Phasmid Eggs from ‘Phasmid eggs – up close and personal’ by Rob Lind (pg 9)

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News, Information & Updates

Editorial
Ed Baker (Editor)

Another year draws to an end. The NHM collections have moved into new purpose built facilities in the iconic Darwin Centre - those of you attending the AGM and Winter Meeting will finally have a chance to see it for yourselves. Now that I have settled in you can look forward to Newsletters that are not affected by such a huge time requirement for other things.

2009 has also seen the publication of Paul Brocks’s field guide to the Australian phasmsids, and a continued effort by the more taxonomically orientated members of the Group to tackle not only the description of new species but also the often problematic higher classification of the order. In addition several new species have been successfully cultured by the Group for the first time (details in the next newsletter). Despite a falling membership the aims of the Group are still clearly being fulfilled and members are making huge contributions to the study of these enigmatic insects.

I look forward to seeing you in January.

The Committee

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Ian Abercrombie, Cameron die Königin, Kristien Rabae, Gavin Ridley, Rob Simeons, Mike Smith

Diary Dates


Summer Meeting
The Summer Meeting has been provisionally set for the 10th July 2010.
PSG AGM & Winter Meeting (Saturday, 23rd January 2010): Agenda

DOROTHEA BATE ROOM, NATURAL HISTORY MUSEUM, CROMWELL ROAD, LONDON, SW7 5BD, ENGLAND.
(FREE PUBLIC ENTRY* members may also walk round the excellent museum if they wish)

11.30am - 12.30pm. ARRIVALS & INFORMAL GATHERING:
Members are encouraged to exchange ideas & experiences,
Competition contestants register their exhibits and put on display by 12 noon.**** Members can view the Competition entries, displays, and merchandise.

12.30pm - 1.15pm. ANNUAL GENERAL MEETING:
2) Treasurer/Membership Secretary's Report (Paul Brock).
3) Secretaries' Report (Ian Bushell)
4) PSG Newsletter Editor's & Webmaster's Report (Ed Baker).
5) Phasmid Studies Editor's Report (Phil Bragg).
6) Librarian's Report (David Robinson).
7) Exhibition & Meeting Officer's Report (Paul Jennings)
8) Livestock Coordinator's Report (Janine Fletcher).
9) Merchandise Officer’s Report (Gavin Ridley)
10) Election of Officers & Committee.**
11) Date & Venue of Next Meeting.
12) Any Other Business.

1.15pm – 1.45pm. LUNCH*** and viewing of competition entries, displays, and merchandise.

1.45pm – 2.30pm TRIP TO THE PHILIPPINES Illustrated Talk by Joachim Bresseel.

2.30pm – 2.45pm RESULTS and awards to the winners of the picture & livestock competitions****.

2.45pm - 3.30pm TRIP TO BORNEO Illustrated Talk by Ian Abercrombie.

3.30pm - 4.00pm LIVESTOCK EXCHANGE***** , and final viewing of competition entries.

4.00pm – 4.30pm. CLOSURE OF MEETING competitors collect their entries.

*You need to ring the door bell for access to the Dorothea Bate Room, bell push by the door.

**If any member of the Phasmid Study Group wishes to stand for Office, or stand for the Committee, please contact the Chairman, Judith Marshall (marshall@nhm.ac.uk), to reach her by 8th January 2010.

*** Tea, coffee, squash, and biscuits will be available all day (from about 10.30 am), for a voluntary contribution, in the meeting room (courtesy of Judith). You are welcome to donate cakes or biscuits. Food shops are available in the museum, offering good food at reasonable prices, but there may be queues. You are welcome to bring your own lunch, and eat it in either the meeting room or the museum.

****The competitions could not be easier, please just bring along your livestock and pictures on the day (as at previous meetings). There is always room for more exhibits, and members like to see other member’s displays, so please do enter these competitions. You could win a prize! There are of course the usual simple rules to make things go smoothly. There are adults and children’s sections (under 18). Competitors to display exhibits by 12.00 noon, so they are booked in before the meeting starts. Photos and drawings of stick insects may be in colour, B&W, large or small. Livestock containers to hold only one species, either a single specimen or one pair (male and female). On arrival, the competitors will be advised on how to register. Competitors can enter as many times as they wish. All entries (pictures & livestock) are to be labelled with the stick insect’s scientific name, food plant and, if applicable, PSG No. Please state if the entries represent wild-caught or cultured insects. Labels for the exhibits will be provided and should be filled in at the meeting. Except for the competitor and judge(s), there must be no handling of any entries. The judge’s decision is final. The PSG and committee accepts no liability whatsoever for damage/loss of entries. By entering the picture competition, you agree that your picture may appear in the PSG Newsletter.

