



The newsletter of the Society of Australian Systematic Biologists.

Issue 4 (July 2010)

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Editorial

A **recent article** in the UK newspaper “The Telegraph” puts Sir David Attenborough on the record for speaking against UK laws restricting collecting and fossil hunting. His reason being that they restrict the ability for people, especially children, to explore, collect, and identify the creatures that share the world with us. The ability to collect fosters an interest in natural history that in turn connects us to the environment and gives us an appreciation for its beauty, fragility and worth.

Over the past few months I have talked to primary school students about insects and what I do. I can attest to the interest, enthusiasm and enjoyment they show in the world around us. Providing encouragement and advice for children who show interest in natural history is an area where professionals such as ourselves can make a real impact. Unfortunately, these activities are largely unrecognised by most measures of professional endeavour. The latest Taxonomy Australia meeting highlighted the need for more taxonomists to work on the Australian fauna. (see Penny Mills’ **article** later in the issue). If we are serious about filling these gaps, encouraging children in their studies of natural history needs to be promoted as one of the actions necessary to ensure the training of more taxonomists in the future.

Samuel Brown

About the Society

SASB Officers:

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The Society:

The Society of Australian Systematic Biologists is open to all people who utilise the science of biological systematics as a basis for the study and understanding of nature. The Society is a non-profit inter-disciplinary organisation whose purposes are to promote the scientific study of biological systematics and to disseminate scientific and educational information related to its fields of interests.

Membership:

Membership is free. Details are available on the society website (<http://www.sasb.org.au/contacts.html>) and from the secretary.

Discussion topic

A discussion paper in a recent issue of *Zootaxa* outlined the author's concern regarding the quality of published molecular-based phylogenies and the conclusions drawn from them. Their view is essentially summarised in the following quote:

"Over the last decade or two, molecular approaches have come to dominate phylogenetics. This, of course, is not bad in and of itself—the more data, the better. But processing this volume of data has moved workers away from an intimate understanding of character distribution, homology, and the meaning of evidence."

Mooi RD, Gill AC. 2010. *Phylogenies without synapomorphies—A crisis in fish systematics: time to show some character*. *Zootaxa* 2450: 26-40.
<http://www.mapress.com/zootaxa/list/2010/2450.html>

They go on to explain in further detail why they think that uncritical use of molecular phylogenies is dangerous. It's an interesting paper and is worth reading and discussing.

"I was recently asked to review a paper that attempted to resolve the higher and lower level systematics of a group of butterflies using only molecular data. They reinstated several generic names, and also split and lumped a number of species based entirely on the monophyly and phylogenetic placement of clades within the context of their analysis and the extent of pairwise divergence of individual samples using DNA barcodes. The authors had absolutely no understanding of morphology and character distribution and homology. I believe it is simply not good enough to just use molecular evidence and nothing else. One should at least give some supportive characters (e.g. morphological) that diagnose clades and attempt to use an integrative approach. If there are differences in morphology then one needs to say what they are and indicate if the characters comprise synapomorphies. DNA barcoding is a phenetic approach, and in my experience, while useful for species identification is fairly limited on its own in resolving taxonomic problems. In the case of splitting taxa, there was no consideration of other evidence (e.g. phenotypic characters, extent of reproductive barriers and isolation, extent of gene flow, patterns of reciprocal monophyly, hybridisation etc.) to indicate that their data fitted a two species hypothesis better than a single species hypothesis. The idea of dividing taxa into subspecies or species based on some arbitrary level of divergence is completely misguided. It is well known that molecular distance is broadly correlated with time since divergence, but it is less well understood how much rates of substitution vary over time, how closely related lineages might evolve at different rates, and the relationship of these measures to differentiation in key autosomal genes that provide local adaptedness."

