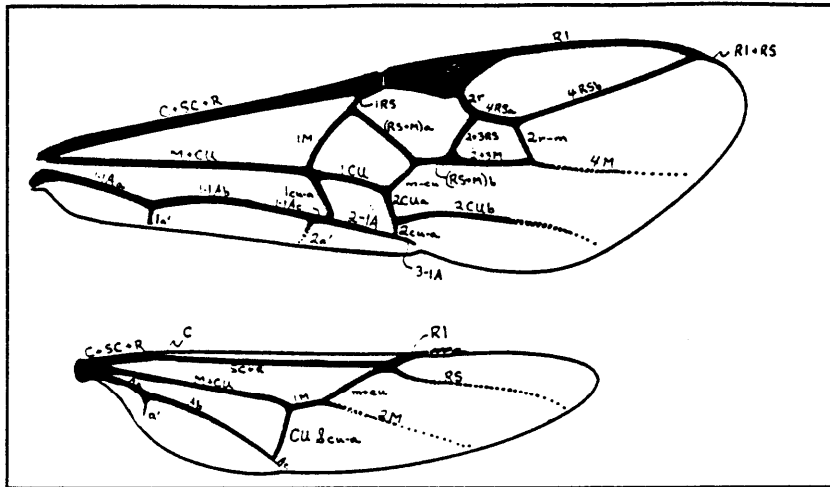


Fig. 3a

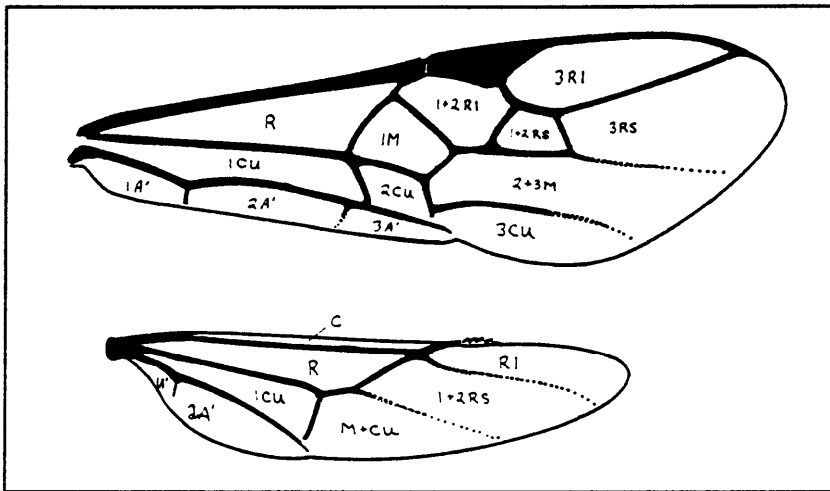


Fig. 3b

New Morphological terms:

by C. van Achterberg
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anterior subalar depression: depression above subalar prominence (Richard, 1977); may be smooth, crenulate or with a distinct transverse carina. Not to be confused with the subalar pit (Richard, 1977). **Medio-posterior depression of scutellum:** a posterior depression on the scutellum, which has a median carina or (more often) fine crenulation. Not to be confused with rugosity or other sculpture that can be present in cyclostome or microgastroid groups. Also different from a

subposterior depression that may be present e.g. in Agathidinae, because of different topology and sculpture (editor's note: I believe the depression found in many Agathidinae to be homologous with those found in other Braconidae e.g. most Helconini).

(medial) **pronope** (singular/plural): round or transverse depression medio-dorsally on the pronotum.

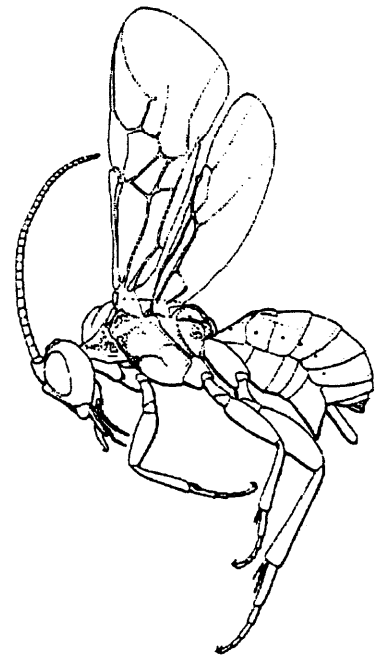
lateral pronope (or subpronope): round depression in the sides of the pronotum anteriorly.

dorsope (singular/plural): pit-like depression just behind the bases of the dorsal carinae of the first metasomal tergite. The dorsal carinae may be absent and sometimes the dorsope becomes laterally situated

when the first tergite is strongly petiolate.

laterope (singular/plural): pit-like depression situated in the glymma in many Braconidae, close to the base of the first metasomal tergite laterally.

precoxal sulcus: (not that new term, e.g. Richard, 1956). Common longitudinal depression of the mesopleuron in Braconidae. Running nearly horizontal and situated above the sternaulus (well known in the Ichneumonidae). The different nature of both can be observed in some Opiinae where both depressions are present. The sternaulus is clearly bent downwards anteriorly and situated more ventrad.



Cardiochilinae

CALLING ALL GENERA

by David Wahl

American Entomological Institute

The American Entomological Institute strives to maintain as complete a collection of Ichneumonidae as possible. This is especially so for genera and subgenera. Of the 1500 + genera and subgenera that are considered valid, the AEI lacks 121; these missing genera are listed below. If any Ichnews reader has specimens of these genera and is willing to trade, please contact me. The AEI has an extensive set of duplicates that is sure to delight even the most jaded tastes.

ACAENTINAE:

Coleocentrini:

Eremocinetus Viktorov, 1964; Palaearctic.

Acaenitini:

Boloderma Morley, 1913; Oriental.

ANOMALONINAE:

Aubertiana Viktorov, 1970; Palaearctic.

Clypeocampulum Gauld, 1976; Palaearctic.

Gravenhorstia (*Ribasia* Ceballos, 1921); Palaearctic.

Neohabronyx Dasch, 1979; Nearctic.

Porlzonopteron Meyer, 1931; Palaearctic.

Sphaeromanus Aubert, 1979; Palaearctic.

Stangepelma Porter, 1976; Neotropical.

Vernanomalon Gauld, 1976; Ethiopian.

BANCHINAE:

Atrophini:

Tossinolodes Aubert, 1984; Palaearctic.

Banchini:

Geraldus Fitton, 1987; Neotropical.

Neoexetastes Graf, 1984; Neotropical.

CAMPOPLEGINAE:

Allotheca Cameron, 1906; Ethiopian.

Breviterebra Kusigemati, 1982; Palaearctic.

Cymodusa (*Diverdusa*) Dbar, 1985; Palaearctic.

Diadegma (*Auma*) Dbar, 1984; Palaearctic.

Neolophron Gauld, 1984; Australia.

CREMASTINAE:

Eucremastoids Kolarov, 1980; Palaearctic.

Ricrena Cameron, 1906; Ethiopian.

CTENOPELMATINAE:

Ctenopelmatini:

Rhorodes Aubert, 1970; Palaearctic.

Scolobatini:

Dictyopheltes Gauld, 1984; Australia.

Hypopheltes Cushman, 1924; Australia.

Pergaphaga Gauld, 1984; Australia.

Mesoleiini:

Iskarus Kolarov, 1987; Palaearctic.

Semimesoleius Ozols, 1963; Palaearctic.

Euryproctini:

Denticeria Gauld, 1984; Australia.

DIPLAZONTINAE

Episemura Kasparyan & Manukyan, 1987; Palaearctic.

Eurytyloides Nakanishi, 1978; Palaearctic.

Schachticraspedon Diller, 1984; Neotropical.

ICHNEUMONINAE

Ichneumonini:

- Amblysmenus* Heinrich, 1965; Oriental.
- Archboldiella* Heinrich, 1934; Oriental.
- Auritus* Constantineanu, 1969; Palaearctic.
- Bonthainiella* Heinrich, 1934; Oriental.
- Caspipina* Cameron, 1903; Oriental.
- Celebichneumon* Heinrich, 1934; Oriental.
- Celebijoppa* Heinrich, 1934; Oriental.
- Clypeocava* Heinrich, 1934; Oriental.
- Coelojoppa* Cameron, 1904; Oriental.
- Cornutiplisus* Heinrich, 1957; Palaearctic.
- Cryptoplites* Heinrich, 1938; Ethiopian.
- Dammermanlella* Heinrich, 1934; Oriental.
- Dammermaniellops* Heinrich, 1974; Oriental.
- Dentichasmiops* Heinrich, 1969; Ethiopian.
- Deuterolabops* Heinrich, 1975; Oriental.
- Gibbobystra* Heinrich, 1969; Oriental.
- Hemibystrops* Heinrich, 1969; Oriental.
- Hyemnura* Townes, 1965; Palaearctic.
- Hytrophatnus* Cameron, 1907; Oriental.
- Larischia* Heinrich, 1969; Ethiopian.
- Leptomalasia* Heinrich, 1965; Oriental.
- Madagasichneumon* Heinrich, 1938; Oriental.
- Malaisichneumon* Heinrich, 1965; Oriental.
- Marlisia* Heinrich, 1975; Oriental.
- Monodontichneumon* Heinrich, 1969; Ethiopian.
- Nonpropodeum* Heinrich, 1934; Oriental.
- Pectinorex* Graf, 1976; Neotropical.
- Phaisurella* Heinrich, 1938; Ethiopian.
- Pseudevirochoma* Heinrich, 1969; Ethiopian.
- Rimbusia* Heinrich, 1980; Oriental.
- Serratoscylum* Heinrich, 1969; Ethiopian.
- Stenichneumonopsis* Heinrich, 1934; Oriental.
- Stenogynaia* Heinrich, 1965; Oriental.
- Thaumatocephalus* Heinrich, 1965; Oriental.
- Thaumatoplitops* Heinrich, 1969; Ethiopian.
- Togeella* Heinrich, 1980; Oriental.