*****You are welcome to bring in your spare stick insects (you may also bring in other livestock eg mantids, cockroaches, millipedes, fruit beetles, etc) for free distribution to PSG members. You will also have the opportunity to take home livestock from the exchange table, though where numbers of livestock are limited not all members will be able to get their first choices. You are reminded to follow the rules as laid down concerning the Livestock Exchange: eg livestock should be given some foodstuff, and their container be clearly labelled with their scientific name & PSG number; the food plant they are being fed on, and your name & PSG number. Don't forget to check before you leave that all of your livestock has been distributed and, if not, please take them back home with you. Do not overcrowd the sticks, but also please use reasonably-sized containers (not too big), and do not spread the spare stock of common species over too many different containers. During the livestock exchange please do not crowd around the table, rather sit in the rows of seats and just raise your hand if you are interested in the livestock being offered.
Renewal Form

Dear Member,

Your subscription for 2009 is due on the 1st January 2009. The cost of membership has been held at the same level as 2008, and we hope that you wish to continue your membership.

The cost of renewal is:

- UK £12.00
- Europe £14.00
- Overseas £15.00

Please return this form to the Membership Secretary, together with your payment. Payments can be made using one of the following payment methods:

- Cheque (in GBP and drawn on a London bank)
- Postal Order
- International Postal Giro

We are unable to accept Eurocheques and Paypal.

Due to a change of bank it is no longer possible to pay by Standing Order. All existing Standing Orders should be cancelled.

Cash may be sent (at your own risk) in your own currency (add an extra £3.00 for exchange rate variations). We recommend using registered post.

X

PSG No:___________________ Name:__________________________________________________________________________

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Articles, Reviews & Submissions

Index to *Phasma* 41-70

Phil Bragg (Phasmid Studies Editor)

This is a brief index which includes only the main subject of articles. The index does not include articles on foodplants, meetings and general rearing.

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Janine Fletcher (Livestock Co-ordinator)

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MALAYSIA
VIETNAM
The Darwin Centre is now open
Judith Marshall

Darwin Centre 2 (DC2) houses both Entomological and Botanical collections and staff.
The Orthopteroid Insects moved into their new home at the beginning of December, Ed Baker, Judith Marshall and George Beccaloni having already moved to occupy desks in the (open plan) offices earlier in the year. Collection areas are designed to be pest-free and kept cool with working areas nearby at slightly warmer temperatures. By 2010 we should be ready to welcome visitors, and with much more expansion space available, would welcome more donations of material for the collection!

Right: DC2 Opening Ceremony © Ed Baker.

A most bizarre encounter

Despite being one of the larger paper wasp species, Polistes annularis seems doomed to lurk in the shadows of its more showy cousins the red wasp and the yellowjacket. And while all three live in my area (along with a legion vast of other wasp species), P. annularis remains the most recognizable due to its colors and size.

Formidable would be one way to describe them. Yet unlike some paper wasps who simply have a mean streak a mile long, this one reminds me of most wasp species by exhibiting the do- unto-others mentality: don’t mess with me and I won’t mess with you.

Which leads me to a most bizarre encounter from a few days ago. Along the trail leading from my home to White Rock Lake, I came across one of these wasps who seemed imminently distracted by a twig it was nibbling on with much fervor and passion. Chewing up wood to make pulp to build a nest is a common sight with paper wasps, so nothing about the scene struck me as odd.

I knew it was too dark for any good photos; still, I knelt a few meters/yards away and snapped a picture for my records (I always keep track of what I see even if I don’t use the images).

That’s when I noticed the twig was moving. Only then did I realize it had legs. And a head. And eyes. I also noticed not all the body parts were intact.

The wasp was chewing on a northern walking stick (Diapheromera femorata). It seemed intent on dismembering the larger insect. Already the flying critter
had removed four out of six legs along with both antennae. It then turned its attention to splitting open the thorax with its powerful mandibles.

A closer look at the walking stick’s head made clear significant damage had been done by the wasp. Most disturbing was the anthropomorphic look of horror on its face: mouth torn open such that it looked like a gasp of terror etched permanently by a slow and agonizing death.

When a passerby with a dog came too close, the wasp took flight and circled a nearby tree. The walking stick lay alone for only a few moments before the wasp returned and continued its assault.

I can’t fathom why the wasp spent so much time attacking the walking stick. Even if the nest had been threatened, would that warrant the wasp’s continued attention, especially by means of butchering the walking stick? And when chased away by circumstance, why would the wasp return to continue its surgical strike?
Perhaps continued research on this phenomenon will yield clues as to the cause of this exceptionally intriguing and utterly strange behavior. For now, though, I can only assume the wasp was really pissed off and translated that into a really bad day for the walking stick.