Michael Braby

Fauna of New Zealand volumes 62–64

The latest volumes in the Fauna of New Zealand series have just been published in June–July this year. They are available online¹ and for sale from Manaaki Whenua

¹<http://www.landcareresearch.co.nz/research/biosystematics/invertebrates/faunaofnz/>



The fearsome visage of the New Zealand trechine carabid beetle *Kiwitrechus karenscoottae*. A revision of the New Zealand Trechini was recently published as part of the Fauna of New Zealand series. Photo: Samuel Brown.

Press². These additions include a revision of the New Zealand representatives of the Trechini (Insecta: Coleoptera: Carabidae) by Ian Townsend (Vol. 62), a catalogue to the New Zealand Auchenorrhyncha (Insecta: Hemiptera) by Marie-Claude Larivière, Murray Fletcher, and Andre Larochelle (Vol. 63) and a revision of the Pisauridae (Araneae) by Cor Vink (Vol. 64).

Samuel Brown

Taxonomy Australia

Taxonomy Australia (TaxA) is an independent peak organisation that represents the scientific community involved in researching taxonomy and systematics of Australia's biodiversity. The most recent TaxA meeting was held on May 5, 2010. Seven people from around Australia took part in the meeting, which was held at the Queensland Museum. The attendees were: the meeting's chairperson Dr. John Hooper (Queensland Museum), Dr. Brett Summerell (Royal Botanic Gardens & Trust Domain), Dr. David Yeates (CSIRO Entomology, Canberra), Dr. John Jennings (University of Adelaide), Dr. Peter Weston (National Herbarium of NSW), myself (Penelope Mills, a provisional PhD candidate from the University of Queensland) and via telephone conference Mr. Donald Hobern (CSIRO Entomology, Canberra).

The first issue of the meeting was with regard to designing a webpage for TaxA. It was suggested that the website be attached to TRIN's (Taxonomy Research and Information Network) main page, and the TaxA webpage include links to the other Australian agencies concerned with Australia's biodiversity.

²<http://www.mwpress.co.nz/store/dynamicIndex.asp>

The next concern was how to better promote Australia's taxonomic publications. There was a bit of an uproar recently in the taxonomic community with the release of Australia Research Council's (ARC) "Excellence in Research for Australia" (ERA) journal rankings. It appeared the taxonomic journals were ranked in the lowest category, which is very off-putting when trying to publish a taxonomic-based paper. Other issues included the low citation index for many taxonomic journals, the exclusive/excluded referencing of many taxonomic papers, quality vs quantity of the taxonomic journals, how many of the smaller taxonomic journals won't survive unless publishing is relocated online, and the role of TaxA in promoting taxonomic publications. Brett Summerall nominated drafting a plan for deciding TaxA's role in addressing these concerns.

The discussion turned to the growing problem of requiring expertise on Australia's vast number of organisms. It was agreed that there are many gaps in our knowledge of Australia's biodiversity. The aim is to fill these gaps whenever possible with employed people, without relying too heavily on volunteers. Filling in the gaps should begin during tertiary education, encouraging students to become interested in taxonomy and systematics during their university studies. John Jennings felt that undergraduate students were made to specialise too soon during their study, which meant students missed out on many of the basic knowledge needed in further study. John suggested eliminating the Honours year, and having the students do a two-year Masters course before being eligible to do a PhD. The students wouldn't need to specialise until about their fourth year of study, instead of being encouraged during their second and third year to elect what they wish to major in. Whether or not this would solve the gap problem in Australia's biota is yet to be tested.

The next part of the meeting involved the members giving reports on their respective organisations. John Hooper reported on CHAFC (The Council of Heads of Australian Faunal Collections). One of the most recent developments for CHAFC is funding received from ABRS (Australian Biological Resources Study) for Bush Blitz—a program doing mass collection sampling around Australia to see what kind of arthropod diversity there is. However many of the specimens collected can not be identified to the lower taxonomic levels (i.e to genus and species level) because there isn't any funding to hire people to do this particular sorting and nobody has the taxonomic expertise on many of the groups collected. Whether this will be addressed in the future remains to be seen.

