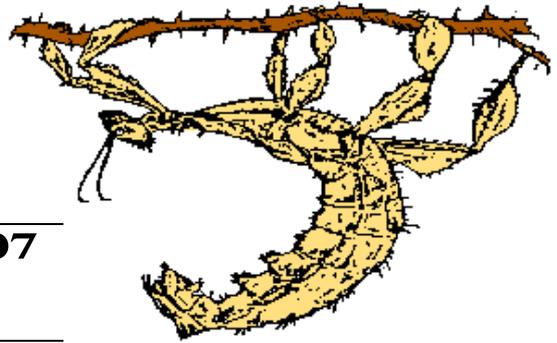


The Phasmid Study Group



Newsletter No. 109 March 2007
ISSN 0268-3806

Includes Culture List



Left: *Macynia mcgregorum* ♀, from 'Following in Thunberg's Footsteps'
 Above Right: *Peruphasma schultei* (♀) mating with *Pseudophasma rufipes* (♂) [Courtesy of Mieke Duytschaever]
 Below Right: Mike Smith's winning photograph of *Extatosoma tiaratum* (♀)

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Macynia mcgregororum ♂, from 'Following in Thunberg's Footsteps'



Eurycnema goliath from Sticktalk



From 'The Oldest Fossil Leaf Insect'



Eurycnema goliath from Sticktalk

Submitting Images

Photographs and artworks are welcomed from anybody. They may be submitted to me via e-mail or by post (addresses in Committee section). Drawings should be finished in Indian or black ink for best reproduction.

News, Information & Updates

Editorial

Ed Baker (Editor)

Before going on I would like to take a moment to give a big thank you to my predecessor, Mike Smith, who was in charge of the newsletter through a phase where it has improved almost beyond recognition. Everyone appreciates your excellent work and dedication to the rôle, and your assistance in the transfer of editorship was very much appreciated.

It's often a mistake to change a highly successful formula, and I hope you all think the modifications I have made to the layout are a step forwards rather than backwards.

The most obvious of these is the division of the newsletter into two sections. The first section contains all of the "admin" involved with the newsletter: events, contact details, website passwords, and anything else that is a regular part of the newsletter. As you have probably guessed all of the articles are in the second section. Hopefully this means that when you want to find a phone number or the website password you will know exactly where to look. I have also reduced the number of pictures in the colour pages, giving priority to new species to the culture list and images crucial to articles: any feedback is welcomed. As always a full colour version is available on the website.

The timing of the AGM made the timescale for preparing this edition of the newsletter quite tight, however there are still some great articles from our members. I would like to thank Ron Baxter for permission to use excerpts from his autobiography 'A Way of Life'. Space considerations, even when splitting over two, or more (?), newsletters, have meant drastic editing and I look forward to a more comprehensive publishing in a forthcoming book by Andrew Smith.

I would also like to say a big thank you to everyone who has contributed content to this newsletter – as always it is much appreciated. My final note is an echo of Mike's in the last newsletter, please keep your articles, puzzles and whatever else you have to contribute coming in!

Diary Dates

All event information has been accepted as bona fide, however we recommend checking with the organisers closer to the date of the event.

Saturday 14th April 2007 – AES/RES Northern Exhibition & Trade Fair

York Racecourse, York, UK.

Admission: £3 for adults and £1 for children. The AES Website may be found at www.amentsoc.org where full details, maps, exhibitor / trader / helper etc forms can be downloaded, or write to AES Exhibition, PO Box 8774, London, SW7 5ZG or e-mail exhibition@amentsoc.org.

Sunday 15th April 2007 - The Kettering Entomological Fair

Leisure Village, Kettering

Anyone who requires more information or to book tables - please contact Paul Holt 01636 674 723, 07901 577 251 or E-Mail: paulholt7@ntlworld.com or Phil Jenner, Telephone 01223 891 665, Mob 07840 278 814, email: bspencer11@tiscali.co.uk

Sunday 10th June 2007 - Newark Entomological Fair

Grove Leisure Centre, Balderton, near Newark, Notts. (12.00 noon to 4pm)

(Winter Fair Sunday 2nd Dec). For more details or to book tables (£10 each) contact Paul Holton 01636 674 723 or 07901 577 251 or e-mail: PAULHOLT7@ntlworld.com

If you know of any other events, or you are organising one then please contact the Newsletter Editor with details so that it can be included in this list.

Corrections to the Previous Newsletter

- Phil Bragg would like to add *Phobaeticus heusii* Hennemann & Conle, 1997 to the list of phasmids named after PSG members.
- In the article on *Proscopia scabra* by Javier Tamayo the captions for the images of the male and female are reversed.

Members Area at www.stickinsect.org.uk

Username: PSGmembers

Password: Aniscantha080

Sticks In The News

December 2006

The San Diego Union-Tribune printed an article regarding the spread of escaped/released *Carausius morosus*. This article has been reprinted later in the Newsletter.

January 2007

On the 17th The Daily Telegraph reported "a five-inch stick insect was seen sunning itself in Devon, even as Worcestershire County Cricket club was below water."

PSG Committee changes (January 2007)

Judith Marshall (Chairman)

At the AGM we said "farewell - and many thanks for all your hard work" to Mike Smith, as Editor of the PSG Newsletter, and "welcome" to Ed Baker, our new Editor. We certainly appreciate all that Mike has done and can assure everyone that he will be much in evidence at future meetings. Please support Ed as you have Mike, with lots of articles, photographs and enthusiasm!

Also at the AGM we had to announce the retirement of Paul Taylor as our Webmaster. Paul was the Newsletter Editor before handing over to Mike, and then he set up the PSG Website, so we have much to be grateful to Paul for too. As we had not been able to inform the membership before the meeting we asked for a volunteer as temporary Webmaster, which Chris Pull agreed to do with Mike Strick's assistance. Any interested party is now welcome to apply for the position, and we will hope to appoint the official Webmaster(s ?) at the July meeting.

The final appointment made at the AGM was that of Gavin Ridley as PSG Merchandiser, with the task of sourcing new PSG T-shirts - so anyone with bright ideas for merchandise in general, and T-shirts in particular, please contact Gavin.

The Committee

CHAIRMAN *Judith Marshall* Department of Entomology, The Natural History Museum, Cromwell Road, London, SW7 5BD (T:020 79 425610; F:020 79 425229; E:chairman@stickinsect.org.uk)

TREASURER/MEMBERSHIP SECRETARY *Paul Brock* "Papillon", 40 Thorndike Road, Slough, Berks, SL2 1SR (T:01753 579447 after 5pm; E:pauldbrock@btinternet.com)

NEWSLETTER EDITOR *Edward Baker* 53 Searles Close, Battersea, London, SW11 4RH (T:07835 294925; E:editor@stickinsect.org.uk)

PHASMID STUDIES EDITOR *Phil Bragg* 8 The Lane, Awsworth, Nottinghamshire, NG16 2QP (T:01159 305010)

EXHIBITION & MEETING OFFICER *Paul Jennings* 89 Brackensdale Avenue, Derby, DE22 4AF (T:01332 343477)

LIVESTOCK COORDINATOR *Janine Fletcher* 125 Malvern Drive, North Common, Warmley, Bristol, BS30 8UY (T:01179 604917; E:livestock@stickinsect.org.uk)

LIBRARIAN *David Robinson* (T:01908 653493; E:librarian@stickinsect.org.uk)

PSG Membership

The current annual subscription rate is £12 (UK), £14 (Europe) and £15 (rest of the world). If you know anybody how would like to join the group then an application form is available from Paul Brock (address above).

Phasmid Studies

Phil Bragg (Phasmid Studies Editor)

Phasmid Studies will be printed in March, and will be available on the website shortly, if not already. Paper copies are only distributed to members who have previously requested them in this format. Please contact Paul Brock if you want to receive it in paper format. A summary of the articles in this edition is given below.

Biographies of Phasmatologists – 1. Henry Walter Bates. By P.E. Bragg.

Henry Walter Bates (1825-1892) was an explorer and prolific entomologist. Although he published only one paper on phasmids, it was a significant paper, increasing the number of known species by 10%. An index to the 52 species of phasmids described by Bates is provided.

Biographies of Phasmatologists – 2. George Robert Gray. By P.E. Bragg.

George Robert Gray (1808-1872) was an English zoologist and author. His life and phasmid work is outlined. He described half the known species of phasmids at that time and is best known for his work on leaf insects and Australian phasmids. He also produced the first significant catalogue of world species.

A replacement name for *Microphasma* Zompro, 1999. By Oliver Zompro.

Microphasma Zompro, 1999, a genus of Phasmatoidea, is preoccupied by *Microphasma* Woltereck, 1909 (Crustacea). A replacement name is proposed.

A redescription of *Sosibia lysippus* (Westwood, 1859). By P.E. Bragg.

Necroscia lysippus Westwood, 1859 was described from a single female without any fore legs. A specimen with fore legs has been found at Danum Valley, Sabah and is described and illustrated, along with an egg. The species is transferred to *Sosibia* Stål, 1875.

Notes on the genera *Andropromachus* Carl, 1913, *Spinohirasea* Zompro, 2001 and *Spiniphasma* Chen & He, 2000. By Frank Hennemann.

A review of the genera *Spinohirasea* Zompro, 2001 and *Andropromachus* Carl, 1913 is provided. The eggs of *Spinohirasea bengalensis* (Brunner von Wattenwyl) are described and illustrated for the first time. Illustrations and measurements of the female and male of *S. bengalensis* (Brunner von Wattenwyl) are provided, along with notes on the origin of the culture-stock PSG 272, captive breeding, alternative food plants and biology. Lectotypes are designated for *Andropromachus bicolor* (Kirby, 1904) and *Menexenus modificatus* Brunner von Wattenwyl, 1907.

The Phasmida Species File (phasmida.orthoptera.org) - Statistics

Ed Baker (Editor)

Authors	684	
Publications	825	
References	1812	
Citations	17681	
Depositories	412	
Images	total: 35	unique taxa: 14
Sound recordings	total: 0	unique taxa: 0
End points in keys	total: 0	unique taxa: 0
Specimen records	total: 4931	unique taxa: 2795
Families	total: 14	valid: 13; not valid: 1
Subfamilies	total: 31	valid: 30; not valid: 1
Tribes	total: 63	valid: 60; not valid: 3
Genera	total: 564	valid: 433; not valid: 131
Species	total: 3288	valid: 2743; not valid: 545
Subspecies	total: 128	valid: 93; not valid: 35
Taxa at all levels	total: 4136	valid: 3415; not valid: 721

This data is correct as of 03 February 2007.

Additions to the Culture List

Phil Bragg

PSG 237. *Pseudosermyle phalangiphora* (Rehn, 1907)

At the Autumn Phasma meeting in Maastricht some *Pseudosermyle phalangiphora* were being distributed. Having reared them to adult, I found they seem to be the same as PSG 237, although this culture is slightly larger. Oskar Conle identified this second culture as *phalangiphora*.

PSG 276. *Sipyloidea meneptolemus* (Westwood, 1859)

Collected in West Malaysia by Christophe Bauduin. It is very similar to PSG 103. Both sexes fly well. Females 90mm, males 60mm. It seems very easy to rear on hypericum.

PSG 277. *Phobaeticus heusii* Hennemann & Conle, 1997

The species is named after Peter Heusi who first reared these in 1996. The culture originated from Cuc Phuong National Park in North Vietnam and the eggs were obtained on what Peter has described as a "phasmid eggs for money" scheme to provide money to support the National Park. The current culture seems to be derived from Peter's original 1996 culture; this suggests they are not particularly easy to rear as I saw my first specimen in 2006 – after ten years in culture! Females and males are of similar lengths, my female specimen (reared by Joachim Bresseel) is 215mm but the type specimens (one male, one female) were both 250mm. This species feeds on bramble. A few people in Continental Europe have them in culture. My thanks to Peter for the information on the origin of this culture.

PSG 278. *Phyllium* sp.

The culture is from the Philippines and feeds on bramble in captivity. They were brought into culture by Ismael Lumawig who collected them in the former U.S. Military base in Subic, Zambales, Eastern Luzon, in June 2000 and June 2001. Female nymphs were collected under tall trees, where they had fallen because of strong winds, adult males were collected by light trapping. Ismael found they readily accepted guava as food. The females are quite variable; the first one I examined had an abdomen similar to *P. siccifolium*, others look closer to *P. bilobatum*.

PSG 279. unidentified *Necrosciinae*. (Bauduin's Thai 2)

Collected by Christophe Bauduin in Salok, Thailand. Both sexes are wingless; females 110mm, males 80mm. They feed on bramble.



PSG 280. *Bacteria* sp.

The culture is from Panama. Females are 170mm and wingless, males are 110mm and have wings. They feed on bramble but I have been told they are not particularly easy to rear.

PSG 281. *Pterinoxylus crassus* Kirby, 1899

The culture is from Martinique, they were brought into culture by members of ASPER after their expedition in 1998. They were originally described from Dominica by Kirby. The females are 150mm with very short wings, males 110mm with long wings. Foodplants include Eucalyptus, Hypericum, *Rhus typhina*, Polygonum and Photinia. I have been told that the hatch rate and survival of nymphs is quite low.



Changes to the Culture List

Phil Bragg

These are changes that have been made to the edition included with this newsletter compared to older editions. Many of these are relatively minor and/or have been mentioned in previous newsletters (e.g. *Aplopus* to *Haplopus*). Two major changes are given below.

PSG 191

The correct name is now *Urucumania borellii*

PSG 248

This species is now in the genus *Pylaemenes* (it was formerly in *Dares*).

Forthcoming Articles

Ed Baker

The name changes of Phasmids, such as those mentioned above, seem to infuriate a number of people, and confuse many others. Why then are so many names changed so frequently?

This is one of the questions that I hope to answer in a forthcoming series of articles that will set out to explain some of the mysteries of Phasmid taxonomy and biology. So if you have any questions, or want any concepts clarified then please get in touch with me and I will try and include it in one of the articles.

Many thanks to the people who have already offered to write an article (or part of one) for this series, and I would appreciate anyone else who would be willing to contribute to get in touch with me.

StickTalk

Moderator

On The Twelfth Day Of Christmas,
My True-Love Sent To Me
Twelve Bramble Leaves,
Eleven Indians Marching,
Ten AAs Marching,
Nine Ova Hatching,
Eight Nymphs A-Shedding,
Seven Pink-Wings Flying,
Six 'Extats Laying,
Five Jungle Nymphs;
Four E.C.s Scuttling,
Three Goliaths Chomping,
Two Peruphasma,
And A Sticktalk Mail-E



Anna

Groans to the 12 days of stickmas poem. Very cracker-joke worthy. Well done! It's almost as bad as my cracker joke: why are there no aspirins in the jungle? Because the parrots eat them all (because the paracetamol) get it? So, did anyone get anything nice and bug related for xmas? I got some very odd tat and some knitting.