Heresiarchini(=Protichneuonini):

- Chasmopyglum* Heinrich, 1967; Ethiopian.
- Gathetus* Cameron, 1901; Oriental.
- Lissophadnus* Cameron, 1907; Oriental.
- Luteocoelius* Heinrich, 1968; Oriental.
- Matinangarches* Heinrich, 1934; Oriental.
- Neoheresiarches* Uchida, 1937; Oriental.
- Pseudocillimops* Heinrich, 1969; Oriental.
- Punctileptops* Heinrich, 1967; Ethiopian.
- Stenapatetor* Heinrich, 1938; Ethiopian.
- Trogichneumon* Heinrich, 1968; Oriental.
- Trogopyga* Heinrich, 1969; Oriental.

Platylabini:

- Acantholabus* Heinrich, 1974; Oriental.
Carlsonia Heinrich, 1973; Nearctic.
Clypeolabus Heinrich, 1974; Oriental.
Cratolabus Heinrich, 1974; Oriental.
Ectopoides Heinrich, 1951; Oriental.
Hoploplatystylus Schmiedeknecht, 1912; Palaearctic.
Lissolaboides Heinrich, 1974; Oriental.
Neeurylabia Heinrich, 1967; Ethiopian.
Platybirmania Heinrich, 1974; Oriental.

Ctenocalini:

- Listrocalus* Heinrich, 1978; Palaearctic.

Compsophorini:

- Poecilodromus* Heinrich, 1975; Oriental.
Pyramidamblys Heinrich, 1967; Ethiopian.

Listrodromini:

- Poecilodromops* Heinrich, 1975; Oriental.

ORTHOCENTRINAE

- Atabulus* van Rossem, 1988; Palaearctic.
Epitropus van Rossem, 1990; Palaearctic.
Fetialis van Rossem, 1990; Palaearctic.
Kentrotryphon Strobl, 1902; Palaearctic.
Pantomima van Rossem, 1990; Palaearctic.
Phosphoriana van Rossem, 1987; Palaearctic.

PAXYLOMMATINAE

- Eurypterna* Foerster, 1962; Palaearctic.
Ghilaromma Tobias, 1988; Palaearctic.

PHRUDINAE

- Icaromimus* Seyrig, 1932; Ethiopian.

PHYGADEUONTINAE**Phygadeuontini:**

- Apotemnus* Cushman, 1940; Nearctic.
Cephalobaris Kryger, 1915; Palaearctic.
Diaglyptellana Horstmann, 1976; Palaearctic.
Dolichomastax Ceballos, 1924; Ethiopian.
Notostilbus Townes, 1983; Holarctic.

Mesostenini:

- Cyanodolius* Seyrig, 1952; Ethiopian.
Hackerocryptus Gauld, 1984; Australia.
Jonathanina Gupta, 1987; Oriental.
Piambia Seyrig, 1952; Ethiopian.
Pseudotricapus Jonathan, 1987; Oriental.
Savolia Seyrig, 1952 Ethiopian
Tretobasis Porter, 1973; Neotropical
Xylacis Porter, 1987; Neotropical

PIMPLINAE**Polysphinctini:**

- Afrosphincta* Benoit, 1953; Ethiopian

TERSILOCHINAE

- Diaparsis* (*Pseudaneuclis* Horstmann, 1971); Palaearctic

Horstmannolochus Gauld, 1984. Australia

TRYPHONINAE

Phytodietini:

Brevitubula Wang, 1983; Oriental

Tryphonini:

Parablastus M. Constantineau, 1973; Palearctic

Exenterini:

Eremodolius Kasparyan, 1985; Palearctic

Schelocentrus Kasparyan, 1976; Palearctic

The Adventures of ICHMAN



THE PUBLICATION DATES OF HEINRICH'S "SYNOPSIS AND RECLASSIFICATION OF THE ICHNEUMONINAE STENOPNEUSTICAE OF SOUTH AFRICA AND THE SAHARA"

by David Wahl
American Entomological
Institute

Heinrich's 5-volume *magnum opus* on Ethiopian ichneumonines is commonly cited as 1967-1968 (Heinrich (1977)) or 1967 (Gauld (1984) and Gupta (1987)). Townes and Townes (1973) cite the volumes as covering the span 1967-1969. Henry Townes' copy of volume V in the American Entomological Institute library has the dates he received his copies written adjacent to the printed dates of issue on page 1258. They are as follows (the printed dates of issue are in brackets):

volume I - December 20, 1967
[April 3, 1967]

volume II - December 20, 1967
[June 28, 1967]

volume III - June 18, 1968 [December 21, 1967]

volume IV - February 18, 1969
[June 20, 1968]

volume V - August 8, 1969 [November 10, 1968]

Henry Townes wrote the following passage below the dates; it is reproduced here in full: "In August, 1969, I asked Hilda Heinrich why the above dates are so much earlier than the dates on which I received copies. Her reply indicates that the above dates are the ones on which the books were printed in Germany. After this, a copy was sent air mail to Gerd Heinrich & the rest came by ship, through customs, and to Farmington State College. She believes that I am among the first subscribers to receive copies. This means that the publication dates are 7-10 days prior to the dates that I received my copies. H. Townes. Aug. 1969."

Given this information, the dates of publication should be regarded as those listed by Townes (and used in Townes & Townes, 1973). Systematists and users of catalogues should take these into account, avoiding such mixups as Gupta

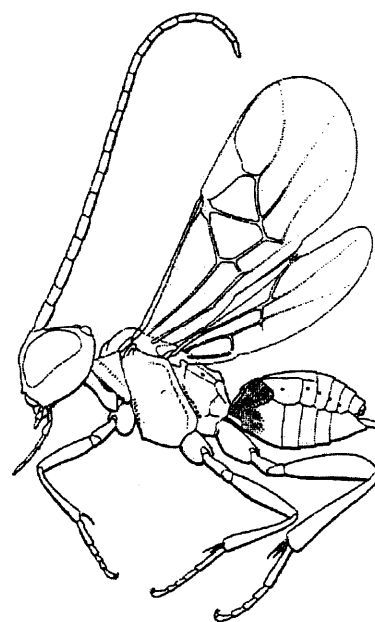
(1987) in which *Paraphyscoteles* Heinrich is cited as being described in 1968 but with the bibliography giving an unrelated publication for that year.

Literature Cited

Gauld, I.D. 1984. An introduction to the Ichneumonidae of Australia. British Museum (Natural History), London. 413 pp.

Gupta, V.K. 1987. The Ichneumonidae of the Indo-Australian area (Hymenoptera). *Memoirs of the American Entomological Institute* 42: 1-1210.

Heinrich, G. 1977. Ichneumoninae of Florida and neighboring states (Hymenoptera: Ichneumonidae, subfamily Ichneumoninae). *Arthropods of Florida and neighboring areas* 9: 1-350.



Dirrhopinae

ICHNEUMONIDAE GENERA AND SPECIES IN THE UNIVERSITY OF MINNESOTA COLLECTION

by John Luhman
Minnesota Dept. of Agriculture.

The University of Minnesota Insect Collection, St. Paul, is estimated to be the 8th largest in the U.S. for the number of identified ichneumonids. It has over 1,200 species, and 40,000 specimens, are determined to at least genus. Those needing specimens for revision will find most Nearctic, and some Neotropical material for most taxa. Recently much Neotropical material from Costa Rica has been added. I have identified all of the undetermined ichneumons in the following subfamilies, with diversity shown by numbers (by tribe) genus, and species (Genus/species). Those wishing loans should write to the curator, Dr. Phil Clausen, Dept. of Entomology, Hodson Hall, Univ. of Minnesota, St. Paul, MN 55108, USA.

Campopleginae (using new classification): 4 Tribes/30 Genera/31 spp., about 1000 mostly Helictini undet.

Ctenopelmatinae: 5 Tribes/45 Genera/61 spp. (includes 9 spp. of *Perilissus*).

Microleptinae *Cylloceria* 1/3.

Diplazontinae: 9/41.

Ichneumoninae (still working, with 85% identified): Phaeogenini- 5/5, and about 600 undet. to genus; Gyrodonmini- 31/137; Ichneumonini (=Protichneumonini: Heinrich)- 3/24; Listrodromini- 2/2; Platylabini- 4/13; Trogini- 6/9 + 9 undet. tropical species; Acanthojoppini- 3/1, + 4 undet. tropical species. Summary: 7 Tribes/54 Genera/191 spp., + 13 undet. tropical species.

Labeninae: 2/2, + 4 undet. tropical *Labena*

Pimplinae: Pimplini- 14/48; Polysphinctini- 9/22; Delomeristini- 3/7; Siacritini- 1/1; Echthromorphini

(=Ephialtini)- 7/33; Therionini-2/4; Poemenini (=Neoxoridini)-3/6; Rhyssini- 4/12; Sum= 8 Tribes/43 Genera/133 spp., + several undet. tropical species.

Xoridinae: 3/21.

All other subfamilies are also represented except Agriotypinae and Phrudinae.

REVIEW

FORWARD INTO THE PAST

[Review of TAXA, Dicky Yu, (see enclosed notice)]

by David Wahl
American Entomological Institute
Gainesville, Florida

In terms of accessibility and ease of study, ichneumonids have the odds stacked against them. The sheer size of the family, with at least 60,000 species worldwide, has discouraged many potential workers. Then there are the various historical factors: the 1869 Förster names; the proliferation of names in the late 19th - early 20th centuries that created a situation in which it was almost impossible to identify extra-Holarctic species; the *Opinions* of the International Commission on Zoological Nomenclature (ICZN) on certain crucial type species; Townes' use of a idiosyncratic family-group nomenclature at odds with that used by other zoologists; and finally the lack of a catalogue for the important fauna of the Western Palearctic. One would expect that a database of the world ichneumonid fauna would be a tremendously useful tool for organizing information for systematists and applied workers. Unfortunately, the database reviewed here is instead a step backward in ichneumonid studies and must be placed with the hindrances listed above. It is one of the most confusing and destabilizing taxonomic creations that I've examined. There are three major strikes against

this work: 1) it was put together by a non-systematist without any input from specialists; 2) it uses a species nomenclature that is not in accordance with the *International Code of Zoological Nomenclature* (henceforth referred to as "the Code"), and 3) it is riddled with errors and inconsistencies. I shall deal with each of these in turn.