Brett Summerall gave a report on the recent happenings at CHAH (The Council of Heads of Australian Herbaria). CHAH meets annually. The main issues Brett reported on was aiming to gather more members and managing the Australian plant census currently taking place.

John Jennings reported on CHAEC (The Council of Heads of Australian Entomological Collections). CHAEC is a non-profit organisation, and meets annually. The next meeting is to be held in September. John reported on the entomology collection at Adelaide University being in danger, as are several other collections around Australia. One of the biggest issues is the large amount of space needed to store these collections, and with storage space at a premium, this is becoming more difficult to deal with.

Donald Hobern gave a report on ALA (Atlas of Living Australia). The organisation's purpose is to engage taxonomists from around Australia in providing information on Australia's biodiversity. Currently there are a number of improvements taking place and the development of software data. In September, ALA is going live, collecting

information from anyone who wishes to contribute sightings of Australia's animals, plants and microorganisms. Currently ALA is gathering a mass of information about Australia's biota, in readiness for the September launch.

David Yeates reported on TRIN (Taxonomy Research and Information Network). Currently TRIN has funding for its website until the end of the year, and additional transitional funding is being provided from NRPS (National Research Priorities). It is hoped that more funding will be secured so TRIN's website can continue.

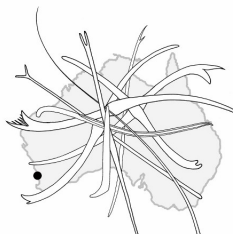
Peter Weston, president of the ASBS (Australian Systematic Botany Society), gave a recent report on the society, which had its annual meeting in Armidale in December. The ASBS has over 300 members, and the next meeting is to be held at Lincoln University in New Zealand from November 29 to December 3.

I spoke about the SASB—the changes that had been undertaken since our September meeting last year, when Bob was elected as the new president of the society. These changes include the webpage undergoing a make-over, and the recent debate caused by the ARC's ERA journal rankings. David proposed that the ASBS and SASB should merge as a single society, as it appears our aims are similar. Perhaps members from both societies should discuss the issue more formally?

It was suggested that the next TaxA meeting be held in Canberra, in either November or December, depending on the members' availability. I look forward to witnessing the next step in preserving taxonomy in Australia.

Penny Mills

12th International Symposium on Aquatic Oligochaete Biology



12th International Symposium
on Aquatic Oligochaete Biology
Fremantle, Western Australia
2012

The 12th International Symposium on Aquatic Oligochaete Biology will convene in Fremantle, Western Australia in spring 2012. These triennial symposia bring together scientists with an interest in freshwater and marine oligochaetes, including their ecology, physiology, biochemistry, toxicology, use in environmental monitoring, biodiversity and systematics. The symposium will run for five days including four days of scientific sessions and a field/collecting trip to Rottnest Island. Proceedings will be formally published as full length papers. More information can be found at www.isaobl2.net.au.

Adrian Pinder

Systematics and biogeography at the sixth Southern Connections Meeting in Bariloche—an entomological perspective

This report has also been published in similar form in the current issue of 'Antenna', the newsletter of the Royal Entomological Society (of UK), not least to acknowledge

the financial support provided by the RES especially to allow local South American colleagues' attendance at a program session devoted to austral patterns in insect phylogenetics and biodiversity. Although this report emphasises the entomological contributions, there were Australian and New Zealand contributors to the following sessions of general interest to austral biogeographers and systematists:

Origin and diversification of the New Caledonian biota. Organizer Ulf Swenson, Swedish Museum of Natural History, Stockholm, Sweden;

'Species' and speciation in the Southern Hemisphere: integrative approaches to studying plant species diversification. Organizers Jennifer Tate, Massey University, Palmerston North, New Zealand, and Heidi Meudt, Museum of New Zealand, Wellington, New Zealand;

Origin and diversification of plants in the Southern Hemisphere: biogeographical reconstructions based on molecular phylogenies. Organizers Carolina Calviño & Cecilia Ezcurra, Universidad Nacional del Comahue, Bariloche, Argentina;

Raising Zealandia: biogeography of a sunken continent. Organizers Steve Trewick, Massey University, Palmerston North, New Zealand, and Adrian Paterson, Lincoln University, Christchurch, New Zealand.