Jean-Francois

For all of you who have problems getting food plant during winter, I seriously recommend getting some guava plants and growing them indoors. I bought two large ones (5 feet each) and several small ones, and they have saved my sticks when I was out of food stock. A lot of species accept it very easily, including *E. tiaratum*.

Chris Pull

I've taken some photos of a sub adult *Eurcynema goliath*, which was about to moult. You can clearly see the adult colours in the new 'skin' forming beneath the old one. The other photo is after the moult.

My *Spiniphasma crassithorax* are coming a long nicely. Interestingly, one of them is already bright green at the 2nd instar, but the rest remain brown. I'll try and get some photos.



Pre-moult



Post-moult

David Holland

Some stick insects will eat Myrtle or Hypericum. I cannot say for certain which (I am still experimenting) will eat these instead of Bramble. However if you are desperate try these. Also I think most stick insects will eat rose or raspberry instead of bramble (assuming they eat bramble of course)- they are in the same family. Regarding guava you can grow it from seeds in guava fruit. I have not yet but Chris Pull did (thanks Chris for giving me a plant on Saturday).

David Sanderson

For the benefit of those who did not go the [PSG AGM] and are interested in keeping *Phyllium*, I have summarised some of the strategies that people employ to keep *Phyllium* cultures successfully, along with my own thoughts on the matter.

A) HOW CLEAN IS YOUR HOUSE? *Phyllium* hate filth!! Pointed out by Cameron, Leaf insects are particularly fussy when it comes to cleanliness. There seems to be a strong positive correlation between insect mortality & cage dirtiness. To succeed with *Phyllium*, you must keep their cages impeccably clean!!

B) *PHYLLIUM* LIKE HUMIDITY BUT HATE SATURATION!! This is possibly the most contentious factor in rearing *Phyllium*. There are 2 main schools of thought concerning this aspect. It is pretty much agreed that *Phyllium* need both moderate humidity and good ventilation. Unfortunately as one inversely affects the other, trying to achieve both in the right amount in tandem, can prove tricky for many of us. The main mistake people make is they provide way too much humidity in the same way that people similarly provide way too much heat, wrongly thinking that more is better. By spraying too much water, particularly in the wrong places (ill explain in a minute) and in poorly ventilated cages is by far more detrimental than beneficial to *Phyllium*. Excess water is particularly hazardous to nymphs for 2 reasons.

Small nymphs are easily immobilised by the smallest of water droplets when trapped between the nymphs ventral side and the cage surface. Nymphs unfortunate to land in this position, often die very quickly through lack of food or stress.

Spraying water causes some leaf insect nymphs to neglect feeding. As strange as it sounds, *Phyllium* hatchlings seem to stop feeding if they have access to too much water in the form of water droplets, previously sprayed into the leaves.

Hatching nymphs of several *Phyllium* species namely *giganteum* and *bioculatum* are notoriously difficult to get feeding and Cameron suggested that spraying the leaves in cages that house such *Phyllium* nymphs, somehow reduces the amount of feeding in hatchlings in particular. This results in death, presumably from malnutrition.

To avoid death by droplet, people use one of the following tactics. Cameron and others do not spray water into their cages at all. Instead they provide a damp layer of kitchen towel in the base of their *Phyllium* cages that creates some humidity. Other people, including myself, provide a very, very light spraying using a fine mist sprayer on a regular but controlled basis.

C) **PHYLLIUM NEED FRESH AIR!** Possibly the most poorly understood factor in terms of importance where *Phyllium* husbandry is concerned! Fresh air circulating around the cage is in my opinion vital if you wish to succeed with *Phyllium*, in particular where the more challenging *Phyllium* species are concerned. *Phyllium* kept in cages which lack ventilation often show signs of decelerated growth and die prematurely. Lack of ventilation causes increased humidity levels that in turn enhance poor sanitation which as you now know, *Phyllium* loathe!

Interestingly, forced ventilation (i.e. use of an electric fan) is a strategy used by many to encourage the reluctantly feeding nymphs to eat. Anybody who keeps leaf insect will know that lightly blowing air on them stimulates the insects to move & even feed. Therefore by using a fan connected to a plug-in timer, set at regular intervals is a cheeky way in initiating feeding behaviour, particularly where the nymphs are concerned. Having said all that, a few people have equally good results by keeping *Phyllium* in aquarium type cages, which lack any ventilation what so ever!

D) **YOU ARE WHAT YOU EAT** Fresh food-plant is a must and should be provided on a weekly basis. The mature bramble leaves (the larger leaves) are preferred. The smaller, younger leaves are believed to contain higher concentrations of plant chemicals called phenols. This chemical produced by plants which they store in their leaves, acts as a pesticide and is thought to be harmful to Phasmids in large quantities. Bramble should always be collected from areas away from traffic or pollution.

Articles & Contributions

Gynandromorph *Carausius morosus*

Thanks to Kristien & Rob



Phasma – An Invitation

Kristien Rabaey & Rob Simoens

Dear PSG members,

This year it will be 20 years since Johan van Gorkom (right) started Phasma. We want to celebrate this, and to exhibit and promote our hobby.

For this reason there will be a three days event in Veurne.

We, the Phasma and PSG members, will put on an exhibition that will be open to the public on Saturday 21st, Sunday 22nd and Monday 23rd April.

During the exhibition there will be several talks.

On the Sunday afternoon we will have our meeting.

Everybody is invited to help with this and ideas are welcome.

The location will be in Veurne, at 't Spaans Paviljoen (www.veurne.be) and the date is the 21-22-23 April 2007.

Doors are open from 11.00am to 18.00pm. Free entrance!

More info: kristien.rabaey@skynet.be

Kind regards,
Phasma

Membership Information

Phasma is a group of enthusiastic breeders of stick and leaf insects

We offer:

2 meetings a year:

1 in Belgium, 1 in the Netherlands

4 Newsletters created by the members and entomologists world wide

How much does it cost:

20€/year

More information:

www.phasma.eu

Or: Kristien Rabaey – Rob Simoens

Nieuwpoortkeiweg 39

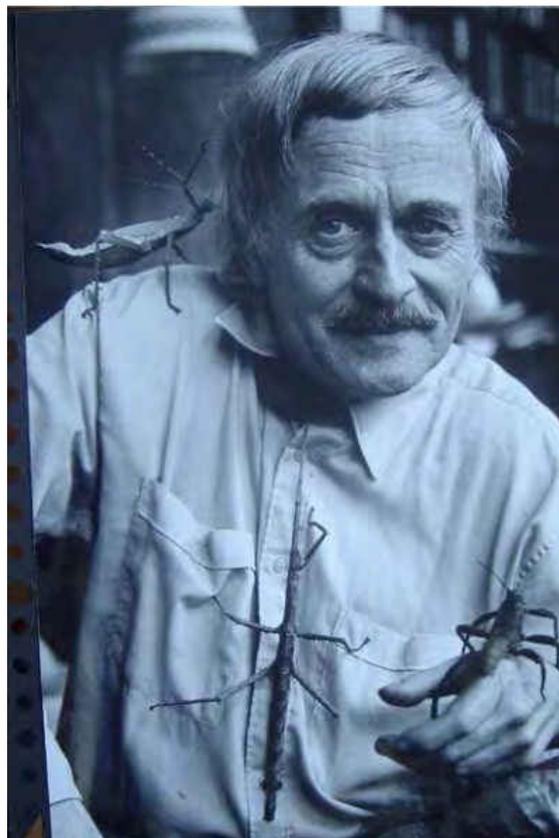
8630 Veurne

Belgium

Tel. +32 (0) 58 28 77 37

GSM +32 (0) 475 66 63 62

E-mail: kristien.rabaey@skynet.be



How to become a member:

By bank account:

Use the BIC and IBAN code for Belgium and don't forget to mention "without costs":

GEBABEBB BE90 001417425432

Make sure that your name and address is mentioned

A Way Of Life (An Autobiography)

Ron Baxter

Beginnings

From a very early age, I have been interested in all forms of wildlife, dogs, cats, birds, lizards, snakes and insects –in other words, I was interested in all aspects of Natural History.

I was very fortunate in having parents who encouraged me. I was taken to zoos and museums – especially London Zoo - where monthly, I bought the Animal and Zoo magazine, (I still have my collection of these magazines, though somewhat tatty and browned). Trips to London Zoo were very frequent and were a special treat. I spent most of my time in the Insect House, captivated by the giant silkmoths - some, like the Indian Atlas moths, with wings exceeding 25cm. and beautifully patterned, enthralled me. Among others, equally beautiful and like small Atlas moths, were the Canadian Robin Moths with terra-cotta bodies and red, black, grey and white wings, which they rhythmically opened and closed.

I would spend hours standing on the rail which served as protection from the hot water pipes and also sufficed for walking sideways on the rail as a means of elevating oneself to see into the cages.

My other insect favourites were the stick insects, which defied many to find them – even though some were almost 30cm in length. I marvelled at the leaf insects – being pale green with ribbed wing covers, making them look like walking oak leaves on which they were feeding. These were even more difficult to find, making them truly masters of camouflage.

I was fascinated with many of the other exhibits, especially the preying mantids. I found their behaviour uncanny. The way they moved their heads to follow ones actions was almost human-like, and their appearance, definitely, E.T.

The Insect House, without a doubt, was the inspiration that would lead me in later years. There was always something different to see on every visit. The exhibits were forever changing from the large number of species that were being reared in the rooms below. Sadly, the Insect House is no more, but I have one memory that I shall never forget. The Insect House, being warm and dark was the ideal place for something to hide, an escapee for instance? One such instance occurred when I was still very young. There were some insects scampering about under the hot water pipes. I found a matchbox and, in the dim light, gently placed the box over the object I could see and gently closed the box. I felt pleased with myself and being a polite little boy, I approached the keeper with the box held out in one hand, like Oliver Twist, and I said: 'I have just caught this insect,' thinking that he would be pleased with my capture. But instead, he said: 'That's alright, you can have it'. I was somewhat disappointed by his reply, but when I arrived home I gently opened the box to see what prize insect I had captured; I had captured a plum stone!

Early Entomologising

I was so interested in these displays that I decided to make some myself. I obtained from the local haberdashery shop Sylco cotton reel boxes. These were about 150mm by 100mm. and about 50mm deep. I spread the wings of the butterflies and moths I caught by placing stones on the outspread wings and waited for them to dry. Using dressmaker's pins, the specimens were duly pinned on small squares of cork that I cut from bottle corks, and glued into the boxes.

I was very proud of my growing collection. One day I lined them up on a table in the garden for the neighbours to see, along came a wasp and chewed them to bits. After that experience, I coved the boxes with cellophane paper.

A Visit to the Natural History Museum at South Kensington was always a special treat. I always made first for the Insect Gallery where I would thoroughly enjoy myself opening drawers of set specimens; gazing at boxes of Life Histories – which contained a pair of set moths; eggs on a leaf; freeze-dried caterpillar mounted life-like on artificial foliage and a pupa. Then there were large Victorian cases of various butterflies, moths, beetles and other showy insects.

Hour, upon hour I would spend in the Insect Gallery. But sadly, over the years changes have been made; the Insect Gallery is no more. All the cabinets have been removed from public view, as have all the Life History cases and the displays of exotic species. The museum has now become a spider's web of scaffolding and elevated walkways concealing sections of the beautiful interior of the building.

Following in Thunberg's footsteps – new species in South Africa

Paul D. Brock



Figure 1: *Macynia mcgregorum* female, 84mm

Who says one cannot go on holiday, relax and still find new phasmids? Whilst making a brief collecting and research trip to South Africa in October 2005, without knowing it at the time, I was following in Thunberg's footsteps by staying at The Baths, Citrusdal, Western Cape. Thunberg visited The Baths in 1773. Linnaeus' most distinguished pupil is, of course, well known for his major botanical contributions. However, Thunberg described several phasmids, including *Macynia labiata* in 1784 (locality not recorded, but probably Cape Town area).

Most people visit The Baths to relax, after all it is a noted hot spa. With the Thunberg link, it was fitting that I found a beautiful new species McGregor's Stick-insect *Macynia mcgregorum* Brock, 2006 (figures 1 & 2), named after the McGregor family, who have owned The Baths for over 100 years. This is described in: Brock, 2006 (*Three new species of South African stick insects (Phasmida)* Journal of Orthoptera Research 15(1): 37-44). I needed some luck to find this species by beating native plants in the daytime. Seeing such a beautiful insect startled me, it moved rapidly and I had to grab the specimen after the initial shock of finding it, after half an hour locating very few insects. The beating technique involves shaking or sharply knocking branches onto a 'tray'

(could even be an inverted umbrella). I use a commercial, collapsible beating tray, with a lightweight cloth base and plastic frame, easy to pack in one's luggage. Elsewhere, I easily found nymphs of other species by beating bushes, whereas close searching of the same vegetation was unproductive.

The other two species described in Brock (2006), are named after famous localities; the Cederberg Stick-insect *Clonaria cederbergensis* has so far only been found in and around the Cederberg Wilderness area. At the last minute I changed my mind (never a good idea!) and removed 'Cape' from the species name of the Cape Mountain Stick-insect and here publish the correct name *Clonaria capemontana* Brock [= *Clonaria montana* Brock, 2006: 43, as *montana* is already in use, i.e. now becomes a homonym of *Clonaria montana* (Brunner, 1907: 223).] The holotype is from Table Mountain, South Africa.



Figure 2: *Macynia mcgregorum* male, 61mm

Photographs of all species mentioned above are included in the Phasmida Species File <http://phasmida.orthoptera.org>.



Figure 3: Collecting locality for *Macynia mcgregorum* at The Baths

NB: When collecting, it is necessary to obtain permits from the authorities well in advance, as the process can be time consuming. Whilst I had a permit for eggs also, nearly all the eggs laid failed to hatch, so I was unable to rear McGregor's Stick-insect.



Figure 4: Look what else landed on the beating tray! A mating pair of *Phalces tuberculatus* Brock, 2000

Sticks Insects in *Pan's Labyrinth*

Chrissie McCarthy

Meet the stars of Pans Labyrinth, Chong and Cheech.

Directed by Guillermo del Toro, Pan's Labyrinth tells the story of Ofelia, a young girl who falls out of a harsh world set during the Spanish Civil War. It charts her adventures as she descends into a fantasy realm populated with fairies, fauns, monsters and giant frogs.