1) Decisions are made and species assigned according by naive interpretation of recent literature, rather than by the author's judgment or informed scholarly opinion by advisors who are more cognizant of the situation. When two nomenclatures or taxonomic interpretations are at odds, Yu has followed the most recently published paper, rather than querying specialists (TAXA workbook, p. 1). He is "... not trying to create a 'catalogue' which would be a declaration of what I think the taxonomy of the group should be, but a system that reflects the published information available. If this means the system may yo-yo as taxonomists argue back and forth through their publications, so be it." (Yu, pers. comm.). This database is a de facto catalogue, however, although the author may not chose to call it such, especially for other hymenopterists and applied workers. I know of no taxonomic listing of similar breadth and aims that has not been the work of a specialist and has similarly reflected the compiler's specialized knowledge. For biological control specialists and other scientists with similar needs, this is one of the biggest strikes against TAXA. Applied workers need consistent and reliable nomenclature. As identifiers, we in the systematics profession strive towards this goal by examining the arguments for the application of a name and then sticking by them until such time as new evidence is brought forth. This concern is absent in TAXA and the use of this database by non-systematists is against their own best interests.

This deliberate blindness toward argumentation and evidence has led to egregious blunders. Two TAXA examples will suffice. A listing of

Pimplini from the United States gives species of both *Pimpla* and *Coccygomimus*. Any competent specialist knows that these are one and the same genus, with the name preference depending upon whether one follows the ICZN and its *Opinions*. As far as I can make out, if a species was originally described in *Pimpla*, it is kept there even if treated as *Coccygomimus* by later authors; if described in *Coccygomimus* but never placed in *Pimpla*, it remains in *Coccygomimus*. Another example is in *Ichneumon*. The numerous Western Palearctic species have never been authoritatively revised and a wide array of various ichneumonine genera (or even non-ichneumonines) lurk under the name. I printed out a list of 271 species and subspecies of German *Ichneumon*. After checking a variety of references that dealt with the genus as it is perceived today, I found that the true affiliation of 169 names is simply unknown; these include many species by Christ, Schrank, and other early authors which have not been dealt with since their description. The most prudent course of action would been to create a separate category of "*Ichneumon incertae sedis*" for all names not dealt with in modern publications. One may be sure that non-specialists will interpret these species as all belonging in the genus and thus produce conflated and misleading figures for various purposes.

2. Perhaps the single most damning aspect of this database is Yu's new system of species nomenclature, which he discusses at length in Yu (1993). He rightly points out that the recombinations of species under different genera, coupled with the necessity to conform with Latin grammar, creates homonymy that will interfere with computerized information retrieval systems. He is also right in stating that the original binomen is the only stable anchor that can correctly associate name variations. Unfortunately, he proposes that the rules of nomenclature be changed so that the original binomen becomes a permanent part of the scientific name, leading to such un-

wieldy monstrosities as *Stirexephanes signatus Togeiformosana* Uchida, 1926. Even worse, the system has been implemented in the database as if this was accepted procedure. This is all needless. I've discussed the situation with various systematists who are putting together large taxonomic databases and they point out that changing the *Code* is unnecessary: relational database programs can incorporate the original binomen as background keys that are invisible to the searcher but yet will associate homonyms. TAXA, however, is not a relational database and the unwieldy association of current combinations with original binomens is Yu's solution. Basically, the zoological community is being asked to make unnecessary nomenclatural changes due to deficient programming.

3. a) The endings of junior synonyms are changed, as an automatic function of TAXA, to the gender of the genus under which they are currently placed. This is not required by the *Code* nor followed in any other work of this nature. Valid names are not exempt from this either, as *Benjaminia maurus* is changed to *Benjaminia maura* even though the name was put forth as a noun in apposition (Wahl, 1989). While on the topic of specific names, I note that misspellings of specific epithets are rather common.

b) Species names proposed as "variety" or "form" are not listed as such in synonymies. An example is *Neotheronia lineata* var. *concolor* Krieger, 1905, which is listed simply as *Neotheronia lineata concolor*. Some names proposed as varieties after 1961, such as *Alomya debellator* var. *flavotibiata* Constantineanu, 1965, or *A. d.* var. *nigrita* Constantineanu, 1965, are listed as subspecies. Neither one is available under the *Code* (Article 45, e-g). In the Acaenitinae, *Lissonota ornatus* Hellén, 1937 and *trochanterus* Hellén, 1937 are listed as junior synonyms of *Coleocentrus excitator*; as both were proposed as aberrations (see Horstmann, 1990: 183 for a discussion of Hellén's aberrations),

they are not available (Article 45, e-f). I randomly came across these examples while checking taxa of personal interest and no doubt many more exist.

c) Ninety-six holotypes of the American Entomological Institute are erroneously listed as belonging to the Smithsonian Institution. The publication discussing the situation (Townes & Townes (1983)) was not examined.

d) Carlson (1979: 738-739) listed 21 Nearctic species as unplaced to subfamily or genus, 15 of which had the type missing. Yu has uncritically assigned the latter to various genera. For example, *Limneria illepida* Cresson is placed in *Olesicampe* since *Limneria* is a junior synonym of that genus. *Asymmetus nigrofrons* Davis is placed in *Alloplasta* on similar grounds. It is imprudent to place species in this manner and they should have been treated in a manner similar to Carlson's.

e) Townes (1971) listed 11 fossil ichneumonid genera, three of which were assigned to subfamilies. Since then, six more genera have been described, placed either in their own subfamilies (Tanychorinae and Pherhombinae) or in the tryphonine tribes Tryphonini, Oedemopsini, and Idiogrammatini. With the exception of *Pherhombus*, Yu has placed them all in the Ephialtitidae, which is peculiar considering that he cites no publications that would justify such action (and there are none to my knowledge). The fossil ichneumonid subfamily Tanychorinae (Rasnitsyn, 1980) is not even listed. Ephialtitidae and Ichneumonidae are placed in the Ichneumonoidea, even though Rasnitsyn (1988) excluded these taxa from the superfamily.

(The following sections list errors discovered while randomly checking subfamilies and taxa of personal interest. The reader should keep in mind that many more undoubtedly exist)

f) ACAENITINAE. All authors have considered *Leptacoenites* to be in the Coleocentrini, with the excep-

tion of Gupta (1987) who placed it in the Acaenitini. cursory examination of specimens reveals Gupta's placement to be a mistake. Such an anomalous record should have been referred to a specialist for clarification if the compiler was not qualified to investigate; instead, error is perpetuated.

g) ANOMALONINAE. Therini Viereck, 1918 is not listed as a synonym of Gravenhorstiini (treated as a subfamily in TAXA).

h) BANCHINAE. Lissonotini, which is used here, is a junior synonym of Atrophini (Gauld 1984). *Archoprotus porteri* Bréthes, whose type is lost, was treated by Townes & Townes (1966) as a possible atrophine. Yu has placed it, with no explanation, in the Banchini.

i) CAMPOPLEGINAE. This subfamily has more than its share of mistakes. Similar to the case of Nearctic *Pimpla* mentioned above, Nearctic *Dusona* has been split into *Dusona* and *Delopia*: species from this area are in *Dusona* (if one accepts Gauld (1984) on the matter), but not in both! Even though Gupta (1987) rejected the record of *Microcharops taitica* from Tahiti as an error, it is listed here as from that island. It is with the tribes, however, that massive mistakes are made. A maximum of five tribes are usually recognized (Townesian names in brackets): Nesomesochorini, Hellwigiini, Cymodusiini, Campoplegini [= Porizontini], and Limneriini [= Macrini]. Yu has managed to use six tribes, using both Campoplegini and Porizontini. Campoplegini is used in the traditional sense (consisting of *Campoplex* and related genera; Gupta (1987) places *Neolophron* and *Eucaphila* here, whereas Yu places them in his Porizontini). Porizontini is used as well, however, and the contents of Limneriini are split between the two tribes! Related genera are placed in different tribes (*Meloboris* and *Nepiera*, various genera of the *Hyposoter* complex, *Diadegma* and *Enytus*) contrary to all previous usage.

j) ICHNEUMONINAE. The mistakes in the Campopleginae find

their match in this subfamily. 1) Family-group names are incorrect. If *Alomya* is to be placed with *Phaeogenes*, the tribal name is Alomyini, as Townes & Townes (1951: 276) made a first-revisor decision in between the two. Yu uses Diller's (1981) subtribes and leaves out the subtribe Phaeogenina, leaving a large number of genera floating without subtribal affiliation. Gyrodontina should take precedence over Craticheumonina. Similarly, Heresiarchini is the correct name for Proticheumonini if *Heresiarches* and its relatives are kept within this tribe (as Yu does). 2) I was surprised to find *Amblyteles* recorded from North America, thinking that the genus contained only one species, the Palearctic *armatorius* Förster. The Nearctic species in question, *Amblyteles crudosus* Cresson, was placed in the genus by Townes (1945) although Carlson (1979) had deliberately left it as unplaced in Amblytelina. Ichneumonine taxonomy has advanced considerably since 1945 and unpublished notes of Townes in the AEI indicate that it is a species of *Diphyus*. A search of TAXA found 111 species were recorded in *Amblyteles*. These turned out to be mostly species described in the late 19th - early 20th century by Rudow, Berthoumieu, Tischbein, and other European authors when *Amblyteles* was a considerably more diffuse concept than today (the treatment of *Amblyteles* by Constantineanu (1959) and Perkins (1960) is in the old style). As in *Ichneumon*, prudence should have dictated Yu's actions. 3) Acanthojoppini and Jopocryptini are kept separate, although Heinrich (1977: 268) clearly indicated that Acanthojoppini was the junior synonym. 4) Heinrich (1977) and Carlson (1979) assigned the Nearctic Ichneumonini to subtribes. With no revisionary work on this fauna since these publications, why was the subtribal association so badly mishandled? *Homotherus*, *Anisopygus*, *Limonethe*, *Ectopimorpha*, *Stenobarichneumon* and a host of other genera are in the Ichneumonina; they should be placed in