The President of the Southern Connections Council, Dr Glenn Stewart, Professor of Urban Ecology, Lincoln University and Director of the New Zealand Research Centre for Urban Ecology (NZRCUE), Christchurch has just circulated the first announcement for the next Southern Connections Congress, to be held at the University of Otago, Dunedin, New Zealand from the 25th-30th January, 2013. Contact Glenn (glenn01@extra.co.nz) to be included in e-circulation of details of the meeting, including requests for symposia. My recall of the previous meeting of Southern Connections in Christchurch is of an excellent gathering and the most educational and enjoyable post-conference tour of west coast South Island led by Professor Alan Marks. Sign up and attend!

Entomological report

Some 20 years ago, recognising that southern hemisphere biologists had shared interests but lacked a venue or organisation to cater for them, a group of ecologists, palaeontologists, plant scientists, climate reconstructionists, biogeographers and an entomologist met in Hawaii to found 'Southern Connections'. For the entomologist, Ebbe Nielsen from the Australian National Insect Collection in Canberra, this was but one of the many collaborative initiatives he started and helped bring into being. The inaugural meeting, held in Hobart, Tasmania, in January 1993, brought together austral biologists from New Zealand, South Africa and the 'Cono Sur' of South America, as well as northern hemisphere-based students of austral biological issues. From the outset, insects featured, not only as shared pests of southern forests, but also in relation to the growing importance of biodiversity and phylogenetic studies. And of course, insects always featured prominently in the development of our understanding of austral biogeography through the works of Erichson, Hennig, Edmunds, Illies and Brundin amongst others.

When the second meeting was held in Chile (January 1997), organisers Mary Arroyo and Antonio Lara reported that the 'response ... far exceeded our expectations ... with



A significant birthday for Mike Crisp occurred during an extended pre-conference field trip/tour of Argentine and Chilean Patagonia. Here Takumasa (Demian) Kondo, Mike Crisp, Nate Hardy, Pete Cranston, Richard Carter, Lyn Cook and Penny Gullan await a vegetarian repast to counter the excess of *asado* (barbecue). Lago Puelo, south of El Bolsón, Argentina, February 2010.

a program fuller than expected.’ From my well-thumbed and pisco sour-damaged notes I see that at least half-a-dozen entomologists presented their studies in Valdivia. In subsequent meetings, hosted in Christchurch (New Zealand), Cape Town (South Africa) and Adelaide (Australia) the momentum built, despite the untimely death of founding member and driving force Ebbe Nielsen. Each meeting saw increased representation from our discipline, especially by students undertaking biodiversity and environmental monitoring studies in uniquely austral ecosystems. More generally, systematists working on evolution and biogeography of austral taxa became more prominent, but not always to the liking of some ecologists who objected to being told that their stories needed a phylogeny!

When our Argentine colleagues accepted the invitation to host the sixth meeting, in Bariloche in February 2010, it was timely to bring together entomologists working on evolutionary studies of the austral radiations of several groups of insects. Since this important topic has been covered by papers in recent issues of *Systematic Entomology*, drawing up a list of prospective participants was straightforward. Thus, our symposium, entitled ‘*Austral insect patterns: phylogenetics and biogeography of austral insects*’ with nine presentations and multiple co-authors was proposed, and accepted. A problem always with southern hemisphere meetings is the high cost of registration for international meetings for locals, and of air travel (its always easier and cheaper to fly north-south than circum-austral). Thanks to RES registrar Bill Blakemore, I was able to leverage my 2009 *Systematic Entomology* editorial allowance for matching funds from the Royal Entomological Society. This society sponsorship covered registration costs for three austral-based ‘overseas’ participants and six South Americans, without which our session would not have been possible.