CafeFX was asked to create several creatures that exist only in Ofelia's imagination, including a healing mandrake root that acts like a newborn baby, and stick insects that transformed into fairies. To make the magical creatures look realistic CafeFX kept two live stick insects called Cheech and Chong in-house as reference. As for when the stick insects turn into fairies, the team studied capucchin monkeys and dragonflies.



"The stick bug is my favourite creature in the film," reveals VFX producer Irastorza. "It's as realistic as any creature we've done, yet still has character. Like the fairies, its movements were formed from studying an actual stick bug that we acquired. And, for its transformation, we blended one model into another."

Crossword

Chrissie McCarthy

T	H	U	N	D	E	R	B	U	G	V	S	A	I	D	C	R	M	M	P
U	P	T	E	R	I	N	O	X	Y	L	U	S	S	R	O	X	E	F	E
V	B	H	T	X	Y	C	J	C	U	Q	S	O	W	S	N	B	S	O	X
H	E	U	S	I	I	A	O	L	B	C	O	N	L	E	T	A	S	R	T
Q	A	N	H	O	T	T	C	E	I	C	R	H	I	J	R	N	E	N	A
Y	X	B	I	C	O	O	C	A	Y	D	O	L	M	T	O	A	L	G	T
X	H	E	X	U	P	U	O	F	U	Y	M	U	M	P	L	N	E	X	O
Z	R	R	C	S	H	O	Q	X	L	E	A	O	K	S	E	A	N	W	S
D	X	G	A	L	A	K	F	E	M	U	S	S	E	L	X	Y	S	O	O
I	D	X	Y	T	S	X	Y	Z	Y	E	O	P	H	Y	L	L	I	U	M
L	H	D	R	G	M	P	H	P	O	N	N	X	C	B	L	G	S	J	A
A	G	G	E	C	A	P	E	M	O	N	T	A	N	A	K	E	I	W	Y
T	T	B	D	O	D	T	N	G	N	O	G	W	X	F	H	E	L	L	O
A	O	U	J	L	O	E	N	X	Y	L	O	P	H	O	N	E	D	N	O
T	U	G	F	E	G	H	E	T	E	R	O	P	T	E	R	Y	X	V	O
A	S	I	Z	B	C	J	M	F	N	V	U	L	M	L	X	C	P	K	C
S	T	I	C	K	K	Q	A	M	A	A	T	C	E	S	N	I	F	Z	W
M	O	P	M	T	I	L	N	A	D	P	O	K	X	U	X	N	J	C	A
X	U	A	T	C	K	E	N	T	R	O	M	O	R	P	H	I	C	D	O
U	G	T	M	P	L	O	V	R	T	A	Q	X	Z	K	O	L	C	J	M

Words to find:

- CAPEMONTANA
- CONLE
- DILATATA
- EOPHYLLIUM
- EXTATOSOMA
- HENNEMANN
- HETEROPTERYX
- HEUSII
- INSECT
- KALAG
- KENTROMORPHIC
- LEAF
- MESSELENSIS
- MOROSUS
- PHASMA
- PTERINOXYLUS
- STICK
- THUNBERG

Culture List

Edward Baker (Editor)

The Culture List has been included with the Newsletter for cost reasons.

PHASMID STUDY GROUP CULTURE LIST FEBRUARY 2007

PSG SCIENTIFIC NAME No.	SUB FAMILY	ORIGIN (of culture stock)	NOTES			SIZE (mm)		PREFERRED FOODPLANTS	SPECIES REPORT
			1	2	3	-	-		
1. <i>Carausius morosus</i> (Sinéty, 1901)	Lonchodinae	India.	P*	C	-	80	55	P.I.H.Py.B.Ro.Ra.	25
2. <i>Pseudodiacantha macklotii</i> (de Haan, 1842)	Necrosciinae	Java.	S	C	W	70	55	Rh. B.	5, 48
3. <i>Bacillus rossius</i> (Rossi, 1788)	Bacillinae	Europe.	S	C	-	75	55	B. Ro.	4, 48
4. <i>Sipyloidea sipyilus</i> (Westwood, 1859)	Necrosciinae	Madagascar.	P*	C	W	85	?	B. H. Ra. Ro.	1, 49
5. <i>Medauroidea extradentata</i> (Brunner, 1907)	Phasmatinae	Vietnam.	S	C	-	110	75	B. H. O. Ro.	13, 27
6. <i>Acanthoxyla prasina</i> (Westwood, 1859)	Phasmatinae	New Zealand.	P	C	-	85	-	E. Ro. B.	36
7. <i>Clitarchus hookeri</i> (White, 1846)	Phasmatinae	New Zealand & UK.	P	L	-	90*	70*	B. E.	-
8. <i>Bactrododema tiaratum</i> Stål, 1858	Palophinae	Zimbabwe.	S	L	-	L	L	-	-
9. <i>Extatosoma tiaratum tiaratum</i> (Macleay, 1827)	Tropidoderinae	Australia.	S	C	W	120	90	B.E.H.O.Py.Ra.Ro.	2
10. <i>Phyllium bioculatum</i> Gray, 1832	Phylliinae	Java.	S	C	W	85	55	O. B.	37(20:3)
11. <i>Cladomorphus phyllinus</i> (Gray, 1835)	Cladomorphinae	Brazil.	P*	T	-	230	130	B. O.	14
12. <i>Anisomorpha buprestoides</i> (Stoll, 1813)	Pseudophasmatinae	U.S.A.	S	C	-	75	35	B. O. Rh.	3, 49
13. <i>Acrophylla wuelfingi</i> (Redtenbacher, 1908)	Phasmatinae	Australia.	S	C	W	200	120	B. O. E. Ra. Ro.	6, 47
14. <i>Eurycnema goliath</i> (Gray, 1834)	Phasmatinae	Australia.	S	T	W	180	145	A. E.	96:19
15. <i>Ctenomorphodes briareus</i> (Gray, 1834)	Phasmatinae	Australia.	S	T	W	135	90	B. O. E.	7
16. <i>Carausius sechellensis</i> (Bolivar, 1895)	Lonchodinae	Seychelles.	S	L	-	80	60	F. B.	-
17. <i>Caribbiopheromera jamaicana</i> Zompro, 2001	Diapheromerinae	Jamaica.	S	C	-	75	50	B.	12
18. <i>Heteropteryx dilatata</i> (Parkinson, 1798)	Heteropteryginae	West Malaysia.	S	C	W	145	90	B. H. I. O. Ro.	28
19. <i>Lonchodes brevipipes</i> Gray, 1835	Lonchodinae	West Malaysia.	S	C	-	135	85	B. H. Rh. Ro. O.	11
20. <i>Anchiale maculata</i> (Olivier, 1825)	Phasmatinae	Papua New Guinea.	S	L	W	155	105	B.H.O.E.Ra.Ro.	17
21. <i>Extatosoma popa popa</i> Stål, 1875	Tropidoderinae	Papua New Guinea.	S	T	W	160	85	O. E. Hy.	-
22. <i>Ramulus thaii</i> (Hausleithner, 1985)	Phasmatinae	Thailand.	S	C	-	110	80	B.E.H.O.Py.Ro.	15, 47
23. <i>Eurycantha calcarata</i> Lucas, 1869	Eurycanthinae	Papua New Guinea.	S	C	-	125	100	B. H. I. O. Ro.	8, 9/10
24. SAME AS P.S.G. 5.	-	-	-	-	-	-	-	-	-
25. <i>Phobaeticus serratipes</i> (Gray, 1835)	Phasmatinae	West Malaysia.	S	C	W	250	150	B. O.	36, P2:45
26. <i>Haaniella echinata</i> (Redtenbacher, 1906)	Heteropteryginae	Borneo.	S	C	w	110	80	B. H. O. Rh. Ro.	29
27. <i>Carausius chani</i> (Hausleithner, 1991)	Lonchodinae	Sabah.	S	C	-	110	75	B. O.	(31:12)
28. <i>Eurycnema versirubra</i> (Audinet-Serville, 1838)	Phasmatinae	West Malaysia.	P*	L	W	185	110	B. O.	P1:34
29. <i>Lonchodes imitator</i> (Brunner, 1907)	Lonchodinae	Sabah.	S	C	-	120	90	B. O.	35
30. <i>Pharnacia cantori</i> (Westwood, 1859)	Phasmatinae	West Malaysia.	S	T	W	210	145	B. O.	-
31. <i>Creoxylus spinosus</i> (Fabricius, 1775)	Xerosomatinae	Trinidad.	S	T	W	55	50	B.H.I.O.Ra.Ro.	16, 43
32. <i>Ocnophiloidea regularis</i> (Brunner, 1907)	Diapheromerinae	Trinidad.	S	C	-	50	45	B.H.I.O.Ra.Ro.	18, 44
33. <i>Acanthoxyla intermedia</i> Salmon, 1955	Phasmatinae	New Zealand.	P	L	-	90*	-	E.	-
34. <i>Tectarchus huttoni</i> (Brunner, 1907)	Pachymorphinae	New Zealand.	S	L	-	60*	42*	Manuka.	-
35. <i>Diapheromera femorata</i> (Say, 1824)	Diapheromerinae	U.S.A. & Canada.	S	C	-	75	65	O. B. Ro.	24
36. <i>Lonchodes hosei hosei</i> (Kirby, 1896)	Lonchodinae	Sarawak.	S	L	-	130	85	B.H.P.Py.Ro.	22, P5:38
37. <i>Lopaphus perakensis</i> (Redtenbacher, 1908)	Necrosciinae	West Malaysia.	S	C	-	90	70	B.	40(32:3)
38. <i>Dares validispinus</i> Stål, 1875	Dataminae	Sarawak & Brunei.	S	C	-	45	38	B. O. Ro.	26
39. <i>Lonchodes jejunos</i> (Brunner, 1907)	Lonchodinae	Sarawak.	S	L	-	130	100	B. Ro.	(24:3)P5:32
40. <i>Lopaphus nanoalatus</i> Brock, 1999 <small>MICROWINGS</small>	Necrosciinae	West Malaysia.	S	L	w	S	-	B.	-
41. unidentified. "GRASS SP."	Pachymorphinae	Tanzania.	S	L	-	S	-	L. Grasses.	(9/10:3)
42. unidentified. "MADRAS THORN"	Pachymorphinae	Tanzania.	S	L	-	S	-	L.	(9/10:7)
43. <i>Graeffea</i> sp.	Platycraninae	Fiji.	-	L	-	?	?	-	-
44. <i>Eurycantha calcarata</i> Lucas, 1869 (? ssp.)	Eurycanthinae	Indonesia.	S	C	-	155	115	B.H.I.O.Ra.Ro.	30
45. <i>Clonopsis gallica</i> (Charpentier, 1825)	Bacillinae	Europe.	P	C	-	65	-	B. Broom. Ro.	38
46. <i>Marmessoidea rosea</i> (Fabricius, 1793)	Necrosciinae	West Malaysia.	S	L	W	75	55	Cinnamon.	-
47. <i>Phanocles costaricensis</i> Hennemann, 2002	Diapheromerinae	Costa Rica.	S	T	-	185	110	B. Ro.	P1:5, P11:8
48. <i>Haplopus cytherea</i> (Westwood, 1859)	Cladomorphinae	Dominican Republic.	S	C	W	120	90	Ro.B.E.H.O.Ra.	45, 19
49. unclassified.	-	Tanzania.	S	L	-	S	-	L. B.	-
50. <i>Paranisomorpha</i> sp.	Pseudophasmatinae	Peru.	S	L	-	S	-	B.	-
51. <i>Libethra</i> sp.	Diapheromerinae	Peru.	S	L	-	45	40	B.	-
52. <i>Alienobostrea brocki</i> (Hausleithner, 1987)	Diapheromerinae	Costa Rica.	S	C	-	140	80	B. Py. Ro.	23
53. <i>Hermarchus inermis</i> Redtenbacher, 1908	Phasmatinae	Fiji.	S	L	-	M	-	Guava.	-
54. unidentified.	Pachymorphinae	Tanzania.	S	L	-	S	-	L.	-
55. <i>Ramulus nematodes</i> (de Haan, 1842)	Phasmatinae	West Malaysia.	S	C	-	130	100	B. O. Ra. Ro. Rb.	17