Gyrodontina. In particular, *Stenobarichneumon*, *Vulgichneumon*, *Richtichneumon*, *Virgichneumon*, *Carinodes* and *Paraditremops* form a well-defined complex centred about *Melanichneumon*, which was correctly placed in Gyrodontina. Errors of this type can be found all over -- *Afrotrogus* and *Pepsijoppa* are placed in the Trogina, instead of the Callajoppina where Heinrich (1967) placed them. The most inexplicable action, however, is the placement of 19 Neotropical genera in the Ichneumonina in the absence of any publication. As Heinrich (1967) did not propose subtribes in Ichneumonini until after Townes & Townes (1966), the Neotropical ichneumonin fauna was not assigned to subtribes. Needless to say, the same errors afflicting the *Melanichneumon* complex mentioned earlier apply to this fauna as well. 5) In the Alomyini, both *Phaeogenes* and *Tycherus* are used: researchers who use *Tycherus* do so in the sense of Diller (1981), restricting *Phaeogenes* to *semivulpinus* Gravenhorst and its relatives. As used in TAXA, *Phaeogenes* contains numerous species that should be placed in *Tycherus*. Even if one does not agree with the separation of *Tycherus*, the situation here is guaranteed to please no one. 6) The publication dates of Heinrich's monographic series on Ethiopian ichneumonines are incorrect (see note on this subject, this issue of *Ichnews*); those given in Townes & Townes (1973) should have been followed.

k) LABENINAE. Labiini is used instead of Groteini, even though it is a junior synonym of the latter. The Clasini are retained in this subfamily, even though Gauld (1983) demonstrated that they do not belong here and should be regarded as a tribe of Phygadeuontinae.

l) OXYTORINAE. Oxytorinae, although otherwise seeming to conform to the restricted definition in Wahl (1990), includes *Epitropus*, *Fetialis*, and *Pantomima*. These clearly belong in the Orthocentrinae (Helictinae of authors); Yu was apparently confused by their appear-

ance in a paper dealing with Oxytorinae in a less restricted sense (van Rossem, 1990).

m) PHYGADEUONTINAE. The unfortunate decision was made to follow the few authors (Gupta, 1970, 1987; Jonathan & Gupta, 1973) who elevated the tribes to separate subfamilies (viz., Phygadeuontinae s.s., Hemigastrinae, Mesosteninae). As pointed out by Gauld (1984: 101), the tribes are closely related and no other authors recognize this action.

n) PIMPLINAE. *Eremochila* is placed with the Pimplini (*sensu* Fitton & Gauld (1976) -- due, I suppose, to confusion over the conflicting tribal nomenclature in the subfamily.

o) TATOGASTRINAE. Wahl (1990) is cited as providing a larval figure for *Tatogaster*. As stated in the paper, the larva is unknown.

p) TRYPHONINAE. Gupta (1988) restricted the Eclytini to *Eclytus*, and this was maintained in Townes *et al* (1992). Thymaridini is a junior synonym of Oedemopsini (Carlson, 1979). Yet in TAXA, oedemopsin genera are randomly distributed between Thymaridini and Oedemopsini. *Acaenitellus* is in Thymaridini, even though Gupta (1988) explicitly put it in Oedemopsini. *Eclytus* is also in Thymaridini. As far as I can make out, the genera in Oedemopsini are those mentioned in Townes *et al* (1992); thymaridin genera are those not mentioned (with the exception of *Thymaris* which apparently stayed with the tribal name.

Some final comments relating to appearance and utility of TAXA: The presentation of data on screen is rather primitive, below the standards of other taxonomic databases that I've examined. In particular, synonyms are presented in an unhelpful format. Arrangement is by the categories "synonym" and "junior synonym" and then within each category numerically by taxon number. Worst of all, past synonyms are listed even though those names have been transferred out of the taxon under examination. Using *Campoplex* as

an example, *Sinophorus* (with its junior synonym *Eulimneria*) and *Sesioplex* are listed as synonyms (even though they are recognized elsewhere as valid genera), along with *Phaedroctonus* (a junior synonym of *Porizon* and listed as such under that genus). This convoluted practice serves only to confuse the unwary who lack literature resources. Finally, about 7 megabytes of scanned digitized images are included. After installation of TAXA, the first priority of the user should be to dump the image files. The images are so crude that no really usable information is presented. I have a VGA screen and about all I could say was "well, yes, this looks like a cam-poplegine ..."

After all the errors of commission and omission listed above, and the reader should remember that these were found after only cursory examination, the question arises whether TAXA is of any utility. Indeed it is, but to only about 15-20 people worldwide. These are ichneumonid specialists who will find the list of literature exceedingly useful (which it is!) or will generate lists of species for various taxa or areas. I found it useful for finding overlooked species in various groups of my current research interest. Western European workers will appreciate it as a crude substitute for a catalog of that area. BUT: only these people will have the expertise and collection/literature resources to filter out the errors that affect this database. The benefits of TAXA to a few are far outweighed by its potential harm to many. TAXA cannot be used as a reliable guide to current ichneumonid taxonomy. Unless Yu puts the species nomenclature into accordance with current practice and brings an advisory panel of specialists on board to compensate for his unfamiliarity with ichneumonids, TAXA will remain a bountiful fount of bad scholarship to plague ichneumonid systematics for years to come. I cannot recommend its purchase to hymenopterists or the general entomological community.

(I wish to thank the following persons for input during the preparation of the review: John Barron, Ian Gauld, Gary Gibson, Klaus Horstmann, Charles Porter, Mike Sharkey, Larry Spears, and Chris Thompson.)

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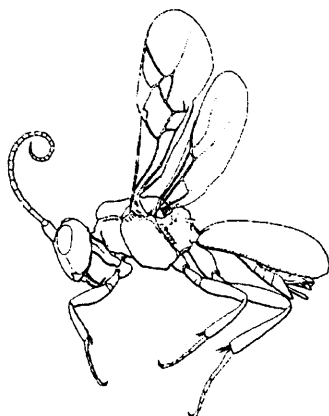
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Cheloninae

PERSONAL NOTES

Kees van Achterberg (National Natuurhistorisch Museum; Postbox 9517, 2300 RA Leiden, NETHERLANDS).

Current projects: 1. Revision of the genera of the Betylobraconinae and related groups. 2. Revision of the genus *Aleiodes* Wesm. of the West Palaearctic region, with M.R. Shaw. 3. Revision of the Australian Betylobraconinae, with A. Austin. 4. Revision of the Indo-Australian and Afrotropical Macrocentrinae. 5. Revision of the genus *Tropobracon*. 6. Illustrated key to the subfamilies of the Braconidae. 7. Revision of the Northwest European Opiinae and a key to the genera of the Palaearctic Opiinae, with J.W. van Zuijlen. 8. Several smaller papers on Opiinae and Alysiinae (*Asobara*, *Alysia*, *Aphaereta*), Ecnomiinae etc..

Museum notes: The staff of the National Natuurhistorisch Museum, Leiden is working hard to get acceptable plans for the new museum building to be opened in 1997. Finally the museum will have a large permanent exposition.

New literature: Achterberg C. van. 1993. Illustrated key to the subfamilies of the Braconidae. *Zoologische Verhandelingen*. 283:1-189.

Achterberg C. van. 1993. Revision of the subfamily Macrocentrinae from the Palaearctic region. *Zoologische Verhandelingen*. 286:1-110.

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Collection sites: for 1993 (Sept./Oct.) field research was planned on Sumbawa and the Sula Archipelago (Indonesia).

Aeschlimann (CSIRO; Bio-control Unit; 335 Av. Parguel; 34090 Montpellier, FRANCE).

Current projects: Work on Metopiinae of the Palaearctic.

Collection sites: Mediterranean area.

Alexandre P. Aguiar (Purdue University; 1158 Entomology Hall West Lafayette, IN, 47907-1158, USA).

Current projects: Revision of the Genus *Hemistephanus* Enderlein, 1906 (Hymenoptera: Stephanidae).

Request for help and cooperation: I have been looking for the types of *Hemistephanus peruanus* and *H. pehlkei* (Enderlein, 1906) [Stephanidae], but after writing to several museums in Europe, USA and Canada, I am still unable to locate them. The species were described from just one specimen each, and now I have evidence that they could be synonymous with previous described species of Cameron and Westwood. Any information regarding the location of these types will be highly appreciated.

Museum notes: The entomological collection at Purdue University has nearly 1,500,000 mounted insects, most from USA, but also from countries in South America and Africa. There is no estimate of the number of Ichneumonidea, but most of the Hymenoptera are non-identified ichneumonids. This collection may not be known by many professionals since Purdue's major emphasis is not on systematic research.

Rafael Alayo S. (Instituto de Ecología y Sistemática; Carretera de Varona Km 3 1/2; Capdevila, Boyeros, Apartado Postal 8010; 10800 Ciudad de la Habana, CUBA).

Current projects: Systematics and ecology of Cuban Braconidae.

Andy Austin (Department of Crop Protection; Waite Campus; University of Adelaide; P.O. Glen Osmond, S.A 5064, AUSTRALIA).

New literature: Achterberg, C. van & A.D. Austin (1992). Revision of the genera of the subfamily Sigalphinae (Hymenoptera: Braconidae), including a revision of the Australian

species. Zoologische Verhandelingen 280: 1-44.

Austin, A.D. & P.C. Dangerfield (1992). Synopsis of Australasian Microgastrinae (Hymenoptera: Braconidae), with a key to genera and description of new taxa. Invertebrate Taxonomy 6: 1-76.

Austin, A.D. & R.A. Wharton (1992). New records of subfamilies, tribes and genera of Braconidae (Insecta: Hymenoptera) from Australia, with description of seven new species. Transactions of the Royal Society of South Australia 116: 41-63.

Austin, A.D., R.A. Wharton & P.C. Dangerfield (1993). Revision of the endemic Australian subfamily Trachypetinae Schulz s.l. (including Cercobarconinae Tobias) (Hymenoptera: Braconidae). Systematic Entomology 18: 97-119.

Current projects: 1. Biology of *Mesostoa kerri*. 2. Revision of Betylobraconinae.

Other items of interest: Andy spent 3.5 months on study leave in November 1992-January 1993, working at collections around Australia. He spent 2 months at ANIC (Australian National Insect Collection) and 3 weeks doing field work in Northern Territory. Results were mediocre due to the prolonged dry season.