So on the first afternoon of the meeting (15th February) a large audience attended the following program of talks:

Better the weta you know: biogeography of southern Orthoptera. Steven Trewick and colleagues from Massey University and Canterbury Museum, New Zealand.

Gondwanan and post-Gondwanan elements, but always vicariance: disjunction of old and new circumantarctic elements in the Bibionomorpha (Diptera). Dalton de Souza Amorim (Universidade de So Paulo, Brazil)

Southern connected craneflies: diversity and endemism; grades and clades (Diptera: Tipulomorpha). Guilherme Cunha Ribeiro (Universidade Federal do ABC, Brazil)

Biogeography of South American Ephemeroptera. Carlos Molineri and colleagues (CONICET, San Miguel de Tucumán, Argentina)

Odonata from Patagonia: distributional patterns, relationships with other dragonflies and a comparison with other taxa. Pablo Pessacq (Universidad Nacional de la Patagonia, San Juan Bosco, Esquel, Argentina)

Brundin's midges. Peter Cranston (UC Davis, California, USA) and Nate Hardy (QPI&F, Queensland, Australia)

Biogeography and diversification of colletid bees: Emerging patterns from the southern end of world. Eduardo Almeida (Universidade Federal do ABC) and colleagues from Brazil and USA.

The scale insect fauna of *Nothofagus* forests: the Australasia-South America links. Takumasa (Demian) Kondo (CORPOICA, Palmira, Colombia) and colleagues Penny Gullan, Nate Hardy & Lyn Cook (UC Davis and Australia).

Biogeography of Austral insects: a comparative molecular phylogenetics approach. Nate Hardy, Lyn Cook (Queensland, Australia) and Steve Trewick (Massey University, New Zealand)

If the session can be summarised succinctly, the phenomenon of related taxa spread across the Gondwanan landmasses, taken to indicate deep history as implied by geological history, is under sustained attack. This undermining comes mainly from still-developing techniques for dating nodes on the growing number of molecular phylogenies. Reinterpretation particularly involves younger New Zealand and New Caledonian biotas than vicariance-dating would suggest. Furthermore, older (>100 million year) proposals for southern African connected taxa are rarely reconstructed as appropriately ancient. However trans-Antarctic connections (excepting New Zealand) are more often in the right time zone. Much of the wide-ranging discussion after the session concerned the reliability of fossil insects, both in their capacity to provide realistic calibration dates for molecular phylogenies and in our ability to place the fossils with accuracy on phylogenetic trees derived from DNA data. Such discussions continued into the evening in bars and grills, and into subsequent sessions in which results relied on similar data derived for plants, mammals and birds.

Peter S. Cranston and Penny Gullan

Google Maps just got cooler

(1) Plotting locality data

In the last Banksia I described how to plot a set of locations in Google Maps by home-crafting a KML file to sit on a Web server. There's an easier way to get the KML, although there could be a data security issue. A free Web service hosted by BatchGeo (<http://www.batchgeo.com/>) allows you to upload a whole spreadsheet full of locations and associated data. The locations are then plotted on Google Maps on BatchGeo's website. An option on the map is to save the data to a KML file.

(2) Finding coordinates

On Google Earth, you can get the latitude and longitude of a point by hovering the cursor over it. The coordinate (or grid reference if UTM is selected in Google Earth Options) appears in the status bar at the bottom of the screen.

Google Maps doesn't have this feature, but you can get nearly the same thing by first clicking on the tiny green lab flask at the top right of the Google Maps window, just to the left of the 'Help' and 'Sign In' links. A new window will appear, displaying the applications under development at Google Maps Labs. The two we're interested in are the 'LatLng Tool Tip' and 'LatLng Marker' applications. If you enable the Tool Tip and save changes, Google Maps will now display the coordinate of the point under the cursor, in decimal degrees.