56.SAME AS P.S.G. 3.	-	-	-	-	-	-	-	-
57. <i>Hermarchus polyneisicus</i> Redtenbacher, 1908	Phasmatinae	Australia.	P*	L	-150	-	B.	-
58. <i>Pharnacia sumatrana</i> (Brunner, 1907)	Phasmatinae	West Malaysia.	S	L	W 210	125	B. O.	-
59. <i>Phyllium bioculatum</i> Gray, 1832	Phyllinae	Sri Lanka.	S	C	W 85	55	O. B.	-
60. <i>Phyllium bioculatum</i> Gray, 1832	Phyllinae	West Malaysia.	S	L	W 85	55	O. B.	-
61. <i>Haplopus micropterus</i> (St. Fargeau & Serville, 1827)	Cladomorphinae	Dominican Republic.	S	C	W 140	105	Ro. B. Hy.	-
62.unclassified.	-	Kenya.	S	L	-	S	-	L.
63.unclassified.	-	Kenya.	S	L	-	M	-	L.
64.SAME AS P.S.G. 37.	-	-	-	-	-	-	-	-
65. <i>Sipyloidea</i> sp.	Necrosiinae	Sabah.	P*	L	W S	-	B.	-
66. <i>Carausius sanguineoligatus</i> (Brunner, 1907)	Lonchodinae	Sabah.	S	L	-	85	60	B. H. Ra. Ro.
67. <i>Lonchodes everetti</i> (Kirby, 1896)	Lonchodinae	Sabah.	S	C	-	160	90	B.
68. <i>Lonchodes</i> sp.	Lonchodinae	Sabah.	S	L	-	M	-	B.
69. <i>Dares verrucosus</i> Redtenbacher, 1906	Dataminae	Sabah.	S	T	-	45	35	B. H. O. Py. Ro.
70. <i>Haaniella scabra</i> (Redtenbacher, 1906)	Heteropteryginae	Sabah.	S	C	w	70	55	B. O.
71. <i>Bacillus atticus cypricus</i> Uvarov, 1936	Bacillinae	Cyprus.	P	L	-	80	-	Lentic
72. <i>Phyllium giganteum</i> Hausleithner, 1984	Phyllinae	West Malaysia.	P*	C	W	105	82	O. B.
73. <i>Phenacophorus cornucervi</i> Brunner, 1907	Lonchodinae	Sabah.	S	C	-	80	65	B. I. Ro. Ra.
74. <i>Ctenomorphodes</i> sp.	Phasmatinae	Australia.	S	L	W	155	95	B. O. E.
75.SAME AS P.S.G. 25.	-	-	-	-	-	-	-	-
76. <i>Phyllium siccifolium</i> (Linnaeus, 1758)	Phyllinae	West Malaysia.	S	L	W	80	60	O. B.
77. <i>Phyllium</i> sp.	Phyllinae	West Malaysia.	S	L	W	S	-	O. B.
78.SAME AS P.S.G. 30.	-	-	-	-	-	-	-	-
79. <i>Bostra actolus</i> (Westwood, 1859)	Diapheromerinae	Mexico.	S	L	-	170*	?	A. Rb. Py.
80. <i>Acanthoxyla geisovii</i> (Kaup, 1866)	Phasmatinae	New Zealand & UK	P	T	-	75	-	B. E. Cupressus
81. <i>Acanthoxyla inermis</i> Salmon, 1955	Phasmatinae	New Zealand & UK	P	C	-	90*	-	Ro. B. E.
82. <i>Rhaphiderus spinigerus</i> (Lucas, 1863)	Tropidoderinae	La Reunion.	S	C	-	75	60	Rh. E. B. O. Ro.
83. <i>Rhaphiderus scabrosus</i> (Percheron, 1829)	Tropidoderinae	Mauritius.	S	C	-	95	70	Ro.
84. <i>Oreophoetes peruana</i> (Saussure, 1868)	Diapheromerinae	Peru.	S	C	-	60	55	F.
85. <i>Pseudophasma rufipes</i> (Redtenbacher, 1906)	Pseudophasmatinae	Peru.	P*	C	W	75	50	P.
86. <i>Dyme rarspinosa</i> Brunner, 1907	Diapheromerinae	Peru.	S	T	-	80	65	B. O.
87. <i>Parocnophilia latirostrata</i> Zompro, 2001	Diapheromerinae	Peru.	S	L	-	S	-	B.
88. <i>Necrosia</i> sp.	Necrosiinae	Sulawesi.	S	L	W	S	-	B.
89. <i>Sosibia parvipennis</i> (Stål, 1877)	Necrosiinae	Philippines.	S	C	W	75	50	B. Hy.
90. <i>Rhamphosipyloidea gorkoni</i> (Hausleithner, 1990)	Necrosiinae	Philippines.	S	L	-	100	60	B. E. Hy. Ra.
91.SAME AS P.S.G. 45.	-	-	-	-	-	-	-	-
92. <i>Menexenus exiguus alienigena</i> Günther, 1939	Lonchodinae	Sulawesi.	S	L	-	50	35	B.
93.unidentified.	Lonchodinae	India.	S	L	-	S	-	B.
94. <i>Cuniculina insignis</i> (Wood-Mason, 1873)	Phasmatinae	India.	S	T	-	195	115	Ro. B.
95. <i>Ramulus frustrans</i> (Brunner, 1907)	Phasmatinae	India.	S	L	-	92	?	B.
96. <i>Menexenus nudiusculus</i> Hausleithner, 1992	Lonchodinae	India.	S	L	-	70	55	B. Rh. Ro.
97. <i>Diapheromera arizonensis</i> Caudell, 1903	Diapheromerinae	U.S.A.	S	L	-	?	76*	A.
98. <i>Parabacillus hesperus</i> Hebard, 1934	Pachymorphinae	U.S.A.	P	L	-	75*	50*	A. Rb. B.
99. <i>Epidares nolimetangere</i> (de Haan, 1842)	Dataminae	Sarawak.	S	C	-	45	35	B. O. Py. Ro.
100. <i>Lonchodes amaurops</i> Westwood, 1859	Lonchodinae	Sarawak.	S	C	-	100	80	B.H.P.Py.Ra.Ro.
101. <i>Lamponius guerini</i> (Saussure, 1868)	Cladomorphinae	Guadeloupe.	S	C	-	90	70	B.E.I.O.Py.Ra.Ro.
102. <i>Clonaria</i> sp.	Pachymorphinae	Burundi.	S	L	-	60	50	B.
103. <i>Sipyloidea</i> sp. "THAILAND 8"	Necrosiinae	Thailand.	S	C	W	95	65	B. E. Ra. Ro.
104. <i>Phaenopharos herwardeni</i> Hennem. <i>et al.</i> , 1996	Necrosiinae	Thailand.	S	C	w	115	90	B. E. Ra. Rh. Ro.
105. <i>Parapachymorpha spinosa</i> (Brunner, 1893)	Pachymorphinae	Thailand.	S	C	-	65	50	B. I. Py. Ro.
106. <i>Oncotophasma martini</i> (Griffini, 1896)	Diapheromerinae	Costa Rica.	S	L	-	75	70	B. Ra.
107. <i>Bacillus lynceorum</i> Bullini <i>et al.</i> , 1984	Bacillinae	Sicily.	P	C	-	85	-	B.
108. <i>Bacillus whitei</i> Nascetti & Bullini, 1981	Bacillinae	Sicily.	P	C	-	105	-	B. Py.
109. <i>Carausius abbreviatus</i> (Brunner, 1907)	Lonchodinae	Sarawak.	S	L	-	115	75	B.E.H.Py.Ra.Ro.
110. <i>Hoploclonia gecko</i> (Westwood, 1859)	Obriminae	Sarawak.	S	T	-	40	30	B.H.Ra.Ro.O.Py.
111. <i>Eurycantha insularis</i> Lucas, 1869	Eurycanthinae	New Guinea.	S	C	-	115	85	B. I. O. Rh.
112. <i>Haaniella muelleri</i> (de Haan, 1842)	Heteropteryginae	West Malaysia.	S	C	w	110	75	B.
113. <i>Dyme</i> sp.	Diapheromerinae	Ecuador	S	C	-	115	?	B. Ro.
114. <i>Ramulus</i> sp. "THAILAND 2"	Phasmatinae	Thailand.	S	L	-	70	65	B.
115. <i>Paramyromides</i> ? sp. "THAILAND 6"	Necrosiinae	Thailand.	S	T	w	95	75	B.
116. <i>Pseudophasma bispinosum</i> (Redtenbacher, 1906)	Pseudophasmatinae	Ecuador.	S	C	W	70	55	P.
117. <i>Dares ulula</i> (Westwood, 1859)	Dataminae	Sarawak.	S	T	-	45	40	B. O. Py. Ra.
118. <i>Areton asperimus</i> (Redtenbacher, 1906)	Obriminae	Sabah.	S	C	-	80	55	B. I. O. Py. Ra.

119. <i>Lonchodes jejunus</i> (Brunner, 1907)	Lonchodinae	Sarawak.	S	C	-	130	100	E. B. Ra. Ro.	P5:32
120. <i>Carausius cristatus</i> Brunner, 1907	Lonchodinae	Sabah.	S	T	-	110	85	B. Ra. Ro.	P4:70
121. <i>Phenacephorus spinulosus</i> (Hausleithner, 1991)	Lonchodinae	Sabah.	S	T	-	60	50	B. I. Py. Ra. Ro.	P2:41
122. <i>Anisomorpha paromalis</i> (Westwood, 1859)	Pseudophasmatinae	Belize.	S	C	-	70	45	P. B.	P9:1
123. <i>Leptynia hispanica</i> (Bolivar, 1878)	Pachymorphinae	France.	P	L	-	50	40	Ro.	45
124. <i>Acacus sarawacus</i> (Westwood, 1859)	Necrosciinae	Borneo.	S	L	-	85	65	B. Py. Ra. Ro.	(50:5)
125. <i>Haaniella grayii</i> (Westwood, 1859)	Heteropteryginae	Sarawak.	S	C	w	135	95	B.I.O.Py.Ra.Ro.	(50:5)
126. <i>Haaniella dehaanii</i> (Westwood, 1859)	Heteropteryginae	Borneo.	S	C	w	100	70	B.I.O.Py.Ra.Ro.	(50:5)
127. <i>Lonchodes megabeast</i> Bragg, 2001	Lonchodinae	Sarawak.	S	T	-	155	110	P. B.I.Py.Ra.Ro.	P4:80
128. <i>Phyllium celebicum</i> de Haan, 1842	Phylliinae	Thailand.	S	C	W	80	65	B. O. Hy.	P1:31
129. <i>Lonchodes jejunus</i> (Brunner, 1907)	Lonchodinae	Brunei.	S	C	-	140	105	B. O. Py.	P5:32
130. <i>Diesbachia hellotis</i> (Westwood, 1859)	Necrosciinae	Sarawak.	P*	L	W	120	90	B. Py. Ra. Ro.	-
131. <i>Leiophasma adustum</i> (Redtenbacher, 1906)	Anisacanthinae	Madagascar.	S	L	-	115	75	Guava.	-
132. <i>Leiophasma nigrotuberculatum</i> (Redt. 1906)?	Anisacanthinae	Madagascar.	S	L	-	S	-	Guava.	-
133. <i>Parctatosoma hystrix</i> Wood-Mason, 1879	Anisacanthinae	Madagascar.	S	L	w	75	60	B.	P2:7
134. <i>Paramyromides</i> sp.	Necrosciinae	Java.	S	L	w	75	50	B.	-
135. <i>Carausius</i> sp.	Lonchodinae	Java.	S	L	-	S	-	B.	-
136. <i>Carausius</i> sp.	Lonchodinae	Java.	S	L	-	S	-	B.	-
137. <i>Pharnacia</i> sp.	Phasmatinae	Lombok.	S	L	-	L	-	O.	-
138. <i>Lonchodes modestus</i> (Brunner, 1907)	Lonchodinae	Borneo.	S	C	-	120	105	B. H. Py, Ra, Ro.	P4:74
139. <i>Carausius</i> sp.	Lonchodinae	Philippines.	S	L	-	S	-	B.	-
140. <i>Bacteria</i> sp.	Diapheromerinae	Ecuador.	S	L	-	L	-	B.	-
141. <i>Clonaria</i> sp.	Pachymorphinae	Zaire.	S	C	-	70	50	B. Py. Rb.	M30:26
142. <i>Clonaria</i> sp.	Pachymorphinae	Kenya.	S	L	-	S	-	B.	-
143. <i>Sipyloidea</i> sp.?	Necrosciinae	Bali.	S	L	W	60	45	B. Py.	-
144. <i>Ramulus</i> sp.(? <i>artemis</i> ?)	Phasmatinae	Vietnam.	P*	C	-	115	-	B.	(55:5)
145. <i>Paramenexenus lactus</i> (Kirby, 1904)	Lonchodinae	Vietnam.	S	C	-	105	80	B. I. Rh.	(56:5)
146. <i>Centrophasma hadrillum</i> (Westwood, 1859)	Necrosciinae	Brunei & Sarawak	S	L	W	90	70	B. Py. Ro. O.	P3:23
147. <i>Carausius alluaudi</i> (Bolivar, 1895)	Lonchodinae	Seychelles.	S	L	-	105	70	B.	-
148. <i>Paraclonistria</i> sp. ST. KITTS	Diapheromerinae	St. Kitts.	S	T	-	70	50	B. Py.	(64:5)
149. <i>Achrioptera punctipes</i> (Audinet-Serville, 1838)	Phasmatinae	Madagascar.	S	T	W	200	125	B.	P3:6
150. <i>Dinophasma guttigerum</i> (Westwood, 1859)	Aschiphasmatinae	Sarawak.	S	L	W	60	45	Fu. Willowherb.	P2:62
151. <i>Asceles margaritatus</i> Redtenbacher, 1908	Necrosciinae	Sabah.	S	C	w	60	50	E. B. O.	(56:5)
152. <i>Phanocloidea nodulosa</i> (Redtenbacher, 1908)	Diapheromerinae	Venezuela.	S	C	-	150	100	B.	(62:8)
153. <i>Ramulus siamensis</i> (Brunner, 1907) CHIANG MAI	Phasmatinae	Thailand.	S	C	-	105	80	B. Ro. O.	P4:39
154. <i>Acrophylla titan</i> (Macleay, 1827)	Phasmatinae	Australia.	S	C	W	220	140	E.B.Hy.Ra. Hazel.	-
155. <i>Ctenomorphodes tessulata</i> (Gray, 1835)	Phasmatinae	Australia.	S	C	W	130	90	E. B. Ra. Ro.	-
156. <i>Bacillus atticus atticus</i> Brunner, 1882	Bacillinae	Greece.	P	L	-	70	-	Ro.	M30:23
157. <i>Ramulus</i> sp.	Phasmatinae	Vietnam.	S	C	-	180	145	B. Ra. Ro.	(62:6)
158. <i>Ramulus</i> sp.	Phasmatinae	Vietnam.	S	C	-	120	95	B. Ra. Ro.	(62:6)
159. <i>Ramulus</i> sp.	Phasmatinae	Vietnam.	S	C	-	135	125	B. Ra. Ro.	(62:6)
160. <i>Trachythorax maculicollis</i> (Westwood, 1848)	Necrosciinae	Burma & Bangladesh	S	C	W	70	35	Py.	-
161. <i>Phenacephorus sepilokensis</i> Bragg, 1994	Lonchodinae	Sabah.	P*	L	-	100	-	B. Ra. Ro. Py.	(63:3)
162. <i>Phenacephorus auriculatus</i> (Brunner, 1907)	Lonchodinae	Brunei.	S	C	-	85	65	B.E.Hy.Ra.Ro.Py.	(63:3)
163. <i>Sipyloidea</i> sp.	Necrosciinae	Australia.	S	C	W	80	60	B.E.H.Py.Ra.Ro.	(63:3)
164. <i>Parapachymorpha spiniger</i> (Brunner, 1907)	Pachymorphinae	Vietnam.	P	C	-	70	68	B. Ro. Py.	(64:4)
165. <i>Hoplocloonia abercrombiei</i> Bragg, 1995	Obriminae	Sarawak.	S	C	-	50	35	B.O.Rh.Hazel.	(64:4)99:26
166. <i>Dinophasma saginatum</i> (Redtenbacher, 1906)	Aschiphasmatinae	Sarawak.	S	C	W	65	45	Fu. Willowherb	(64:4)
167. <i>Hermachus novaebritanniae</i> (Wood-Mason, 1877)	Phasmatinae	Fiji.	S	T	W	?	95	O. B. E.	(64:4)
168. <i>Clonistria bartholomaea</i> Stål, 1875	Diapheromerinae	Grenada.	S	T	-	90	60	B. Py.	(64:4)
169. <i>Lonchodes mindanaensis</i> (Brunner, 1907)	Lonchodinae	Philippines.	S	C	-	105	90	B. H. Ra.	(64:5)
170. <i>Phanocloidea muricata</i> (Burmeister, 1838)	Diapheromerinae	French Guiana.	S	C	-	180	145	B. Ra. Ro.	M29:15
171. <i>Rhynchacris ornata</i> Redtenbacher, 1908	Cladomorphinae	Costa Rica.	S	C	W	55	45	B. O. Py. Ra.	(65:4,97:19)
172. <i>Bacillus grandii grandii</i> Nascetti & Bullini, 1981	Bacillinae	Sicily.	S	T	-	80	55*	B.	(65:4)
173. <i>Neohirasea maerens</i> (Brunner, 1907)	Lonchodinae	Vietnam.	S	C	-	80	65	B. I.	(65:4)
174. <i>Lopaphus caesius</i> (Redtenbacher, 1908)	Necrosciinae	Vietnam.	S	C	W	120	80	B. Ro.	(65:4)
175. <i>Diesbachia tamyris</i> (Westwood, 1859)	Necrosciinae	Sumatra.	S	T	W	105	85	B. O. Py. Ro.	(65:4)
176. <i>Lonchodes geniculatus</i> Gray, 1835	Lonchodinae	Singapore.	S	L	-	120	90	B. O. P.	(65:5)
177. <i>Haaniella saussurei</i> Kirby, 1904	Heteropteryginae	Sarawak.	S	C	w	120	80	B.E.I.O.Ra.Ro.	(67:5)
178. <i>Clonistria</i> sp.	Diapheromerinae	St. Lucia.	S	T	-	95	65	B.	(67:6)
179. <i>Clonaria fritzschei</i> (Zompro, 2000)	Pachymorphinae	Thailand.	S	C	-	75	65	B. O. Ra. Ro.	P5:59
180. <i>Stheneboea malaya</i> (Stål, 1875)	Lonchodinae	Singapore.	S	L	-	95	75	B. O. Ra.	-