Nancy Beckage (University of California; Riverside, California 92521-0314; Assistant Professor of Entomology; Department of Entomology; 4435 Boyce Hall; USA).

Current projects: Assessment of the role of polyclivaviruses in causing alterations in host physiology. Isolation of venom components in species that paralyse their host. Requests for help or cooperation: Need assistance in collecting wasps: *Amophila*, eumenid species, ectoparasites with paralyzing venoms. (She will pay for collecting activities)!

Sergey Belokobylskij (Zoological Institute, Dept. of Entomology, Russian Academy of Sciences, 199164 St. Petersburg, B-164, RUSSIA)

Current projects: Sergey hopes to finish his revision of the Palaearctic species of *Spathius*, for this reason he would like to borrow any material from the southern Palaearctic including the south-eastern and south-western parts. He continues to work on a key to the braconid species of the Russian Far East. Sergey reports an excellent and very important visit to Ottawa Canada and College Station USA. (He was here for three weeks on a Canacoll grant and in Texas with a grant from funds available to Bob Wharton).

Miloje Brajkovi (Institute of Zoology, Faculty of Science, University of Belgrade, 16, Akademski trg, Belgrade 11000, Yugoslavia)

Current projects: Study of the Braconidae of Yugoslavia.

Request for help: Identification of species of the genera *Bracon*, *Apanteles* and *Opius*. Dr. Brajkovic also would like to have literature on braconids.

Ahmet Beyarslan (Trakya Üniversitesi; Fen-Ed. Fakültesi Biyoloji Bölümü; 22030 Edirne, TURKEY).

Current projects: Taxonomic research on the Braconidae fauna of the Eastern Marmara (Turkey).

Santiago Bordera (Departamento de Ciencias Ambientales y Recursos Naturales Facultad de Ciencias; Universidad de Alicante; Ap. Correos 99; 03080 Alicante, SPAIN).

Current projects: Study of the fauna of Cryptinae (Hym., Ichneumonidae) from the Iberian Peninsula.

Eurigie Ruiz Cancino (Universidad Autonoma de Tamaulipas; Fac. de Agronomia; Centro de Inv. y Desarrollo Agropecuario Forestal y de la Fauna, MEXICO).

Current projects: "I am now in the beginning of a research project about Hymenoptera and other natural enemies on pinyon pines in

Tamaulipas, Mexico. We are going to collect different pests too. I continue my collecting of Ichneumonidea and other Hymenoptera in different areas of Mexico."

Miroslav Capek (Boettlingrova 38; 636 00 Brno 36; CZECH REPUBLIC).

New Literature: Capek, M. & van Achterberg, C., 1992: A revision of the genus *Microtypus* Ratzeburg (Hym.: Braconidae). Zool. Med. 66:323-338.

Current projects: Braconids as parasitoids of economic pests.

Request for help: Reprints of papers on Braconidae wanted.

James M. Carpenter (Dept. of Entomology; American Museum of Natural History; Central Park West at 79th St.; New York, NY 10024, USA).

Current projects: Phylogeny of Aculeate families and various groups therein, with collaborators too numerous to mention "What do you want, at least it's the sister-group of the Ichneumonidea --- maybe."

Request for help or cooperation: "Now that you mention it, ethanol-preserved specimens of Vespidae s.l. would be useful, and I know all of you followers of Henry Townes have been diligent..."

Museum notes: The American Museum of Natural History recently brought its collection back out of storage, where it had been for several years during compactor constructions.

Collection sites: During a recent (Sept. 1992) trip, Jim drove 3000km through pine and eucalyptus plantations in Misiones, Argentina.

Ronald D. Cave (Depto. de Proteccion Vegetal; Escuela Agrícola Panamericana; Apdo. 93, El Zamorano, Tequicualpa, HONDURAS).

Current projects: Massing-rearing and release for establishment of *Cotesia plutellae* and *Diadromus collaris*. Inventories of natural enemies of key pests and general inven-

tory of parasitic Hymenoptera of Honduras.

Request for help or cooperation: Ronald has requested Malaise traps and in return he will supply specimens of interest collected in the traps.

Museum notes: The EAP collection currently holds approximately 3000 specimens of Braconidae (52 genera, 23 species identified) and 2000 specimens of Ichneumonidae (104 genera and 28 species identified).

Collection sites: Newly preserved areas (national parks, biological reserves) in Honduras want to know more about their fauna; Ronald can arrange collecting trips to these areas for anyone wanting to sample the entomodiversity.

Björn Cederberg (Mora Folkhögskola; Box 423 S-79227 Mora, SWEDEN).

Current project: Revision of North European Ophioninae.

Chao, Hsiu-fu (Biological Control Research Institute; Fujian Agricultural College; Fuzhou, Fujian 350002; P.R. CHINA).

Current projects: Chinese Agriotypidae, with descriptions of a new genus and three new species (Ichneumonidae) (in press). *Streblocera* from Fujian province. On the late Dr. H. Townes' collection of *Xanthopimpla* Saussure from Indo-Malaysia. Studies on Chinese *Spathiini* and *Xanthopimpla* (Ichneumonidae).

Museum notes: We have a collection of about 260,000 specimens of parasitic Hymenoptera in our Biological Control Research Institute, Fujian Agricultural College.

Chen, Jia Hua (Beneficial Insects Lab.; Dept. of Plant Protection; Fujian Agricultural University; Fuzhou, Fujian P.R. 350002, CHINA).

Current projects: Prof. Chen continues research on taxonomy of Chinese Aphidiinae and other Braconidae as well as biocontrol of aphids.

Request for help: Requests cooperation on taxonomic revisions of Chinese Braconidae and adaptation of indigenous parasitoids to exotic immigrants. Requests reprints of papers on Braconidae especially Aphidiinae.

Chen, Xuexin (Institute of Applied Entomology; Zhejiang Agricultural University; Hangzhou 310029; CHINA).

New Literature: The Chinese *Homolobus* species (Chen, 1991; Chen, He & Ma, 1991); the Chinese *Aleiodes* species with pale antennal segments (Chen & He, 1991); the Chinese *Acampsis* species (Chen & He, 1992); new records of *Aleiodes* species from China, i & ii (Chen & He, 1992); the Chinese *Formicia* species (Chen, He & Ma, 1993); a new species of *Agriotypus* from Hubbi, China (He & Chen, 1991); the Chinese *Sigalphus* species (He & Chen, 1993).

Current projects: Revision of the subfamilies Sigalphinae and Meteoridiinae (1992-1993), Rogadinae and Macrocentrinae (1992-1994) from China (with He Junhua).

Request for help or cooperation: Literature on the taxonomy and biology of Braconidae, especially on the subfamilies indicated above.

Collection sites: Chebaling and Heishiding natural reserves in Guangdong Province (vi. 1992); Gutian Shan natural reserve in Zhejiang Province (vii. 1992).

Paul C. Dangerfield (University of Adelaide; Waite Campus; Waite Rd.; Glen Osmond, South Australia 5064, AUSTRALIA).

Current projects: Taxonomy and phylogeny of the Indo-Australian & Pacific species of *Cardiochiles*. This project is likely to be expanded to a generic revision of the subfamily Cardiochilinae later in 1993.

D. Christopher Darling (Entomology - Royal Ontario Museum; 100 Queen's Park, Toronto, Ontario, CANADA).

Current projects: mouth parts of braconid subfamilies.

Requests for help or cooperation: anybody interested in seeing and identifying Hymenoptera from Indonesia.

Collection sites: Sumatra, Borneo.

Clement E. Dasch (160 Montgomery Blvd.; New Concord, Ohio 43762, USA).

New Literature: Nearctic Microleptinae, Helictinae, Cylloceriinae, & Oxytorinae. Mem. Amer. Ent. Inst. 52:1-470, 1992.

Current projects: Working on my private collection, especially Ichneumoninae.

Luis De Santis (Facultad de Ciencias Naturales y Museo; Paseo del Bosque; 1900 La Plata, REPUBLICA ARGENTINA).

Current projects. Dr. De Santis continues to work on the Braconidae and Ichneumonidae of Argentina.

Hugo Delfín (Universidad Autónoma de Yucatán, Facultad de Medicina Veterinaria y Zootecnia, Mérida, Yucatán, MEXICO)

Current projects: Hugo has recently started a Ph.D. on the systematics of the Braconidae. His area of research is still not exactly defined but he is thinking of working on some aspect of the faunistics of the Braconidae of the Yucatan.

Request for help: Hugo would like to have literature on Neotropical Braconidae.

Erich Diller (Zoologische Staatssammlung; Munchhausenstr. 21; D-8000 Munchen 60; Tel-Nr. (089) 8107-0).

Current projects: Systematics of Phaeogenini (Ichneumoninae). Revision of *Stenodontina* (Ichneumoninae, Phaeogenini).

Fernando Fernandez C. (Apartado Aéreo, 77038; Santa Fé De Bogotá 2 D.C., COLUMBIA).

Current projects: Curation of Hymenoptera at the Museo De Historia Natural, Universidad Nacional De Colombia, Santa Fe De Bogotá.

Parasitica and Aculeata survey of Hamacatacu National Park (Amazonas), La Macarena Reserve (Meta) and Zambrano Region (Magdalena).

Requests for help or cooperation: Identification, at least to genus, of ichneumonid, braconid, and other parasitica of the museum and my collection trips.

Collection sites: Colombia: Magdalena: Zambrano - dry forest on Magdalena rivers. Colombia: Meta: La Macarena - gallery forest, savannas and agro-ecosystems in north eastern Macarena Reserve. Amazonas: Pan Hamacayaru - rain forest near Amazonas River. Colombia: Choco: Riosurio - very humid rain forest near Atrato River.

Dominga Carolina Berta De Fernandez (Departamento Zoologia, Entomologia; Fundacton Miguel Lillo; Miguel Lillo 251; 4000 San Miguel de Tucuman; ARGENTINA).

Current projects: Ms. Berta has finished her doctoral thesis on Neotropical *Cremnops* and *Zacremnops*.