The LatLng Marker works this way: hover the cursor over a spot, then right-click. At the bottom of the context menu is 'Drop LatLng Marker.' Choose this, and a marker appears at the spot, again with lat/long in decimal degrees.

(3) Travel between localities

One of the most useful features of Google Maps is its ability to give you directions by road ('Get Directions'), with distances for each road segment travelled and an overall approximate travelling time. This feature can also be used with destinations specified by coordinates. Suppose you're in your office. Find the office on Google Maps and use the LatLng Marker to get your latitude and longitude. Enter the coordinates as starting place in the Get Directions box (A). Want to visit a locality for a museum specimen? Enter the locality as a latitude and longitude in the destination box (B). Click the 'Get Directions' button and Google Maps plots a route for you from office to locality. You can add additional destinations and extend the route.

If you have a Google account, you can set up 'permanent' placemarks using My Maps, but the features described above can be used without a login. Unfortunately, marine field workers will have to wait for Google Maps to come up with a 'directions by boat' app...

Bob Mesibov



Bees feeding on *Marchalina hellenica* honeydew. Photo: Lyn Cook



Marchalina hellenica producing honeydew. Photo: Lyn Cook

International Symposium of Scale Insect Studies

The International Symposium of Scale Insect Studies (ISSIS) is held every three years. The 12th meeting was recently held in Chania (Hani-a), Crete, from April 6–9. Crete is famous for its Minoan civilization ruins and is about an hour flight from Athens, Greece. Located within the Mediterranean Sea, Crete is approximately 260 km long and 60 km wide at its widest point and is the largest island of the Greek islands. Chania is located in the northwest of Crete, right on the Mediterranean.

About 100 coccidologists (people who study scale insects) attended, from about 30 different countries. Most gave talks and/or exhibited a poster highlighting some of the work they do on scale insects. There was a huge array of research themes: biological control, speciation, systematics, diversity, ecology, symbiosis and mutualistic relationships, reproduction and sex allocation, to name but a few.

On the second day of the conference, a field trip was organised to Sfakia, on the other side of the island. Our first stop was at Imbros Gorge, where the bird twitchers of the group were excited when several griffon vultures were spotted quite close to where we were. There were also a few Kri Kri or Cretan ‘wild’ goats—the symbol of Crete. Recent molecular research has shown that these goats are actually feral domesticated goats (*Capra aegagrus*) brought to Crete over 2000 years ago.

Most of the coccidologists were content with scouring the native vegetation for scale insects, and many were quite successful. Our next stop was at a pine forest. Many of the coccidologists (Paul included) almost died with delight, as this particular pine forest played host to huge numbers of the scale insect *Marchalina hellenica*. The beekeepers



Paul Lin and colleague looking for scale insects. Photo: Lyn Cook

encourage these scale insects because their bees collect honeydew from the insect's rear end and this, in turn, is made into pine honey by the bees. Pine honey is an extremely important commodity. About 60% of honey produced annually in Greece is pine honey. The Turkish pines (the favoured host of *Marchalina*) looked like they were covered in snow, but this was in fact the cotton-like wax by which females of *M. hellenica* are covered. A couple of locals stopped and enquired about why two busloads of people were parked on the side of the road.

A late lunch was held in a restaurant near Sfakia, right near the beach along the southern edge of Crete. There was never a lack of food (it seems the Greeks always serve big courses, and there seems to be many courses for any one meal) or alcohol (particularly red wine and raki). I (Penny) had an accidental encounter with raki the day before the conference began, and never drank it again.

The conference dinner was held on the third night of the conference. We travelled about an hour to the small town of Palea Roumata, nestled within Crete's stunning mountains. On the way we passed many orchards full of olive trees. Quite close to the middle of the town is the oldest olive tree known, estimated to be about 3000 years old! The night was filled with food (lots and lots of food), more wine, and the locals put on a show of singing and dancing. We even had one of our members perform a solo. As the night grew old, many of us grew tired, knowing there was still an hour-long bus trip before we could get some rest before the last day of the conference.