181. <i>Lonchodes cultratolobatus</i> (Brunner, 1907)	Lonchodinae	Brunei & Sabah.	S	C	-	130	100	B. Ra. Ro.	-
182. <i>Oxyartes honestus</i> Redtenbacher, 1908	Necrosciinae	Vietnam.	S	C	w	105	90	B. I. O. Ra. Ro.	-
183. <i>Scaptrophasma hispidulum</i> (Wood-Mason, 1873)	Pachymorphinae	Andaman Islands.	S	C	-	70	60	B. O. Ra.	(70:6)
184. unidentified.	Necrosciinae	Andaman Islands.	S	T	W	75	55	B. O. Ra.	-
185. <i>Neohirasea</i> sp.	Lonchodinae	N. Vietnam.	S	C	-	65	50	B. I. Ra. Ro. F.	-
186. <i>Chondrostethus woodfordi</i> Kirby, 1896	Lonchodinae	Solomon Islands.	S	C	-	95	60	F. B. Rh.	-
187. <i>Creoxylylus hagani</i> Redtenbacher, 1906	Xerosomatinae	Venezuela.	S	T	W	70	60	B.	-
188. <i>Oxyartes spinipennis</i> Carl, 1913	Necrosciinae	Vietnam.	S	C	w	100	85	B.	-
189. <i>Pseudophasma acanthonotum</i> (Redtenbacher, 1906)	Pseudophasmatinae	Venezuela.	S	C	W	75	55	B. Hy. P.	-
190. <i>Phasma gigas</i> (Linnaeus, 1758)	Phasmatinae	New Guinea.	S	C	W	190	115	O. B. Eu. Hazel.	P8:20
191. <i>Urucumania borellii</i> (Giglio-Tos, 1897)	Pseudophasmatinae	Paraguay.	S	T	-	55	40	B.	-
192. <i>Orestes mouhotii</i> (Bates, 1865)	Dataminae	Thailand & Malaysia	P	C	-	50	40	B. Ro.	104:6
193. <i>Tropidoderus childreni</i> (Gray, 1833)	Tropidoderinae	Australia.	S	T	W	140	120	E.	-
194. <i>Rhamphophasma spinicorne</i> (Stål, 1875)	Phasmatinae	Bangladesh.	S	C	-	80	70	B.	P7:45
195. <i>Sungaya inexpectata</i> Zompro, 1996	Obriminae	Philippines.	P	C	-	80	-	B.	(96:10)93:4
196. <i>Baculofractum insigne</i> (Brunner, 1907)	Necrosciinae	Sumatra.	S	C	w	140	110	B. Ro.	97:13
197. <i>Pharnacia westwoodii</i> (Wood-Mason, 1875)	Phasmatinae	Thailand.	S	T	w	235	?	O. B.	-
198. <i>Anisomorpha ferruginea</i> (Beauvois, 1821)	Pseudophasmatinae	U.S.A.?	S	C	-	50	30	B.	-
199. <i>Hoplocloonia cuspidata</i> Redtenbacher, 1906	Obriminae	Brunei.	S	C	-	50	30	B. O.	-
200. <i>Lonchodes malleti</i> Bragg, 2001	Lonchodinae	Sabah.	S	C	-	125	90	B. H.	-
201. <i>Sipyloidea</i> sp.	Necrosciinae	Bangladesh.	S	C	W	85	60	B. H. Ro.	P7:48
202. <i>Medaura jobrensis</i> Brock & Cliquennois, 2000	Phasmatinae	Bangladesh.	S	C	-	100	70	B. H.	P9:19
203. <i>Pharnacia biceps</i> Redtenbacher, 1908	Phasmatinae	East Java.	S	C	w	165	110	B. H.	P9:28
204. <i>Menexenus batesii</i> (Kirby, 1896)	Lonchodinae	Moluccas.	S	C	-	90	65	B. H. Hy.	-
205. <i>Phaenopharos struthioneus</i> (Westwood, 1859)	Necrosciinae	West Malaysia.	S	C	w	140	115	B. H. O. Hazel.	-
206. <i>Clonaria</i> sp.	Pachymorphinae	Tanzania.	S	C	-	45	40	B. Ro.	(82:7)
207. <i>Cuniculina</i> sp. BANGLADESH 13	Phasmatinae	Bangladesh.	S	C	-	130	105	B. Ro.	(P7:60)
208. <i>Pharnacia jianfenglingensis</i> Bi, 1994	Phasmatinae	Vietnam.	S	C	w	240	190	B. O. Ro. Hazel.	(82:7)98:21
209. <i>Lopaphus brachypterus</i> (de Haan, 1842)	Necrosciinae	West Malaysia.	S	C	W	100	55	E. Hy.	(82:7)
210. <i>Myronides magnificus</i> Brunner, 1907	Lonchodinae	Vietnam.	S	C	-	130	100	B. Hy.	(82:7)
211. <i>Cuniculina</i> sp. BANGLADESH 12	Phasmatinae	Bangladesh.	S	C	-	165	135	B.	(P7:60)
212. <i>Pylaemenes mitratus</i> (Redtenbacher, 1906)	Dataminae	West Malaysia.	S	C	-	45	35	B.	(82:7)
213. <i>Malacomorpha jamaicana</i> (Redtenbacher, 1906)	Pseudophasmatinae	Jamaica.	S	C	-	50	30	P.	P10:1
214. <i>Haplopus jamaicensis</i> (Drury, 1773)	Cladomorphinae	Jamaica.	S	C	W	110	75	B. H. Hy. Ra.	(84:4)
215. <i>Phaenopharos khaoyaiensis</i> Zompro, 2000	Necrosciinae	Thailand.	P*	C	w	130	-	B. H. Hy. Ra.	(84:4)
216. <i>Medaura scabriuscula</i> (Wood-Mason, 1873)	Phasmatinae	Bangladesh.	S	C	-	105	80	B. H. Ra.	P9:15
217. <i>Lopaphus trilineatus</i> (Carl, 1913)	Lonchodinae	Bangladesh.	S	C	-	100	80	B. H. Hy. O. Ra.	(P7:52)
218. <i>Clonaria luethyi</i> (Zompro, 2000)	Pachymorphinae	Thailand.	S	C	-	60	50	B. H. O. Ra.	(84:4)
219. <i>Cuniculina</i> sp. BANGLADESH 2	Phasmatinae	Bangladesh.	S	C	-	125	90	B. H.	(P7:48)
220. <i>Malacomorpha cyllarum</i> (Westwood, 1859)	Pseudophasmatinae	Jamaica.	S	C	W	70	40	P.	(84:5)
221. <i>Scaptrophasma langkawicense</i> Brock & Seow-Choen, 2000	Pachymorphinae	West Malaysia.	S	C	-	70	50	B.	-
222. <i>Sipyloidea</i> sp.	Necrosciinae	New Guinea.	S	C	W	90	55	Hy.	D10:84
223. <i>Rhamphosipyloidea philippa</i> Stål, 1877	Necrosciinae	Philippines.	S	C	W	100	60	B. H. Hy.	(87:15)
224. <i>Parapachymorpha zomproi</i> Fritzsche & Gitsaga, 2000	Pachymorphinae	Thailand.	S	C	-	90	70	B. H.	-
225. <i>Clonaria conformans</i> Brunner, 1907	Pachymorphinae	Thailand.	S	C	-	90	60	B. H. Ro.	-
226. <i>Cuniculina stulpna</i> (Westwood, 1859)	Phasmatinae	Bangladesh.	S	C	-	125	75	B. O. Ra. Ro.	-
227. <i>Entoria koshunensis</i> Shiraki, 1935	Phasmatinae	Taiwan.	S	C	-	135	100	B. Ra.	(90:14)
228. <i>Entoria formosana</i> Shiraki, 1911	Phasmatinae	Taiwan.	S	C	-	85	90	B. Ra.	(90:14)
229. <i>Ramulus</i> ? sp. [Khao Yai - round eggs]	Phasmatinae	Thailand.	S	C	-	95	75	B. Ra.	(90:14)
230. <i>Carausius</i> sp.	Lonchodinae	Philippines.	S	C	-	120	85	B. Ra.	(90:14)
231. <i>Ambrosoma festinatatum</i> Brock & Seow-Choen, 1995	Aschiphasmatinae	West Malaysia.	S	C	-	40	30	Fu. B.	-
232. <i>Stheneboea</i> sp.	Lonchodinae	Philippines.	S	C	-	95	70	B. F.	-
233. <i>Neopromachus doreyanus</i> (Bates, 1865)	Eurycanthinae	New Guinea.	S	C	-	65*	45*	F. B.	-
234. <i>Xylica oedematosa</i> Karsch, 1898	Antongiliinae	Tanzania.	S	C	-	65	45	B. H. O.	(93:26)
235. <i>Brasidas samarensis</i> Rehn & Rehn, 1938	Obriminae	Philippines.	S	C	-	115	60	B. H. O.	(93:26)
236. <i>Dimorphodes catenulatus</i> Redtenbacher, 1906	Xeroderinae	New Guinea.	S	C	W	65	45	B. H.	(93:27)
237. <i>Pseudosermyle phalangiphora</i> (Rehn, 1907)	Diapheromerinae	Belize.	S	C	-	75	55	B. H.	(93:27)
238. <i>Dinophasma kinabaluense</i> Bragg, 2001	Aschiphasmatinae	Sabah.	S	C	-	40	35	Fu. B. H. Ra.	(93:27)
239. <i>Olinta</i> sp.	Xerosomatinae	Costa Rica.	S	C	W	75	50	Violets, Hy.	(93:27)
240. <i>Lampornius portoricensis</i> Rehn, 1903	Cladomorphinae	?	S	C	-	95	85	B. H.	(93:27)
241. <i>Carausius spinosus</i> Brunner, 1907	Lonchodinae	West Malaysia	S	C	-	150	85	B. H. O.	(103:8)
242. <i>Neohirasea hongkongensis</i> Brock & Seow-Choen, 2000	Lonchodinae	Hong Kong.	S	C	-	55	50	B. H. I. Ra. Ro.	(103:8)
243. <i>Entoria victoria</i> Brock & Seow-Choen, 2000	Phasmatinae	Hong Kong.	S	C	-	105	80	B. H.	(103:8)