Eduardo Portuondo Ferrer (Centro De Ciencias Naturales; Ave. Manduley 308 esq. 13; Vista Alegre. Stgo. de Cuba, CUBA cp 90400).

Current projects: Systematics and Ecology of Cuban Ichneumonidae, especially Ichneumoninae.

Museum notes: My department has interesting material of the following taxa: Chalcidoidea, Ichneumonoidea, Proctotrupoidea and Cynipoidea, collected in mountains of eastern Cuba. Anyone interested in studying the material is welcome.

Request: I am interested in obtaining literature on Neotropical Ichneumonidae, especially Ichneumoninae.

Other items of interest: Systematics and ecology of Braconinae and Rogadinae.

Maximilian Fischer (Direktor Der 2 Zoolog.ABT. AM; Naturhistorischen Museum; A-1014 Wien, Burgring 7, AUSTRIA).

Current projects: Emendation to the revision of the Opiinae of the Old World (Braconidae). Opiinae-fauna of Finland (together with M. Koponen). Opiinae-fauna of Turkey (perhaps together with A. Beyarslan). Revisionary studies on Old World Alysini. Revisionary studies on *Calyptus* and related groups by Peter Stadlhofer.

Requests for help or cooperation: Dr. Fischer would like to obtain information on collections of Old World Alysini (identified or not). Presumably he would like to borrow them for his revisionary studies.

Dr. Fischer would also like to know if anyone has any ideas (published or not) for the function and evolution of the cyclostome condition found in many Braconidae. Also the function of the carapace found in many and diverse groups of Braconidae.

Museum notes: Dr. Fischer has indicated that his museum may have limited funds to purchase collections of Braconidae. Please let him know if you have anything to offer.

Mike Fitton (Dept. of Entomology; The Natural History Museum; London, SW7 5BD; ENGLAND).

Current projects: Phylogeny of Ichneumonid subfamilies (with Donald Quicke). Hymenopterous parasitoids of British/European butterflies (with Mark Shaw).

Ulf Gardenfors (Dept. of Wildlife Ecology; Box 7002, S-750 07 Uppsala, SWEDEN).

Current projects: "I now have a position at the Threatened Species Unit (working with Red-Listed invertebrates), but I still try to work a bit with the aphidiines."

Ian Gauld (The Natural History Museum; Cromwell RA; London SW 7 5BD; U.K.).

Current projects: Ichneumonidae of Costa Rica: subfamilies Anomaloniinae, Typhoninae, Ctenopelmatinae, Lycorninae, Phrudinae and Pimplinae (additions). Book (with co-editor P. Han-

son), *Hymenoptera of Costa Rica*, with chapters by Scott Shaw, Jim Carpenter, Dave Smith, Lynn Kimsey, Denis Brothers, the innumerable New World chalcidologists, Massimo Olmi, Mary-Jane West-Eberhard and others.

Milka Glavendekic (Forestry Faculty of Belgrade University; Kneza Visislava 1; YU-11030 Beograd, YUGOSLAVIA).

Current projects: Fauna of Yugoslavian Ichneumonidae. Fauna of Durmitor Mountain.

Museum notes: I visited Zoologischen Staatssammlung Munchen in Feb.-March 1993.

Collection sites: Montenegro: Durmitor, Adriatic Sea. Serbia: National Park "Djerdap", Kopaonik Mountain, Raska.

Vladimir E. Gokhman (Plant Protection Division; Botanical Garden; Moscow State University; Moscow 119899, RUSSIA).

New literature: Gokhman, V.E. 1992. On the origin of endoparasitism in the subfamily Ichneumoninae (Hymenoptera, Ichneumonidae). Zhurnal Obshchei Biologii 53: 600-608.

Current projects: Investigation of the phylogenetic affinities of the subfamily Ichneumoninae (together with M.G. Fitton and D.L.J. Quicke). Study of ichneumonids of the tribe Phaeogenini from the Russian Far East. Karyological study of Russian Ichneumoninae.

Request for help or cooperation: Specimens of Phaeogenini from the Palaearctic (especially from the Far East) for loan/exchange. Any living Ichneumoninae (preimaginal stages/adult females).

Museum notes: April 1993 - study for a few days of the collection of Phaeogenini and some other ichneumonids at the British Museum of Natural History.

Collection site: Summer 1992 - collected Ichneumoninae in the Moscow and Volgograd regions.

V.K. Gupta (Entomology Dept.; University of Florida; Gainesville, Florida 32611-0620, USA).

Current projects: Taxonomy of Ichneumonidae of Florida - Handbooks. Taxonomy of Oriental Ichneumonidae. Revisions of genera. Database of ichneumonid literature.

He, Junhua (Institute of Applied Entomology; Zhejiang Agricultural University; Hangzhou 310029, CHINA).

New Literature: A supplementary catalogue of Ichneumonidae from China (HE, 1992); the Chinese *Sigalphus* species (HE & CHEN, 1993); the Chinese *Homolobus* species (CHEN, HE & MA, 1991); the Chinese *Acampsis* species (CHEN & HE, 1992); the Chinese *Fornicia* species (CHEN, HE & MA, 1993).

Current projects: Revision of the Chinese members of the subfamilies Sigalphinae, Meteoridiinae (1992-1993), Rogadinae and Macrocentrinae (1992-1994) (with Chen Xuexin).

Request for help or cooperation: Literature on the taxonomy and biology of Braconidae, especially on the subfamilies indicated above.

Collection sites: Chebaling and Heishiding Natural Reserve in Guangdong Province (vi.1992); Gutian Shan Natural Reserve in Zhejiang Province (vi.1992).

Erasmus Haeselbarth (Zoologische Staatssammlung, Münchhausenstr. 21, d-81247 München, GERMANY).

Current projects: Dr. haeselbarth is retired but continues his studies on European, *Ichneutes* and some Euphorinae (*Perilitus*, *Microctonus*, and *Syntretus* and allied genera)

Klaus Horstmann (Lehrstuhl Zoologie III; Biozentrum; Am Hubland; W-8700 Würzburg, GERMANY).

New Literature: "I regret that you do not further include lists of literature in the ICHNEWS. I understand the reasons for not doing it, but these lists were an important source for

literature for me - being not employed in a museum or an institute with a large library". (Editor's note: If enough readers have the same opinion we will reintroduce a recent literature section. My feeling is that most readers don't need the service. Please let us know how you feel about this when you return the 1994 questionnaire.)

Current projects: Conclusion of the revisions of Western Palearctic Tersilochinae. Revisions of several genera of Western Palearctic Campopleginae and Cryptinae-Phygadeuontini. Search for types and type revisions of Western Palearctic Ichneumonidae.

Museum notes: The types of Ichneumonidae described by Pic and Berthoumiae present in the Paris Museum are now labelled and listed. This done, more than 95% of types of Western Palearctic Ichneumonidae present in the Museum National d'Histoire Naturelle Paris are now recognized and labelled, and most of them are placed into separate boxes.

A. B. Jakimavicius (Institute of Ecology; Akademijos 2; Vilnius 2600, LITHUANIA).

Current projects: Generalised research on the Braconidae of Lithuania.

Jim Johnson (Dept. of Entomology; Michigan State University; 243 Nat. Sci. Bld 8; East Lansing, MI 48824-1115, USA).

Current projects: Revision of the species of American *Aphidius* north of Mexico is ongoing. Population genetics and morphometric analysis of native and exotic aphid parasitoids - This project is investigating parasitoids of the Russian wheat aphid *D. noxia*, both from a biochemical and morphological basis. Primary groups of interest are native and exotic *Diaeretiella rapae* and *Aphidius* spp.

Ronald Klunker (Bundesgesundheitsamt Laboratorium f. gesundheitsschadl. Arthropoden; Thielallee 88-92, PF 33 00 13; D-1000 Berlin 33, GERMANY).

New Literature: Klunker, R. & Fabritius, K. (1992): Bibliographie über Pupariumparasitoiden synanthroper Fliegen.-Beitr. Entomol. Berlin 42(2):331-429.

Jank Kolarov (Department of Zoology; Biological Faculty; University of Sofia; 8 Dragan Zankov Boul., 1421 Sofia, BULGARIA).

New Literature: Kolarov, J., 1992. A catalogue of Ichneumonidae from Albania Entomofauna 13(16): 261-268. Kolarov, J., 1992. On the Hibernation and spreading of some ichneumonids. Acta Zool. Bulg., 45, 104-106.

Current projects: Catalogues of Balkan countries, Turkey and Cyprus (Ichneumonidae), Taxonomy of Cremastinae of these regions.

Requests for help or cooperation: Materials and literature from the region.

Collection sites: Dr. Kolarov has been collecting in the Balkan countries and Cyprus.

Dolly M. Lanfranco Leverton (Institute de Silvicultura; Universidad Austral de Chile; Casilla 567; Valdivia, CHILE).

Current projects: Biological control by parasitoids in *Rhyacionia buoliana* (pine shoot moth) and *Sirex nortilio* (woodwasp) a potential pest for Chile.

John Luhman (Minn Dept. of Ag.-PPD; 90 W. Plato Blvd.; St. Paul, MN, USA 55107).

Current projects: Revision of subtribe Stilpnina (Phygadeuontinae, Ichneumonidae); Identifying undetermined Ichneumonids in University of Minnesota collection.

Other items of interest: "Ichneumoninae workers! I have a complete list with data of all the Enderlein types and Heinrich types in the collection of the Institute of Zoology, Polish Academy of Sciences (=PAN), Warsaw. The former is in press the latter, in preparation.

Paul M. Marsh (P.O. Box 384 North Newton, Kansas 67117; USA).

Current projects: Continuing study of the North American species of the genus *Aleiodes* with Scott Shaw. Probably about 80 species including new species.

Other items of interest: On September 30, 1993 I retired from the Systematic Entomology Laboratory after nearly 30 years of enjoyable service. I have moved to Kansas where I plan to continue work on unfinished projects, albeit at a more leisurely pace. (Editor's note: Paul has also stepped down as a co-editor of *Ichnews*.)

Kaoru Maeto (Forestry and Forest products research Institute, Hokkaido Research Centre, Hitsujigaoka 7, Toyohira, Sapporo, JAPAN 062).