The final day of the conference drew to a close, with several awards being handed out in recognition of the work a few of the delegates had done on their particular scale insect area. The last matter of business before the conference ended was choosing where the next meeting would be held. By a few hands, Sofia, Bulgaria won the right to host the 13th ISSIS in September, 2013.

Penny Mills and Yen-Po (Paul) Lin

Photography Competition—Gardens in Focus

All professional, amateur and student photographers are invited to enter their best photos into the "Gardens in Focus" photography exhibition. There are nine different categories covering plants, people and events.

The criteria for entry is that photos *must* be taken in an Australian botanic garden.

Prizes include a first prize of \$8 000 for the best overall photograph. Competition is now open. Go to their website (<http://www.gardensinfocus.com.au>) for full details on how to enter.

Gardens in Focus is sponsored by; ResMed Foundation, Redfin Self Managed Websites, Vision Image Lab and Frames Direct.

Karen Wilson

Fringe Taxonomy

As a professional activity, taxonomy ain't glamorous. True, it has its moments, and even non-specialists can understand the excitement that accompanies the discovery of a new species, especially if that discovery was made during a scientific expedition to some previously undersampled location. But most new species are actually 'discovered' on museum shelves and in herbarium cabinets. That's... well, not so exciting.

Taxonomists aren't often celebrities, either. They're usually thought of as harmless eccentrics, each with vast knowledge of some tiny corner of the phylosphere. Put together a starfish expert and a grasshopper expert and you may find they have very little to talk about, even though their work and their publications look remarkably similar to a non-specialist.

Nevertheless, there are indeed celebrity taxonomists—specialists whose names are widely known and whose work is—how to put it?—notorious. This is the first article in a short series dealing with people at the controversial fringe of respectable taxonomy. I'll be sticking to facts and I'll try not to make my subjects any more colourful than necessary.

Introducing our first celebrity

Dr Hüseyin Özdikmen is a zoologist at Gazi University in Ankara, Turkey. His webpage is <http://websitem.gazi.edu.tr/ozdikmen/AnaSayfa&Lisan=En>. Özdikmen is also editor-in-chief of *Munis Entomology and Zoology*, which is published twice a year by Özdikmen's department at the University. The journal mainly publishes systematics and has wide taxonomic coverage and many authors, chiefly from Turkey. '*Munis*' is also Özdikmen's principal outlet.

To understand why Özdikmen is controversial, you need to know how homonymy works in zoology. What follows is a simplified, fictional overview; real cases can be more complicated.

Suppose Smith erected the new genus *Frammis* in 1830 for the species *vulgaris*, a beetle. Fifty years later, Jones erected the new genus *Frammis* for the earthworm species *arvensis*. We have a problem, because two different animal genera shouldn't have the same name. Jones should have realised that the name *Frammis* was 'preoccupied'.

Anyway, what's done is done and *Frammis* Jones, 1880 is now said to be a 'junior homonym' of *Frammis* Smith, 1830. The way to fix the situation is to come up with a new genus name and publish it as a replacement for the earthworm *Frammis*, because the beetle *Frammis* is older and therefore has priority. Suppose I do this. I publish a taxonomic paper in 2010 in which I explain the situation and propose the new genus *Frammisoides* as a replacement name.

Problem fixed. The earthworm genus *Frammis* Jones, 1880 is now *Frammisoides* Mesibov, 2010, and the species *Frammis arvensis* becomes *Frammisoides arvensis*. Notice that the replacement genus name has my own name attached to it. Sort of makes me look like an earthworm expert, which I'm not, and the 2010 paper is a nice, respectable addition to my CV.

Homonymy galore

There are a *lot* of genus-level homonyms in zoology, and the development of ‘cyber-taxonomic’ online resources has made them easier to find. Özdikmen has found quite a few homonyms and has published replacements for many. On the plus side, this is good taxonomic bookkeeping. On the minus side, well...