244. <i>Cuniculina cunicula</i> (Westwood, 1859)	Phasmatinae	Sri Lanka.	S	C	-	130	80	B. Ha. Ra.	(103:8)
245. <i>Pylaemenes borneensis sepilokensis</i> (Bragg, 1998)	Dataminae	Sabah.	S	C	-	45	40	Araceae.	(103:8)
246. <i>Lonchodes rusticus</i> (Brunner, 1907)	Lonchodinae	Sabah.	S	C	-	75	65	B.	(103:8)
247. <i>Lonchodes harmani</i> Bragg & Chan, 1993	Lonchodinae	Sabah.	S	C	-	130	90	B.	(103:8)
248. <i>Pylaemenes guangxiensis</i> (Bi & Li, 1994)	Dataminae	Hong Kong.	P	C	-	40	-	B. Ra.	(103:8)
249. <i>Metriophasma diocles</i> (Westwood, 1859)	Xerosomatinae	Panama.	S	C	W	80	60	Araceae.	(103:8)
250. <i>Bacteria ferula</i> (Fabricius, 1793)	Diapheromerinae	Dominica.	S	C	-	170	140	P. Hebe.	(103:8)
251. <i>Ramulus</i> sp.	Phasmatinae	Laos.	S	C	-	105	85	B. Ra.	(103:8)
252. <i>Lopaphus</i> sp.	Necrosiinae	Thailand.	S	C	-	105	75	B. Ra.	(103:8)
253. <i>Ramulus</i> sp.	Phasmatinae	Thailand.	S	C	-	140	115	B. Ra.	(103:8)
254. <i>Ramulus magnus</i> (Brunner, 1907)	Phasmatinae	Bangladesh.	S	C	-	125	105	B. Ra.	-
255. <i>Trachyreteton bruckneri</i> Hennemann & Conle, 2006	Obriminae	Philippines.	S	C	-	125	75	B.	(103:8)
256. <i>Orxines semperi</i> (Stål, 1877)	Necrosiinae	Philippines.	S	C	w	105	70	B.	(103:8)
257. <i>Monoignosis bipunctata</i> Cliquennois & Brock, 2004	ANAREOLATAE	Mauritius.	S	C	-	60	50	E.	(103:8)
258. <i>Parectatosoma mocquerysi</i> Finot, 1897	Anisacanthinae	Madagascar.	S	C	w	100	85	Hy. E.	(103:8)
259. <i>Pseudophasma menius</i> (Westwood, 1859)	Pseudophasmatinae	Costa Rica.	S	C	W	65	50	P. Hebe. Plantain.	(103:8)
260. <i>Diapherodes gigantea</i> (Gmelin, 1788)	Cladomorphinae	Grenada.	S	C	W	130	100	E. B. O.	(103:8)
261. <i>Canachus alligator</i> Redtenbacher, 1908	Eurycanthinae	New Caledonia.	S	C	-	80	45	B. E. H.	(105:21)
262. <i>Stheneboea repudiosa</i> Brunner, 1907	Lonchodinae	West Malaysia.	S	C	-	85	60	B. Ra.	(105:21)
263. <i>Bacteria yersiniiana</i> Saussure, 1868	Diapheromerinae	Tortola Is. (Virgin Is)	S	C	-	130	85	P. Hebe.	(105:21)
264. <i>Pseudophasma velutinum</i> (Redtenbacher, 1906)	Pseudophasmatinae	Peru.	S	C	W	60	45	P. Hebe.	104:4
265. <i>Abrosoma johorensis</i> Seow-Choen & Goh, 1999	Aschiphasmatinae	West Malaysia.	S	C	w	45	35	Willow herb, Fu.	(105:21)
266. <i>Agamenon cornutus</i> (Burmeister, 1838)	Cladomorphinae	Tortola Is. (Virgin Is)	S	C	-	70	55	B.	(105:21)
267. <i>Asceles</i> sp.	Necrosiinae	Thailand (Salok)	S	C	W	80	65	Hy. Rh.	(106: 10)
268. <i>Leiophasma lucubense</i> (Brancsik, 1893)	Anisacanthinae	Madagascar.	S	C	-	125	70	Hy. B.	(106: 10)
269. <i>Pseudophasma castaneum</i> (Bates, 1865)	Pseudophasmatinae	Peru.	S	C	W	55	50	P. Hebe.	(106: 10)
270. <i>Peruphasma schultzei</i> Conle & Hennemann, 2005	Pseudophasmatinae	Peru.	S	C	w	55	45	P.	(106: 10)
271. <i>Lopaphus</i> sp.	Necrosiinae	Thailand.	S	C	-	100	70	B. H. Ra.	(107: 10)
272. <i>Spinohirasea bengalensis</i> (Brunner, 1907)	Lonchodinae	Vietnam.	S	C	-	70	50	B. Hy. I. Ra.	(107: 10)
273. <i>Ramulus irregulariterdentatus</i> (Brunner, 1907)	Phasmatinae	Japan.	P	C	-	95	-	B. Ra.	(107: 10)
274. <i>Dyme manillata</i> Brunner, 1907	Diapheromerinae	Peru.	S	C	-	110	80	B. Ra.	(108: 21)
275. <i>Rugosolibethra</i> sp.	Diapheromerinae	Peru.	S	C	-	65	50	B. Ra.	(108: 21)
276. <i>Sipyloidea menepolemus</i> (Westwood, 1859)	Necrosiinae	West Malaysia.	S	C	W	90	60	Hy.	-
277. <i>Phobaeticus heusii</i> Hennemann & Conle, 1997	Phasmatinae	Vietnam.	S	C	w	215	215	B.	-
278. <i>Phyllium (Phyllium)</i> sp.	Phylliinae	Philippines.	S	C	W	80	55	B.	-
279. unidentified. (Bauduin's Thai 2)	Necrosiinae	Thailand.	S	C	-	110	80	B.	-
280. <i>Bacteria</i> sp.	Diapheromerinae	Panama.	S	C	w	170	110	B.	-
281. <i>Pterinoxylus crassus</i> Kirby, 1899	Xerosomatinae	Martinique.	S	C	W	150	110	E. H. Polygonium.	-

For notes on the culture list refer to page VI.

SCIENTIFIC NAME

If the insect has not been classified to species level, this column gives the common name that has been used in the Newsletters.

NOTES

1. BREEDING: S = Sexual. P = Parthenogenetic. P* = Parthenogenetic in culture, believed to be sexual in the wild.
2. CULTURE STATUS: (Based mainly on 1999 census returns)
C = At least one established culture reported. T = Tentative culture. L = Lost (no cultures reported).
3. WINGS: W = at least one sex can fly or glide. w = Wings present in one or both sexes but neither sex can fly.

SIZE

This gives approximate sizes of females and males in mm. Remember sizes can vary greatly in some species.

If measurements of PSG stock are not available then: * = taken from literature. S = up to 10cm. M = 10 to 15cm. L = over 15cm.

PREFERRED FOODPLANTS

Where a species is known to have a very clear preference and difficulties are known to be common when other plants are used, the first plant listed is the preferred foodplant and is recommended for starting newly hatched nymphs; otherwise the list is alphabetical. The list is not comprehensive, most species which eat bramble will also eat hawthorn, pyracantha, raspberry, rose and other members of the Rosaceae.

A. = Acacia.	B. = Bramble.	E. = Eucalyptus.	F. = Ferns.
Fu. = Fuchsia	H. = Hawthorn.	Hy. = Hypericum.	I. = Ivy.
L. = Legumes.	O. = Oak.	P. = Privet.	Py. = Pyracantha.
Ra. = Raspberry.	Rb. = Robinia.	Rh. = Rhododendron.	Ro. = Rose.

SPECIES REPORT

This column gives the number of the *Newsletter* or *Phasmid Studies* in which there has been a report on the culture.

Full reports in the *Newsletter* are shown by the issue number only eg. 47.

A number in brackets gives the issue and page number of a brief note in the *Newsletter* eg. (63:3).

Items in *Phasmid Studies* are shown by the letter **P** followed by the volume and page number eg. P1:2.

Reports in *Le Monde des Phasmes* are shown by the letter **M** followed by the volume and page number eg. M29:15, and those in *Phasma* are prefixed by a **D** followed by volume and page numbers; these are only given if a report has not appeared in *Phasmid Studies* or the *Newsletter*.

STATUS OF CULTURES

The culture status column is based on the 1999 census returns, with modifications where the status is known to have changed. Few census forms were returned so some marked as lost may still be in culture. However, the information is obviously very out-of-date. It is possible that some of those marked as established cultures may also have been lost. Please check this column before requesting livestock and make sure you do not request stock of lost cultures.

HUMIDITY

The following is a general guide to the preferences of species. The desirable conditions may vary depending on the age of the insects, in particular, adults and large nymphs may prefer lower humidity to small nymphs. If you are starting with a species which is new to you then check where the culture originated and find out what the natural climate is like.

High humidity required (i.e. almost fully enclosed). All Heteropterygidae and Eurycanthinae.

Quite high humidity recommended. Most species from tropical rainforests, e.g. Borneo, New Guinea, Java, Peru. However, very large species and winged species from these areas may prefer slightly lower humidity.

Low humidity essential (i.e. a very well ventilated cage, e.g. all netting). All European species (*Bacillus* & *Clonopsis*).

Lowish humidity desirable (known to suffer in high humidity): *Cuniculina insignis*.

Moderate humidity generally acceptable. All other species.

Different people have very differing opinions about *Phyllium* spp.

NEW CULTURES: Please notify Phil Bragg if you have a species established in culture which is not on the list. To try to avoid confusion between similar species, new cultures will only be added to the list once I have a specimen of either the egg or adult.

PSG AGM & WINTER MEETING, 20.1.07

Mike Smith

This was another fantastic day out. The trains were very well behaved, and we got there in excellent time. I travelled with my daughter, Tracey, her friend Dale, and Dale's Mum. Dale was a prospective new member; he was very impressed with the meeting and now plans to join the PSG.



Prosentoria arrogans from Phil Bragg's talk

I arrived about 10.30am (an hour early), but there were already about 10 members there before me. Dale bought a PSG T-shirt, and a Paul Brock book, then I left Tracey to show Dale and his Mum around the excellent museum while I got some things sorted out for the meeting. I put out a table with spare agendas, name labels, my questionnaires, plus some spare pens and some notices. But it all looked a bit second rate to the table opposite where Rob and Kristien had laid out a table advertising their Phasma meeting of 21-22 April this year in Veurne, Belgium, complete with colour brochures, engraved pens, and Belgium chocolates. (Also, Judith had brought in some scrumptious chocolate biscuits, so I did not starve).

By the time the competition table was set up, the committee meeting was about to start, so I had to do a few entry forms very quickly for the competition. (Sorry judges, Paul Jennings and

Mike Strick, hope they made sense). Indeed, the competition had quite a few entries for the adult livestock and picture competitions – but none for the junior competitions (though we currently have very few junior members). I put in one adult, female ET for the livestock competition, and four photos for the picture competition. The Committee Meeting was without both secretaries who were unable to attend, we mainly discussed the subjects of the vacant posts for the Newsletter Editor, Merchandise Officer, and Webmaster.

Next was the AGM. Judith opened the meeting as Chairman. Then our Treasurer, Paul Brock, spoke. He explained how the membership fee had been increased because of increased costs – particularly for the Newsletters. I then explained how proud I was of the latest Newsletter, thanked all past contributors, welcomed Ed Baker as my replacement, and asked everyone to keep on sending in their excellent articles. I also asked for everyone to consider completing one of my questionnaires. I then got a very nice applause from the members for my past efforts, and it made me smile that my daughter seemed to be clapping more enthusiastically than anyone else! Phil Bragg explained he had only one issue of *Phasmid Studies* in 2006, but that he planned to issue more copies in 2007. David Robinson said that, as the PSG Librarian, he could look up articles if anyone wanted him to. Paul Jennings said he had attended some shows, and that I would be trying to enhance some future PSG meetings. Paul Taylor, our Webmaster, could not make it, but he had resigned his post, and Chris Pull was to take it on initially until a permanent replacement could be found once all members had been advised of the vacancy. Janine, our excellent Livestock Coordinator, said more people had been sending her livestock in 2006 which was very helpful. She also reminded everyone not to send nymphs in the post without phoning her first. Gavin Ridley took over the Merchandise Officer post.



The date of next meeting was likely to be the first or second Saturday of July. There were two questions at the AGM, one asking if the Newsletter could be available only on-line (as *Phasmid Studies* is). The answer being it is a complicated matter; it would be looked into, but would probably remain as a hard copy for the foreseeable future. The other question was if there would be a Kettering Show this April – the answer being we do not know.



Haaniella scabra (PSG 70) from Phil Bragg's talk

We then had a break for lunch. I took Dale to see the simulated earthquake he was looking forward to but could not find, and to a few other obscure parts of the museum. All too soon the meeting had started again. The competition results were read out. I got nowhere in the livestock competition, which was won by Jenny Williams with a *Oreophoetes peruana* PSG84, with Chris Pull runner up with a *Anisomorpha paromalus* PSG122. However, I snapped up first place in the picture competition with an excellent photo (if I say so myself) of an *Extatosoma tiaratum* PSG9 (the same one which I had entered into the livestock competition). I also surprisingly took runners up as well, with a photo of a male and female *Phyllium*.

Then came the question and answer session. I did not make a note of the questions, but they were fairly general about food,

humidity, heat, etc. Many of the experts' answers were contradictory, which was unexpected – seems there are many ways to skin a cat! Then there was an illustrated talk by Phil Bragg on his recent trip to Borneo. On Christmas day, while we were all tucking into turkey and mince pies, Phil and Paul Jennings were apparently walking up a mountain in Borneo collecting sticks. The talk was very interesting, and the slides excellent.

Finally was the Livestock Exchange, run by Janine with the help of Cameron and Chris. I think there were slightly less containers this time, and certainly more members than usual, so the whole exercise went quickly and smoothly. It also seemed that there were virtually none of the enormous containers (sweet jars, etc) we often get which are awkward to take home, which was good. There were lots of the newer species, and of the less common of the regular species, but I thought very few of the bread and butter species that used to be almost an embarrassment because of the high numbers brought in, but now is almost a problem as there are so few brought in. I mean the Indians, *Eurycanthas*, Pinkwings, 144s, etc, which nowadays seem like gold-dust. Anyway, I got a male Et for my adult females, some female *Eurycantha* nymphs, and a few other interesting items for my collection. Many thanks to everyone that brought their spare stock in.



The whole meeting was a fantastic day out, and indeed did not need any enhancement on this occasion. However, I did get lots of completed questionnaires back (thank you), so will consider adding what the members want at future meetings.

Philippines Stick Insects

Submitted by Benjie Mabanta



Sagittarius Mining Inc. president Paul Dominguez points to DENR Secretary Angelo T. Reyes (2nd from left) a Walking Stick Insect which the company found thriving in the forests of Tampakan, South Cotabato province. The insect, which resembles a dried stick, thus its name, is now on display at the 4th floor lobby of the DENR for public viewing. Walking Stick Insects, with over 3,000 varieties worldwide, are strictly vegetarian, feeding on berries and leaves. It also has an unusual ability of partial regeneration; meaning, it could grow back a damaged leg after several successive moults. SMI is currently setting up a community-based insect-farming venture in its area that would involve local communities as part of its social responsibility program. Also in photo: SMI environmental consultant Benjamin Mabanta (left) and DENR Assistant Secretary Jeremias Dolino (3rd from left).

Environment and Natural Resources Secretary Angelo T. Reyes (center) is tickled pink at the sight of a Walking Stick Insect placed on his polo shirt by Sagittarius Mines Inc. environmental consultant Benjamin Mabanta (left). The insect, which was discovered in the forests of Tampakan, South Cotabato, is a new species which an Italian expert has identified as 'scientifically undescribed.' Secretary Reyes lauded the company's plan to venture on a community-based insect farming that would culture/breed the different varieties of walking stick insects thriving in the area for the world market, in partnership with the indigenous groups of Tampakan. Also in photo is Charlie Sartain, chief executive officer of Xrata Mining Corp.



I'm sure that many of you are familiar with the work that Benjie is doing in the Philippines from previous Newsletters. Hopefully this will mean that a number of new species will be brought into culture. [Ed]

January 2007 PSG competition – the results

Cameron Die Konigin (Competition Organiser)

The PSG competition, held at the January meeting in The Natural History Museum, London, displayed some very interesting insects, as well as some excellent photographs. The original reason for introducing the competition was to take advantage of an opportunity; members would bring in rare, exceptional or outstanding species to show fellow members. The issue was that not all members knew each other, so only those who knew the person who had brought the insect in, would get to see it.

The competition allowed members to be able to put their insect(s) on display for others to see, along with other insects of interest. Although the livestock table does give members an opportunity to see different species, they are often contained within boxes that are designed more for constraint than for good visibility. The competition would allow insects to be displayed in containers that offered the observer excellent visibility.

This year's competition gave an opportunity to see some outstanding, as well as frequently encountered and unusual species. There were also good photographs although no one submitted any drawings. There were four categories within the competition;

- 1) Livestock, for members aged sixteen and over.
- 2) Drawing and Photography for members aged sixteen and over.
- 3) Drawing and Photography Junior Section, for members aged fifteen and under.
- 4) Livestock Junior Section, for members aged fifteen and under.

Although the categories for members sixteen and over had a good number of entries, the junior sections received no entries – the first time this has happened.