Current projects: 1. Intergeneric variations in the male genitalia of the Microgastrinae. 2. Japanese species of Microgastrinae. 3. Braconid fauna of the Pasoh Forest Reserve, Peninsular Malaysia.

Bob Matthews (413 Biological Sciences Building, Dept. of Entomology, University of Georgia; Athens, Georgia, 30602 USA).

Requests for help or cooperation: I would like to obtain any live *Melittobia* (Eulophidae) taken from bumble bee nests.

Sergio M. Ovruski (Centro De Investigaciones Para La Regulacion De Poblaciones De Organismos Nocivos; C.C. 90-4000 San Miguel de Tucumán, ARGENTINA).

Current projects: "I am working on my Doctoral Thesis on the biology, taxonomy and economic importance of parasitoid Hymenoptera attacking fruit flies in Argentina. I am especially concentrating on the biology of *Doryctobracon brasiliensis* and *D. tucumanus*. In January 1993, I spent one week in the Department of Entomology of "Escuela Superior de Agricultura" "Luiz de

Queiroz" da Universidade de São Paulo, Brazil" studying braconid parasitoids of fruit flies in Brazil.

Requests help or cooperation: I need literature on the biology of *Doryctobracon*, *Opius* and other genera.

Angelica Maria Penteado-Dias (Universidade Federal de São Carlos; Centro de Ciencias Biologicas e da Saude; Departamento de Ecologia e Biologia Evolutiva; Via Washington Luiz, km 235 - Caixa Postal 676; CEP 13565-905, São Carlos, SP, BRAZIL).

Current project: Dr. Penteado-Dias is working on the biology and taxonomy of Braconidae from Brazil.

Request for help and cooperation: I would like to obtain literature on Neotropical Braconidae. I hope to help in the production of the key to the genera of Braconidae of the New World.

Collection sites: (1992) collecting trips were in Brazil areas of "cerrado" and forest.

Donald Quicke (Dept. of Biology, Imperial College at Silwood Park, Ascot, Berks SL5 7PY, ENGLAND. Email address d.quicke@ic.ac.uk)

Current Projects: Revision of world species of *Yelicones*. (North American species are almost completed Oriental species are next.) Mike Fitton, David Notton and I are now nearing completion of a meganalysis of ichneumonid relationships including lots of new internal characters

"What's New at Silwood? Following my move to Silwood Park (part of Imperial College) under the NERC's Initiative in Taxonomy last October, there have been a number of new developments on the research front. Of course, ovipositor, sperm, venom gland and alpha-taxonomic work still feature high but work is also now under way on a number of molecular projects including the relationships between ichneumonoid subfamilies and between the genera of various braconid subfamilies.

Work on the increasingly large genus *Yelicones* is progressing though slower than hoped, as are revisions of Indo-Australian *Physaraia*, *Trigastrotheca* and *Cosmophorus* (with C. van Achterberg). Other members of the group have also been busy. Professor You Lanshao from Hunan, China, has been visiting for six months trying to get to grips with the genera of Braconinae and also describing a few new Chinese species. Jamil Chishti is nearing completion of his Ph.D. and the revision of Indo-Australian *Stenobracon*. Whilst new Ph.D. students, Md Ismail Miah and Azidah Abdul Aziz are coming to terms with various ichneumonids.

My Ph.D. student from Turkey, Hasan Basibuyuk who is working in the Entomology Department of the Natural History Museum, London, is now trying to integrate his studies of antennal and antenna cleaner morphology with grooming behaviour and he would be particularly interested in hearing from anyone who might be able to help him obtain living material of any of the following hymenopterans: Pamphiliidae, Siricidae, Stephanidae, Orussidae, Trigonalysidae, Aulacidae, Peleciniidae, Ibalidae and Vanhorniidae. He can be contacted by phone (071 938 9148) or e-mail c/o d.quicke@ic.ac.uk. Postage and packing costs would be reimbursed of course.

The Ichneumonoid Research Group (IRG) an informal group in the NHM's Department of Entomology, within the framework of the museum's science programme/research group system. The group comprises 14 people co-led by Mike Fitton, Donald Quicke and Ian Gauld and includes four graduate students. Research projects are centred around hymenopteran and especially ichneumonoid taxonomy. Most of the members work at the Natural History Museum, but a few are based at Silwood Park, the out-of-town half of the Imperial College Biology Department. The research group meets approximately every month for research talks or seminars on such top-

ics as wing venation, cladistics and preparing illustrations for publication."

Other items of interest: ARTY WASPS AND WASPERS? "As a bit of fun I'm trying to compile a list of works of art in museums that include parasitic wasps. I know there are not many but my experience of walking around galleries has shown that a surprising number of Old Master still-lives have a parasitoid posed on some fruit or suchlike. The postures of the beasts illustrated are also informative, some were almost certainly seen alive but others have that characteristic window ledge look!"

Alexandr P. Rasnitsyn (The Arthropoda Laboratory, Paleontological Institute, Russian Academy of Sciences, Profsoyuznaya Str. 123, Moscow 117647, RUSSIA)

Current Projects: Dr. Rasnitsyn reports that due to the dire economic conditions in Russia and especially in his laboratory he has no progress in his science to report to the readership of *Ichnews*.

Other items of interest: Dr. Rasnitsyn had a few comments on the article by David Wahl and myself in the first volume of the *Journal of Hymenoptera Research*.

Sharkey and Wahl, Pg. 19: "We are unaware of any Apocrita with two r-m crossveins, with the exception of some braconids." *Lepthialtitis gigas* A. Rasnitsyn (Ephialtitidae, cf. Rasnitsyn 1975, Hymenoptera Apocrita of Mesozoic: Fig.19) had two r-m crossveins (I believe due to a reversion and not as a symplesiomorphy with symphytans).

Sharkey and Wahl, Pg. 20: "Mason (1981) was the first to examine Hybrizon's relationship to Ichneumonidae and braconidae from a phylogenetic perspective." Rasnitsyn (1980:pg81) did this a year before with the same result.

(Editor's note: We welcome corrections, comments, and reviews of published articles.)

Azhar Saeed (Department of Crop Protection; Waite Campus, University of Adelaide; Glen Osmond. SA-5064, AUSTRALIA).

Current projects: I am a post-graduate student from Pakistan, sponsored by the Rotary Foundation and I am working with Andy Austin towards a Ph.D. My research project is on the systematics and phylogeny of the genus *Diolcogaster* Ashmead and will include a revision of the Australian species.

Request for help or cooperation: Although I have borrowed most *Diolcogaster* specimens from the major world collections, I will be very interested in receiving any more material collected from the Indo-Australian region, particularly if it has associated host data.

Martin Schwarz (Universität Salzburg, Zoologisches Institut, Hellbrunnerstrasse 34, A-5020 Salzburg, AUSTRIA)

Current Projects: Dr. Schwarz is revising the wingless species of *Gelis* of the Western Palaearctic region as well as various genera of Cryptini of the Western Palaearctic.

Michael J. Sharkey (BRD, CLBRR, CEF, Agriculture Canada, Ottawa, Ontario, K1A 0C6 CANADA. Email address: sharkeym@nccot2.agr.ca)

Recent Literature: Sharkey, M.J. (1992) Cladistics and tribal classification of the Agathidinae. *The Journal of Natural History* 26:425-447. Sharkey, M.J. (1993) Braconidae. pp.362-395 in *Hymenoptera of the World*, Goulet, H. and J.T. Huber eds.. Agriculture Canada Publication 1894/E pp. 688.

Current Projects: A revision of the world genera of Ichneutinae, in press in *The Journal of Natural History*, (with R. Wharton). Revision of the Japanese species of Agathidinae (I'm almost finished, honestly). Revision of the Agathidinae of the Russian Far East. Revision of the Agathidinae of Korea. Revision of the genera of Cremnoptini and Disophrini (Agathidinae). Description of a new species of *Sigalphus* from

Costa Rica. As a member of the Parasitic Hymenoptera Advanced Research Team, I have a number of responsibilities. I will be writing a key to the subfamilies of the Braconidae of the New World - keys to the genera of the Agathidinae, Helconinae s.l. and several smaller subfamilies. As well I am responsible for creating an interactive key for all of the genera of Braconidae of the New World. I have completed the genera of the Ichneutinae in this fashion, and anyone wishing a copy need only send me a floppy disc (any size). Presently I am using the software DELTA but I am also looking at some other programs before I commit myself. If anyone has any suggestions please let me know.

Request: I would like to borrow any Agathidinae from the east Palaearctic especially Korea and mainland China.

Mark R. Shaw (Royal Museum of Scotland; Chambers Street; Edinburgh EH9 2LU; Scotland, UK).

Current projects: Interests: Biology and taxonomy of Ichneumonidae especially those parasitising Lepidoptera and of Spiders. Host range/community structure of parasitoids. Currently working on European *Aleiodes* with Kees van Achterberg.

Request for help or cooperation: I would like to see reared W. Palaearctic *Aleiodes* s.lat.

Scott R. Shaw (University of Wyoming; Department of Plant, Soil, and Insect Sciences; College of Agriculture; P.O. Box 3354, Laramie, WY, USA).

Current projects: Book chapter on Costa Rican braconids is due for publication soon. Revision of North American species of *Aleiodes* (with Paul Marsh). Phylogeny of *Aleiodes*. Chapters on Rogadini, Neoneurinae, Meteorinae, Euphorinae, and Cheloninae for the Identification Manual to Braconid Genera of the New World. A new genus of Euphorinae (sister-group to *Cryptoxilos*). Behaviour of *Neoneurus*.

Other items of interest: As of the fall of 1993 Scott has had two new graduate students: "Joseph Fortier is working on the cladistics of *Aleiodes* funded by a three year grant from the National Science Foundation. Nina Zitani is currently working on a new species of *Meteorus* from Costa Rica (that apparently has a defense against leaf-cutter ants). Scott's undergraduate student Jeri Wright recently won a honourable mention at the ESA meeting in Indianapolis for her work on "anomalous diversity" and Costa Rican Braconidae. More importantly, Jeri was recently awarded a Rhodes Scholarship and will attend Oxford University next fall. She is interested in tri-trophic interactions of plants/leafminers/and parasitoids (especially *Mirax*).