Özdikmen has sometimes made a mistake and published a replacement name when a replacement had already been published earlier. This only confuses an already confused situation. To be fair, Özdikmen publishes follow-up papers in which he admits the mistake and reinstates the previous replacement. (Example: Özdikmen, H. & Demir, E. 2010. New synonyms in Cicadellidae (Hemiptera). *Munis Entomology and Zoology* 5 (1): 311.)

Özdikmen has published replacements for homonyms created by living taxonomists. This practice is in violation of the Code of Ethics included as an Appendix to the International Code of Zoological Nomenclature (ICZN), specifically:

A zoologist should not publish a new replacement name (a nomen novum) or other substitute name for a junior homonym when the author of the latter is alive; that author should be informed of the homonymy and be allowed a reasonable time (at least a year) in which to establish a substitute name

and

Editors and others responsible for the publication of zoological papers should avoid publishing any material which appears to them to contain a breach of the above principles.

Outraged taxonomists

The reaction to Özdikmen’s stream of replacement-name papers has been mixed. A few specialists can’t see what the fuss is about. They argue that Özdikmen is providing a service to taxonomy and tidying up what needed tidying up.

The majority of specialists in branches of zoology touched by Özdikmen’s names are very, very annoyed. Discussion lists carry anti-Özdikmen flames and many specialists vow that they’ll simply ignore his replacements. Others are calling for the International Commission on Zoological Nomenclature (also ICZN, acronymic homonymy here) to make the Code of Ethics provisions mandatory. This anger arises mainly, perhaps, because a long-used and stable set of names is suddenly upset by a non-specialist. Who cares, asks the starfish expert, whether some grasshopper taxon has the same name? When we use that name, we starfish experts know what we mean!

Personally, I’m grudgingly accepting Özdikmen’s corrections. A Tasmanian centipede was placed in 2001 in the new subgenus *Nothofagobius* by G.D. Edgecombe, then at the Australian Museum. *Nothofagobius* was preoccupied, and Özdikmen replaced it in 2009 with *Edgecombegdus* (ugh!). And that’s the name I use on my Tasmanian Multipedes website (<http://www.polydesmida.info/tasmanianmultipedes/tascenti/cenlit/cenlinot.html>).

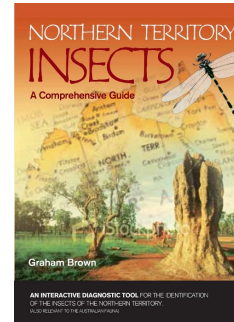
Bob Mesibov

Insects of the Northern Territory CD-ROM

“Northern Territory Insects: A Comprehensive Guide” is an electronic guide to the identification of the insects of the Northern Territory with keys, a catalogue of species and over 4,000 photographs. Relevant to the Australian fauna as a whole, this CD guide also lists all orders and families of insects found in Australia.

This CD is a complete identification guide to the insects of the Northern Territory. It includes:

- A checklist of recorded insect species
- Simplified keys to insect families
- Introductory pages on morphology, biology and collecting
- Pages on commonly encountered species by habitat
- A complete list of common names
- Over 4,000 photos covering most insect families
- Photo galleries of other terrestrial arthropods and molluscs



The CD has been designed for a diverse range of users from school children to insect taxonomists. While it has been written in such a way as to be comprehensible to the layperson, it includes a glossary explaining all technical terms that have been used.

Although detailing the Northern Territory fauna, this CD is written from an Australian perspective to make it a useful identification resource for Australia and elsewhere. It is the only resource that comprehensively reviews the taxonomy of the entire insect fauna of any region in Australia.

The CD is published by the University of Queensland, costs \$69.95 (excluding GST and postage) and is available from <http://shop.cbit.uq.edu.au/ProductDetails.aspx?productID=228>.

Graham Brown