The results of the livestock section

There were quite a few entries in this section, unfortunately too many to note in this article. It's not often that *Haaniella echinata* is seen at the PSG meetings as it's the rarest of the *Haaniella* in culture, but there was an adult pair on display. Male *Carausius morosus* also made an appearance, probably the first time that males of this species had been seen by many members. There were also several *Extatosoma tiaratum* entries – one of which was the uncommon pale green colour.

First place - Jennie (apologies for not printing your surname – it wasn't on the competitors slip) entered in *Oreophoestes peruana*. As well as being excellent specimens, Jennie had females in both colour forms as well as the bright red males.

Second place - Second place was for a pair of *Anisomorpha paromalus* from Chris Pull. This distinctive species is well known for its ability to spray unpleasant chemicals when it feels threatened and has become far less common in culture than it was a few years ago.

Photographic/drawing sections

It was good to see that those members who had entered this category had put so much effort into their work. All entries were photographs and all of them were nice and large, A4 size and over. *Phyllium* and *Heteropteryx* were the most subjects although there were two particular photos of interest; close up shot of a male *Carausius morosus*, undoubtedly one of the live ones on display and also a *Pseudophasma acanthonatum* that was just completing its moult, with the damp wings almost expanded.

First place - This went to Mike Smith, our recently retired newsletter editor for his exceptionally clear photograph of *Extatosoma tiaratum*.

Second place - This photograph was of a well posed male and female *Phyllium* (species unknown) on a white background. This too went to Mike Smith.

All members who got a first or second place received a certificate plus two young Eucalyptus trees. In addition, all those who got first place received a certificate entitling them to a year's free PSG membership.

Acknowledgements

A special thank you must be made to Paul Jennings and Mike Strick for taking the time to go through the entries and judging them; both explained that they hadn't realised how difficult it would be when they agreed to help. Also thanks to everyone who took part in this competition, the quality of all the entries was superb.

The next competition

The next competition will be at the January meeting, 2008.



Pet insects walk into landscape - 'Sticks' from India at home in Southland

Elizabeth Fitzsimons (Staff Writer for the San Diego Union-Tribune)

The insect doesn't sting or bite, but is a voracious eater and procreator. When this exotic creature plays dead and draws its legs and antennae close to its slender body, it passes for a stick – hence the name. It is active at night and, during the day, is a master of camouflage, even swaying when disturbed to mimic the effect of a gentle breeze. Indian walking sticks vary in color from green to light brown and grow up to 4 inches long.

The insect seems to thrive in Southern California. Since 2001, it has settled from the coast inland, as far north as San Luis Obispo County. There may be an unwelcome visitor lurking in your garden, one you may have seen without even knowing it. Blending in among the twigs may be an insect from the other side of the planet that was brought to Southern California by way of the Internet. Known as the Indian walking stick, or *Carausius morosus* to friends, this creature has settled comfortably into San Diego County neighborhoods, feeding on the lush buffet of plants from ivy to hibiscus. Native to southern India, walking sticks came to local neighborhoods as pets bought on the Internet. Then they multiplied before their keepers' eyes – and they started walking. "People think they're cool. They think they're neat," said San Diego County entomologist David Kellum. "But they get bored with them and let them go or let them escape."



JOHN GIBBINS / Union-Tribune
A stick insect is shown on the hand of a county worker. As tiny hatchlings just out of the egg, they're difficult to contain. "They're great escape artists ... little Houdinis," a farm adviser says.

Selling or keeping Indian walking sticks in the United States requires a permit, given only to those who prove they are using the creatures for educational purposes. Yet that doesn't stop people from buying them. Sticks, as they are called in the insects-as-pets world, range in price from about \$7 to \$15 each. Most of the sellers advertising on the Internet live abroad, but offer overnight shipping, which isn't subject to the scrutiny of border crossings. Sticks aren't considered a serious threat to agriculture because they don't fly, which limits their range, and because of pest-control measures on farms. But the Indian walking stick has demonstrated how easy it is to introduce a new pest. "It's really something that hasn't been addressed, how difficult it is to stop something like that," Kellum said.

The county's first sticks were discovered in La Jolla in 2001 and since have been found in Encinitas, Mission Hills, Balboa Park and at the San Diego Zoo. There's no way of knowing whether all the county's sticks are descended from the same ancestor, although it is possible one purchased by a teenager in La Jolla is the Adam and Eve for the county's population. Sticks are prolific, and parthenogenetic, meaning they don't require a mate to reproduce. One female can lay more than 1,500 eggs over its life of about 18 months. The minuscule eggs are dropped into the soil, where they incubate for a time that's governed by temperature, about four months at 70 degrees. Upon hatching, the nymphs – tiny versions of the adult – will grow by shedding their exoskeleton or "skin" several times. It's when they're so small that they're difficult to contain. "They're great escape artists. They're little Houdinis," said Karen Robb, a farm adviser and entomologist with the University of California Cooperative Extension. Her office receives several calls a month from people wanting information about the strange creature they've found in the garden. "They said, 'Oh, this thing is eating us out of house and home,'" Robb said. "Usually they see the damage in the garden and then go out at night and look for them."

Ted Haas, a La Jolla attorney, didn't know his property on Hidden Valley Road was home to Indian walking sticks until his neighbor told him. "She said it's a terrible problem and you have to call pest control right away," Haas said. He was told by a county inspector that the source of the invasion was the yard of a neighbor whose son had ordered the insect as a pet. Soon, the Indian walking sticks had spread to about 40 homes along Hidden Valley Road, then on to other streets and other neighborhoods. The first sign that the sticks had come to Balboa Park was the dime-sized holes found on leaves inside the Botanical Building in 2002.

Snails were the first suspects, but the holes were in the center of the leaves, with no chewing along the edges where snails eat. And there was no slime trail. A search yielded several mature walking sticks, which were sent to Kellum for identification. Since then, the park has treated the plants in the building and in the park's nursery with pesticide once or twice a year. "So far they haven't caused a lot of damage, but the potential is there," said nursery supervisor John Mellein.

Next door, at the San Diego Zoo, the sticks have found a home where pesticides are frowned upon. They are feeding – the zoo calls it browsing – on plants that animals eat, as well as ornamental plants that adorn the zoo's buildings and walkways. "We've developed a list of plants that we have found them on. It's quite a long list," said Michael Bostwick, the zoo's horticulturist.

Bostwick thinks the sticks may have hitched a ride from La Jolla on the plant material the zoo buys from nurseries in that area.

The list of Indian walking stick sightings is sure to grow as the creatures colonize new areas, and fascination with them keeps the Internet business alive.

At petbugs.com, Walter from Florida posted a wanted ad for Indian walking sticks: "I am looking for ova, nymph or adults," he wrote. "I am wanting to start a colony."

Denise McKay understands the interest.

She fell for Indian walking sticks at a Canadian reptile show three years ago, where they were sold for \$15 apiece. She bought four at half-price. "And of course, four leads to 400," she said. McKay, who calls herself a "proud lizard Mom and herpetoculturist," operates a Web site from her Nova Scotia home, 4otis.com. "Really my thing is lizards," she said.

But there was something about the sticks that she couldn't resist. McKay now takes them to classrooms and reptile shows. She also sells them, but not over the Internet.

"I'll only sell them locally. And only to people who will try to contain them and not mishandle them," she said.

"I don't want them to end up everywhere."

Too late for us.

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The Oldest Fossil Leaf Insect

Ed Baker (Editor)



Figure 1: The fossil leaf insect discovered at Messel.

This is a summary of an article that appeared recently in the Proceedings of the National Academy of Sciences (USA).

In a recent paper (PNAS 104:2(565-569)) Wedmann, Bradler and Rust report the discovery of the oldest fossil leaf insect yet discovered. The discovery provides direct evidence of the existence of the Phylliinae at least 47 million years ago¹.

The individual has been identified as male, and resembles present day adult Phylliinae. This may suggest a sexual dimorphism of the fossil species along similar lines as modern *Phyllium*, although no females have been discovered. The size of the species is comparable to *Phyllium cebelicum*.

The name of the insect *Eophyllium messelensis* derives from the fossil era, Eocene [Eo], the present day genus *Phyllium* and the area the fossil was discovered [Messel].

The discovery of the fossil in Europe indicates that the area inhabited by present day Phylliinae is the remains of a once much larger distribution (figure 1).

The resemblance of the fossil to modern day species "is an outstanding example of morphological and, probably, behavioral stasis."

Morphological features of the fossil specimen support the theory that leaf insects evolved from stick insect-like ancestors and not from a separate lineage as has been previously suggested.

The insect resembles fossilized leaves that were also found at Messel. The resemblance of the insect to leaves is a "very strong" identifier of selection pressure by visually hunting predators (e.g. birds, mammals).

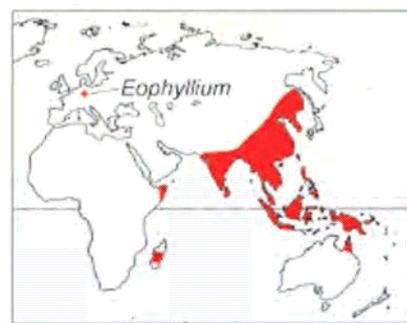


Figure 2: Modern day distribution and the location of fossil discovery

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¹ The age of the first modern leaf insects cannot pre-date the existence of angiosperm plants (roughly 125-90 million years ago), although it is possible that there were species that ate older plant groups such as ferns.

Heteropteryx dilatata (Parkinson, 1798) PSG18 “Jungle Nymph”

Mike Smith

Introduction

There was once concern for the conservation of this species as great numbers were being exported for the pet trade, but this subsequently diminished as good numbers were bred in Europe. In Malaysia, dead specimens have been framed for the tourist industry for many years – in January at Kuala Lumpur airport I saw an enormous female framed and correctly labelled, definitely very impressive. Chinese families in Malaysia use Jungle Nymph droppings in a tea as a medicine to cure minor diarrhoea (it is thought the medicinal properties come from the guava leaves fed to the Jungle Nymphs). Jungle Nymphs are the heaviest of stick insects – a female adult, especially laden with eggs, could weigh more than 65grams – though the heaviest reliably weighed female was 51.2 grams. At our Jungle Nymph weigh-in, at the PSG Summer Meeting 2006, the heaviest weighed 42.9grams. It is thought by some that the Jungle Nymph could be the heaviest of any insect, although the Guinness World Record gives this to the Goliath Beetle of Africa at “70-100grams”.



Adult female [Mike smith]

Classification

This is a magnificent species that is hard to ignore. It is in the Heteropterygidae family, the same family as the equally magnificent, but perhaps less colourful, *Haaniella* species. Its common name has always been “Jungle Nymph” to me, but I believe it is also irreverently known as the “Thorny Devil” by some.

Distribution

Widely distributed throughout parts of West Malaysia, especially the Cameron Highlands, also Borneo, Java, Sumatra, Sarawak, and Thailand. Thought extinct now in Singapore. It likes to live among tree and shrub vegetation, and is most active at night.



Egg [Ron Baxter]

Egg

Reproduction is sexual (i.e. requiring a male and female as opposed to parthenogenic). The eggs are buried by the female, using her long ovipositor, to a depth of around 25mm. Therefore its cage requires a container with moist peat or sand etc, ideally of around 4cm deep, or a substrate of this. The eggs are quite large, up to 9.5mm long, 5.6mm wide, and 6mm high. The eggs are brownish-grey, with lots of pit-marks, and sports a very distinctive embossed outline of a four-fingered hand. The eggs go black when kept damp. About 3 months after reaching maturity the female mates, and starts laying eggs a few weeks later, then continues mating and laying eggs for around a year, eventually laying over a hundred in all, sometimes in batches. The eggs should be kept buried in warm (just above room temperature, say 24 degrees centigrade), slightly moist, sand or peat, with the egg's operculum (or lid) upwards and level with the surface. Infected, mouldy eggs should be removed (a mould inhibitor can help prevent this from happening). Hatch rate is only around 30%, and the eggs take a year or more to hatch.

Food plants

I've generally fed mine on bramble (*Rubus fruticosus* agg.) as I have an abundant supply of this in the local woods. I have tried them on Ivy, but they did not take to it from me, though other keepers have found that they liked it. They also apparently can eat guava, rose, strawberries, currants, oaks, beeches, hazelnut, rhododendron and hawthorn. In Paul Brock's 1999 Malayan book, he mentions the wild food plants *Rubus moluccanus* (Rosaceae), *Grewia acuminata* (Tilaceae), *Eugenia aquea* (Myrtaceae), and *Uncaria* (Rubiaceae), indicating they are widely distributed by accepting many food plants.

Accommodation

I've found no problem in keeping nymphs and adults in the same container as both need similar conditions. The container needs to be large (i.e. around 30cm x 30cm x 40cm), and especially it should be at least 35-40cm tall (so they have ample room to moult). The dimensions obviously need to be larger still if many Jungle Nymphs are kept. I keep them on a paper base, with a small, moist peat-filled tray for egg-laying. Any substrate (peat, sand, vermiculite, etc) could be used, but if they are egg-laying it can be hard to find the eggs if laid in this substrata. They need some humidity, but I find spraying the food stuff and the peat-filled tray 2-3

times a week OK for this. They like a drink, but if young nymphs are kept in the same cage it is not a good idea to have an open water container in the cage as they may drown in it. I find the regular spraying gives them water droplets to drink. They need warmth, but not necessarily a high temperature. I place them on a heat mat giving them a little above "room temperature", say 22 to 25°C.

Behaviour

The males initially defend themselves by falling and feigning death, they may also flash their wings. Unfortunately, they also can pinch you spitefully between their spiny legs. The female will normally raise her abdomen and spread out her hind legs, setting a finger trap for the unwary, she also can rub her wings together to produce a loud hissing sound. Both males and females' defences can draw blood in humans. Unlike *Eurycantha*, you cannot tame a Jungle Nymph. You may handle them regularly as nymphs, and think they are used to you, but they still get very cantankerous after their last moults and then need to be either handled very carefully and patiently or, if you are in a hurry, handled with gloves.

Nymphs



Male nymph [Paul Brock]

The nymphs are large, initially brown, and very robust. Males have a single, white abdominal segment, the females two. Males mature in around 12 months and moult 6 times. The female matures in around 16 months, and moults 7 times. Males mature more quickly than females and live around 10 months as adults. Females can live over a year as an adult. The females' green, greeny-yellow or, rarely, yellow colouring appears after the 4th or 5th moult, and the presence of a pointed ovipositor also helps identify it as female. You can spot when a female is adult because then the forewings cover the rear wings completely, before this both sets of wings are visible. You can spot when the male is adult because until then no wings are visible. Ensure they have a humid cage big enough for the number of Jungle Nymphs kept and, as they get bigger, especially ensure they have space to moult without being too disturbed by others in the cage, and that they have something firm and high to hang from with lots of space around when doing so. Sub-adult Jungle Nymphs, especially females on their last couple of moults, are very heavy and are prone to die from a bad moult if not given optimum conditions - I found this the hardest part to getting a Jungle Nymph to reach adulthood and, even with optimum conditions, the last moult

is not always clean, especially if the Jungle Nymph falls during a moult at night when you are not around to help it.