Requests for help and cooperation: We are already swamped in *Aleiodes* specimens from various collections, but we are always interested in seeing more material if it is reared (send the mummies). Willing to exchange identified New World *Aleiodes* for identified *Aleiodes* from other regions.

Collection sites: Travelled to Brazil (August 1992) and Costa Rica (March 1993).

Rajendra Singh (Aphid-Biocontrol Laboratory; Department of Zoology; University of Gorakhpur; Gorakhpur-273009; INDIA).

Current projects: "Faunistic survey of aphids and their aphidiine parasitoids in terai belt of N.E. Uttar Pradesh to explore the possible biological control agent against the aphids of economic importance. Factors affecting life-table of and sex allocation by an aphid parasitoid *Lysiphlebus delhiensis* (Subba Roa & Sharma). (Editor's note: In some of the responses that I received I came across the name Aphidiidae; I have exercised my editorial powers and changed these to Aphidiinae)

Special interests: Biology of aphid parasitoids and their inter-trophic relationships.

Cooperation: Dr. Singh would like to, 'exchange ideas and materi-

als about aphids, their parasitoids, hyperparasitoids.'

Petr Star (Institute of Entomology; Czech Academy of Sciences; Branišovská 31; 370 05 eské Budjovice; CZECH REPUBLIC).

Current projects: 1992-93: FAO consultancy - *Diuraphis noxia* Mordv./in Chile. Biocontrol. Parasitoids of *D. noxia* - world. Neotropical Aphidiidae, esp. Chile. Aphidiidae associated with *Nothofagus*-aphids.

David Wahl (American Entomological Institute; 3005 SW 56th Ave.; Gainesville, FL 32608-5047; USA).

Current Projects: Labenine and mesochorine generic revisions have been published or are in press, various small projects are under way, and I am nearing the end (hopefully) of the generic revision of Alomyini (Phaeogenini of authors).

Museum Notes: Most of my time this year has been spent on curatorial duties at the AEI. The collection has finally broken the one million mark. There are approximately 589,000 ichneumonids and 161,000 braconids (other holdings include 18,000 "Symphyta", 19,000 misc. small parasitoid families, 77,000 "microhymenoptera", and 184,000 Aculeata). The ichneumonids have been completely recurated and a major effort is underway to update the AEI literature resources. It should be mentioned that the ichneumonid habitus drawings used in the 4 volumes of Genera of Ichneumonidae have been sorted out and filed away, and are available for use (with certain restrictions).

Robert (Bob) E. Wharton (Department of Entomology, Texas A&M University, College Station, Texas 77843, USA)

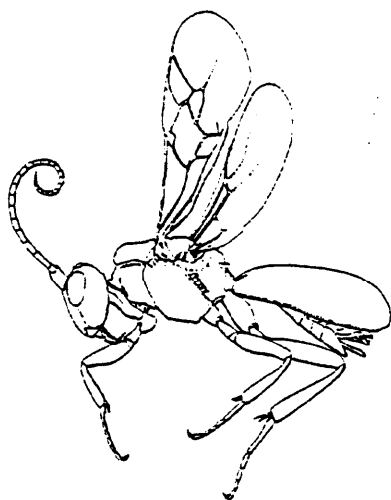
Current Projects: Bob received a NSF grant to fund the efforts of the Parasitic Hymenoptera Advanced Research Team, which is composed of 7 principle investigators: Kees van Achterberg, Jim Johnson, Paul Marsh, Donald Quicke, Mike

Sharkey, Scott Shaw, Bob Wharton and Jim Whitfield. Together, under the direction of Bob and Paul Marsh, the team is preparing an illustrated key to the genera of New World Braconidae. This will be in a similar format to the key produced by Marsh, Shaw and Wharton which dealt with the braconid fauna of America north of Mexico except that there will be a subfamily key included and more in the way of text to outline the diversity and biology of the Braconidae. According to commitments made to NSF the project is to be completed in August of 1996 and one can reasonably expect a published product a year thereafter. As part of the NSF funding Dr. Wharton is committed to presenting several courses on the identification of the Braconidae. In August he travelled to a research station near Chamela which is several miles from the Pacific Ocean in the state of Jalisco, Mexico (along with yours truly, MJS) to give a course to a group of Mexican students and professionals. The research Station is surrounded by seasonally dry deciduous forest and is a great place to collect. There are inexpensive and high quality accommodations and meals to be had right at the reserve. For information the interested reader can write to Felipe A. Noguera, Estación de Biología, UNAM, Apartado Postal 21, San Patricio, Jalisco 48980, México.

Besides his responsibilities with PHART, Bob is continuing some studies on Australian Braconidae and remains busy with his non-braconid research on endangered birds and fruit flies.

Zettel, Herbert (Naturhistorischen Museum; A-1014 Wien, Burgring 7, Austria).

Recent Literature: 1992. Revision der Phanerotoma-Arten Nordamerikas (Hym., Braconidae, Cheloninae).- Linzer biol. Beitr. 24/1:275-330.



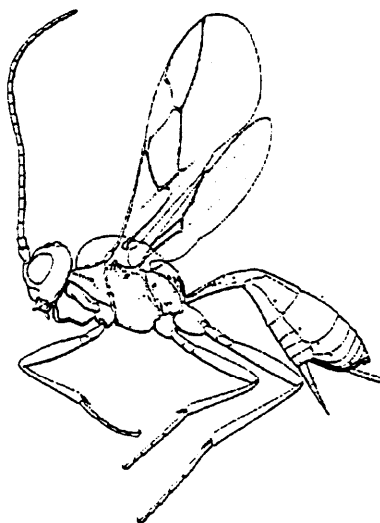
Cheloninae

ANNOUNCEMENTS

INSECT PARASITIDS SIG FIELD WEEKEND

Following the success of last year's 1st Insect Parasitoids SIG field weekend, it has been decided to organise a 2nd for a weekend in early June this year. The location will be the same: the 245 acres of diverse habitats which surrounds the Imperial College Department of Biology at Silwood Park near Ascot in Southern England. Last year, the meeting was attended by some 20 RES members and several interesting discoveries were made including the discovery of living *Histeromerus* which has even led to a publication. In addition, novices in the field (both senses) were given some informal tuition in how best to net (or otherwise) their prey. This year it has been decided to extend the invitation to members of the International Society of Hymenopterists in the hope of further increasing communication between people with similar interests. Accommodation will be in clean and tidy (though not plush) student rooms on site. Some double rooms

are available in addition to singles. The cost will be £60.00 inclusive of bed and breakfast on 10th and 11th and packed lunches for Saturday and Sunday. Participants requiring accommodation for shorter periods will pay proportionately less. Silwood Park is easily reached by train from London and the journey takes approximately 50 mins. Further details from: Donald Quicke, Dept. of Biology, Imperial College at Silwood Park, Ascot, Berks SL5 7PY, England. Email address d.quicke@ic.ac.uk



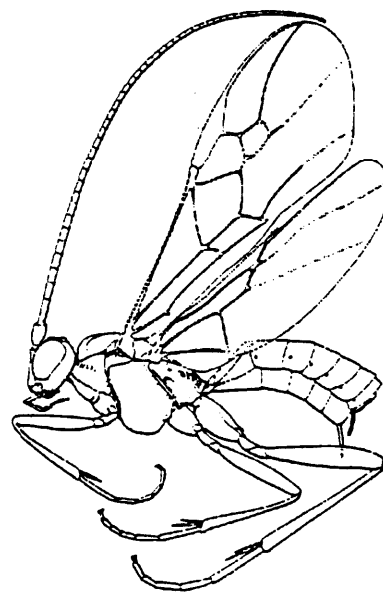
Euphorinae

TAXONOMY AND BIOLOGY OF PARA- SITIC HYMENOPTERA

A short residential course run jointly by the Department of Entomology, The Natural History Museum, London and the Department of Biology, Imperial College, University of London. The cost will be £550 all per participant, with dates set for 24 April to 1 May 1994, at Imperial College, Silwood Park, London England. For further details please contact: Dr. Mike Fitton, Dept. of Entomology, The Natural History Museum, Cromwell Road, London, SW7 5BD, England.

HYMENOPTERA WORK- SHOP "V"

The Canacoll Foundation in collaboration with the Centre for Land and Biological Resources Research will present for the fifth time a course aimed towards identification of Hymenoptera to family and subfamily level. This will take place June 22-23, 1994 at the K.W. Neatby Building, Central Experimental Farm, Ottawa, Canada. The course fee is \$400.00 (Cdn.) and limited to 14 participants. Further information from: Mike Sarazin, CLBRR, K.W. Neatby Bldg. CEF, Ottawa, ON. K1A 0C6. FAX: (613) 995-1823. TEL: (613) 996-1665.



Homolobinae

Ichnews was assembled using WPerfect, Corel, and Ventura programs, with the new found expertise of Eric Rickey.

TAXA

1) **TAXA**, a biosystematic data management system,
and a Ichneumonidae data set.

TAXA is a software system that manages records of taxonomic names. It operates on any **IBM** compatible personal computer with a hard disk memory. All published taxonomic and biological information can be entered into the system, for example, the author's name, the year of original description, current and past combinations, current and past junior synonyms, description, distribution, revision, catalogues, biology, hosts etc. Each entry includes a source reference. The taxa are arranged in a taxonomic hierarchical tree with kingdom as the highest possible level and subspecies and synonyms as the lowest level.

TAXA can create various lists of species depending on the conditions set for the search procedure, e.g., a list of taxa parasitizing a certain host, a list of taxa occurring in Canada or a list of types in a museum. **TAXA** can also generate various statistics, e.g. the regional distribution or the average body size of any taxonomic group. The Ichneumonidae data set includes 35,173 names, 485,883 records of referenced information and 921 digitized line drawings taken from 4,351 references covering the period from 1900 to 1990. The program and the data set occupy 19 megabytes of memory.

2) **REFIND**, a references management system.

REFIND is an **IBM** compatible software system that manages references for fast retrieval. Each reference is composed of an identification number, the year of publication, the name or names of the author, the title of the reference, the source from which the reference was found and comments. **REFIND** is capable of creating bibliography and importing and exporting references.

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