Adult

The female grows to about 150mm long, the male about 90mm. The female has a flat, wide, leaf-like body, usually in bright green, but occasionally in yellow, sometimes with their edges bordered in brown. This colour may camouflage it among leaves in the wild, and on the grass in my garden, but when a female escaped a photo session in my garden one summer, three days later I found its big, bright green body sticking out like a saw thumb on my garden wall. The head usually has 12 spines, in 2 rows of 3 on top of the head, and another 2 rows of 3 below the head. The legs are stout and sport an array of spines. The fore-wings are thick and green and, in the adult, cover the rear wings completely, which are leaf-patterned, and tinged with pink. The male is brown all over and, except for its abdomen, covered in spines. It also has some black and white markings.

Though they both have wings, only the male can fly. In the wild, enemies include lizards, birds, spiders, and parasitic wasps and flies which develop inside their body. Captive-bred species should be safe from these problems. This species has many thorn-like spines all over its body, including the legs and head. Some of the spines can be as long as 10 mm. Both male and females have large spines on their hind legs, particularly the female, and in both cases they can inflict wounds with a jabbing or clamping action when attacking inquisitive fingers.

This species has gynandromorphs (part male, part female) reared several times (halved are the best, but partial forms are commoner) - and they found in the wild, which is unusual.

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Acknowledgements

Many thanks to Paul Brock for proof-reading the article.

Just a phase

David Nelson



These two phasmids [*Didymuria violescens*] are the same species: in fact they're probably siblings.

I keep another species of phasmid, the spiny leaf insect (*Extatosoma tiaratum*), and I was quite surprised a few weeks ago when I had hatchlings emerging from the container that were obviously not *Extatosoma*. Thinking back, the only source of the eggs of this species that I can think of was from some adults I collected from the snowy mountains in the summer of 2003. I must have just thrown the eggs in with my *Extatosoma* eggs, and now, three years on, they've decided to hatch.

The really interesting thing about these nymphs is that they show what's referred to as 'kentromorphic' phase change. If an individual grows up in isolation or low density, it will display a cryptic uniform green colouration. If it's in high density however, it turns the colour of the one on the right above - that is highly contrasting black, yellow and white. That's classic warning colouration.

Locusts show a similar phenomenon. Green when solitary, yellow and black when crowded. The interesting thing is that both locusts and some phasmid species (including the ones showing kentromorphic phases) plague. That is to say the population occasionally skyrockets and you've got a swarm of hungry locusts or phasmids on the move as they deplete local food sources.

So these insects seem to use their colours in quite different ways. When the population density is low, being conspicuous isn't a good idea - predators may not encounter the insects often enough to learn to avoid the aposematic signal, so it's better to remain camouflaged. But when there are heaps of conspecifics around, predators will get the message pretty quickly and there's a real benefit to advertising unpalatability.

References:

Key, K. H. L. 1957. Kentromorphic phases in three species of phasmatodea. Australian Journal of Zoology 5:247-284.

Foam-Box Cages

Chris Pull & Tony Curran

Introduction

I came across Tony's range of homemade cages on an internet bug forum and being impressed by their simplicity and originality, I asked him to write a set of instructions for the PSG newsletter so that other members could try them out if they wanted. The following article is the result.



The Cage

The cages basically comprise of a polystyrene storage box, (I see them in pet shops as a means of fish and reptile transportation,) and some mesh. These boxes come in several different sizes, meaning they can be used to accommodate most, except the largest, of phasmids.

Being light and easy to clean, they would make good temporary cages, i.e. for exhibiting livestock or for storing insects when cleaning out the main cage. However, they do a very good job as a permanent cage for phasmids which require a well ventilated environment. Tony lives Australia, so these cages are perfect for the native stick insects he keeps, (namely *Extatosoma*, *Eurycnema*, and *Tropidoderus*.)

As most people know, these boxes appear to be made up of lots of tightly compressed polystyrene balls. These leave tiny gaps in the surface which provide grip, meaning the entire surface of the cage can be utilized by the phasmids kept in it. Being quite soft, a phasmid can also dig its tarsus into the plastic to get a better hold.

Cleaning the cage is simple. Being white, frass and ova show up well and

any dirt can easily be seen and wiped away with a damp cloth.

I think one of the main selling points of these cages is the simplicity and cheapness of making them, without compromising their effectiveness. These boxes can be brought online in bulk or singularly, (eBay often has them for sale,) or a visit to your local fish shop may get you a few freebies. Currently, my wood and Perspex homemade cages cost me about £20 for a medium enclosure, but Tony's cages use fewer materials and less tools, so cost a lot less. These cages are perfect if you are on a tight budget.



The Instructions

Materials Needed:

- 1 Polystyrene foam box, with lid (available online, pet/fish shops, and also used for general packaging)
- Enough fly wire, greenhouse shading, metal mesh, nylon netting etc. to cover the front of the lid and a section for the 'top' (short side) of the box (can be brought online, from most garden/DIY stores or entomological suppliers,)
- Duct Tape or similar (can be brought from most supermarkets or DIY stores)

Tools Needed:

- A very sharp knife or cutting blade (needs to be sharp as the little round balls tear away easily)
- Stapler
- Scissors

Method:

- Start by marking out your front on the lid. Measure 4cm from the edges of lid and draw a rectangle.
- Use your knife to cut out the rectangle.
- Cover the rectangular hole in the lid with your mesh or net and staple in place, making sure it's quite taught. Cut any excess mesh/net away.
- Cover the staples and edge of mesh/net with lengths of duct tape to give a smart, neat finish.
- Repeat for one of the short sides of the box.

Notes:

The lid should stay in place but some aren't very tight fitting, so perhaps a latch could be made from Velcro or by sticking strips of Velcro on the inside edges of the lid. If you do use Velcro make sure the phasmids can't come into contact with it, as they could catch their tarsi in it. Alternatively, a couple of pieces of tape could be used to hold the lid shut.

When cutting the polystyrene, heating the blade will make it easier and will ensure a smooth edge is made. This should also stop any of the foam balls from coming loose after the lid has been made. However, if you use a blade that is too hot the polystyrene will burn and you'll end up with a messy edge.

And that's it! It really is that simple and yet still as effective as any other cage.



References:

www.ebay.co.uk - often has the polystyrene boxes for sale

www.bugnation.co.uk - is the bug forum I originally came across Tony's cages

Acknowledgments:

Many thanks go to Tony Curran, who isn't a member of the PSG but allowed me to use his photographs and provided me with the details and instructions used in this article.

Contributions to the Newsletter

Ed Baker (Editor)

Contributions are welcomed from everybody on any topic related to stick and leaf insects. Complete submissions should be sent to me either by post (address in the committee section) or by e-mail. Electronic copies are easiest to process (whether sent on CD/disk or by e-mail). Handwritten content takes longer to process and if sent close to a deadline may not be considered until the following newsletter.

If you have an idea for a contribution but are unsure on how to go about writing it, or need other advice then please contact me. I will provide as much assistance as I can, or try and put you in contact with somebody who will be able to help.

All types of contribution are welcome, and the following list is by no means comprehensive; species reports, behavioural observations, questions on any aspect of phasmids, summaries of other articles, puzzles, meeting and event reports.

Also please send in any reports you see in the news, any information about shows and events, and anything else that other members may find useful.

The search for information

David Robinson (PSG) and Judy Thomas (Open University Library)

We thought it would be helpful to members of the PSG to provide some information about how you can find more information about Phasmids. The newsletter and Phasmid Studies are the most obvious and easily accessible sources of information available to members of the PSG. On the Internet, the authoritative site is:

Brock, P.D. *Phasmida Species File Online*. Version 2.7. [accessed 25/01/07]. <<http://phasmida.orthoptera.org>>.

Over the years members of the PSG have contributed their own publications to the PSG library, which lives in box files in the Biological Sciences Department at the Open University. There are also copies of research papers that I have obtained myself. You can ask for help in finding information by emailing d.j.robinson@open.ac.uk. However, there is now a lot of information available via the Internet and so we have produced a short guide to help you in your research.

Searching for information on the Internet

Here are a few tips for searching the Internet

- Begin by having a look at any search tips or online help which is available. You will often find advice on choosing search terms, word variations, phrase searching, and excluding terms (which can be particularly useful if your chosen term has more than one meaning).
- The more keywords you put in, the more targeted your search will be. For example on 1st February 2007, typing the word Phasmid into Google produced 138000 hits and on the first few pages did not list the key site mentioned above. Typing in phasmida species file produced 555 hits, with the key site at number 4 in the list. Putting the search phrase in quotation marks produced 224 hits, so looking for a particular phrase is often helpful.
- Using the 'advanced search' option which is often available may help you to be more selective including limiting by language, recently updated pages and domain name.
- Check to see if there are separate pages for searching for images, videos, news, discussion groups
- If you are inundated with information try using a subject gateway instead. Gateways are collections of websites assembled by specialists who are knowledgeable in a specific field. Any link that is in a gateway has been checked by a person and they generally write a short summary of the content of that site. Try using the Intute gateway at <http://www.intute.ac.uk/> rather than Google.

There is a lot of information on the Internet that is misleading, biased or just plain wrong, though hopefully not too much in our subject area! Always evaluate the information you find. There are a number of criteria against which websites can be evaluated. For the Phasmida the following are probably the most relevant.:-

Provenance

- Can you identify the authors or organisations?
- Is it a reputable source? Is it a personal website? Can you contact them to feedback or discuss issues?
- Look at the URL as it can give you clues as to whereabouts you are within a site (are you on the home page or are you further in?), and where the information you are viewing has come from (is the information from an academic institution or a company?). Common domain names include .edu or .ac – for academic or educational servers; .co, .com for commercial; .gov for government; .org for non-governmental, non-profit making organizations. These might be followed with a country code, such as .uk, .nl (for The Netherlands), or .fr (for France)

Presentation

- Is the website presented well? Does it provide proper references to materials cited?

Currency

- Is it clear when the information was produced?
- Is it clear how often the website is updated?

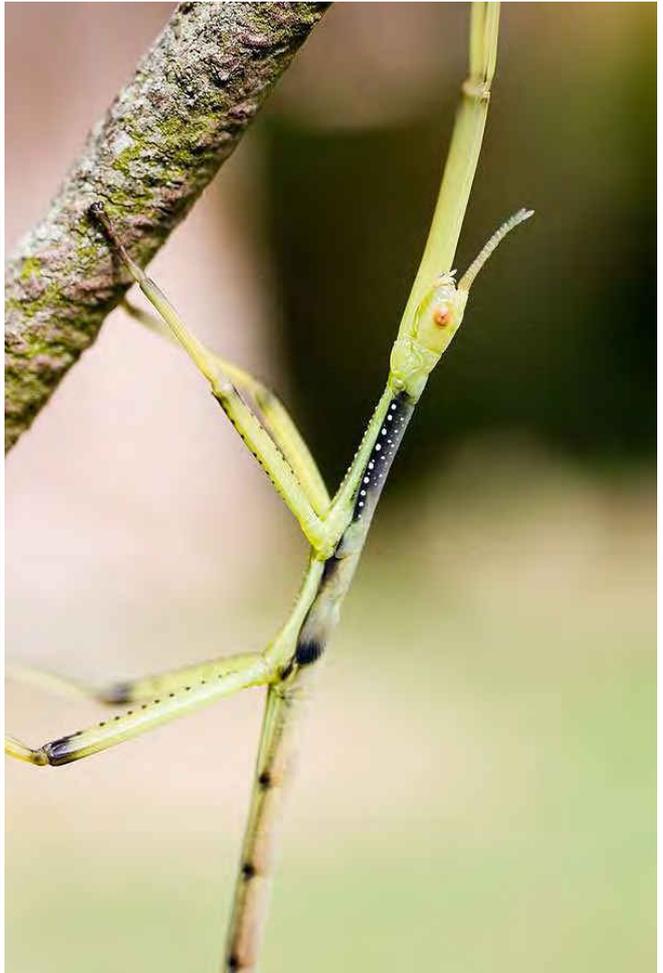
Objectivity

- Is the author's position of interest made clear?
- Do the writers state their position on the issue?
- Are there vested interests?
- Does the website present an independent view?

If you are looking for scholarly literature, including peer-reviewed journals, theses and reports try using Google Scholar <http://scholar.google.com/intl/en/scholar/about.html>.

However, in many cases you will only get access to the abstracts of these articles as access to the full text will require a subscription or you will be offered full text access at a cost.

Your local public library is a good starting point for trying to get hold of books or journal articles you have identified. Many have made their catalogues available online and you can see a list of these at <http://dSPACE.dial.pipex.com/town/square/ac940/weblibs.html>. If your local branch does not hold an item you want they may be able to obtain it from another public library nearby via a regional inter-library loan scheme. If this is not the case they can order it from the British Library Document Supply Centre. There will be a small charge for this service. Two specialist libraries you may like to visit if you are in London are the Linnean Society Library and the Library of the Natural History Museum. The Linnean Society Library is open to non members but you asked to make an appointment before visiting. Further details are available at <http://www.linnean.org/index.php?id=7>. Further details of the Natural History Museum Library collection and services are available at <http://www.nhm.ac.uk/research-curation/library/>.



Above Left & Right: Kentromorphic phases from 'Just A Phase'

Below: *Heteropteryx dilatata* ♀
Bottom: From 'Philippines Stick Insects'

Below: Polystyrene cage





Left, Above & Top Right: New additions to the Culture List

Right: Egg of *Heteroptery dilatata* [Ron Baxter]



Ross Storey's Australia Day Award

Ed Baker (Editor)

Ross is well known in Australia for his entomological studies (the popular 'A Field Guide to Insects in Australia' is by Zborowski and Storey) and especially his interest in the Scarabaeidae where he has described over 50 new species.

Ross is also known as a founding member of the Association of Australian Assistance Dogs (NQ) (www.asdogsnq.org).

We would like to congratulate Ross on his recent Australia Day Community Service Award, which he can be seen receiving from Mick Borzi on the left.

I'm sure that many of you will also recognise the T-Shirt!



Thank you to David Rentz who brought this to my attention (via Paul Brock).

[Ed]