**Phasmid eggs - upclose and personal!**

Rob Lind

The advent of digital photography has enthused many a phasmid enthusiast to capture his or her favourite insect or egg up close and personal. To those that have tried, insect macro pictures are far more challenging than those of your family. This has to do with the close focusing distances required which brings with it very narrow distances that are in crisp, sharp focus, referred to as depth of field. Indeed, as one gets closer to the subject this decreases the focal length and subsequently the depth of field gets even shallower. This is never more so the case when imaging phasmid eggs which can be just a few millimetres long. In fact many books use illustrations of eggs to overcome problems of shallow depths of field (see ‘Rearing stick and leaf insects by Ronald N. Baxter, plates 1-13).

So as I set out to image phasmid eggs, how could I get as much of the egg in focus as possible? Well depth of field can be controlled by reducing the lens aperture such that the light travels through a smaller hole (think pin hole camera). This consequently then reduces the amount of light reaching the light sensor (be it film or a digital sensor) so to achieve a correct exposure you have to either have a longer shutter speed or provide more light on the subject such as using a flash gun which is a common solution. So you have your flash gun and small aperture selected and ready to go. If only it was that simple! By stopping your lens down to its minimum aperture you then find you degrade the quality of your image due to diffraction, so actually a lens is at its most sharpest generally in its mid F stop range. For example, a macro lens will typically provide F stops of F2.8 (lens wide open and lets in plenty of light) to F22 (very small hole). However it will give the sharpest image somewhere between F5.6 and F11. The problems of small depths of field are greatest when trying to image across a large distance at very close range. For a complete guide to insect macro photography have a look at [http://www.insectography.com/index.html](http://www.insectography.com/index.html).

Right enough camera tech talk, how can I take my egg macro pictures from good to great by achieving large depth of field to get all my egg in sharp focus? This is where digital software can lend a big helping hand. For a long time in microscopy the idea of Z stacking has been employed to make one sharp image with a huge depth of field from multiple images each having a different focal plane. Each image captures the X and Y image dimension information while information in the Z dimension is captured by multiple frames going down through the specimen. This all sounds complicated? Well piecing together Z stacks is, all frames need to be aligned, scaled and only those bits in sharp focus used. But fear not there is great software now available (for free!) that does the job for you at a touch of a button. You just tell the software which images make up the Z stack and press go! Minutes later you seeing your favourite egg in a new way revealing all the beautiful detail. If you fancy a go read on as the way you take your individual pictures to form the z stack will effect the final output.

The first important thing to do is mount your camera on a fixed support such as a tripod such that all images have the same framing and all have the same perspective so that they will stack precisely together. Second, get all frames to have the same exposure, if your using a flash this will be straight forward using the manual setting. Maintain as much image quality (IQ) as possible for each frame using as low ISO speed as possible to reduce picture grain and a mid F stop to get as much sharpness out of the lens as possible, remember you can use as many pictures as you want in the final stack so you can afford to use a narrower depth of field for each frame to maintain IQ. Once you have your digital frames (high quality jpgs or TIF formats) on the PC use your favourite image recipes on them to enhance clarity, sharpness, saturation and contrast. Now your ready to go Z stacking so download CombineZP (http://www.hadleyweb.pwp.blueyonder.co.uk/CZP/News.htm) and follow the simple instructions to load up the Z stack of pictures and arrange them from front to back then press go! Job done.

The examples I give of the various eggs use between 10 and 25 frames in the image stack to get all the egg in focus from front to back. What are the pitfalls? There is only one which is that your subject must stay perfectly still so that
frames can be stacked to give one sharp image. For eggs this is no problem, but if insects are your subjects they may move. Dust spots on the sensors of digital SLRs are also a big problem when using lens at large F stops and again these need to be cloned away in photo editing software (or clean your sensor before hand!). Dust spots on compact cameras don’t occur as these are sealed. Ensure that all plans of focus in the stack are captured when filming your Z stack otherwise you will have sections out of focus!

I would like to thank Janine Fletcher for posting me the samples of the different eggs. The egg images were captured using a Canon MPE-65mm macro lens mounted on a Canon EOS 5DmkII body. Exposed using a Canon ringflash MR-14EX at 1/200sec, F5.6 and ISO 100 on a tripod and macro rail for each image in a stack.

Picture legend for image on front page. Phasmid eggs. 1st row Left to Right. PSG103 Sipyloidea sp. “THAILAND 8”, PSG14 Eurycnema goliath, PSG145 Paramenexenus laetus, PSG15 Anchiale briareus, PSG151 Asceles margaritus.

2nd Row Left to Right PSG157 Ramulus sp., PSG200 Lonchodes malleti, PSG225 Clonaria conformans, PSG200 Lonchodes malleti, PSG258 Parectatosoma mocquerysi.

3rd Row Left to Right PSG276 Sipyloidea menepotlemus, PSG281 Pterinoxylus crassus, PSG55 Ramulus nematodes, PSG6 Acanthoxyla prasina, PSG73 Phenacephorus cornucervi.

4th Row PSG72 Phyllium giganteum, PSG13 Acrophylla wuelfingi, PSG225 Clonaria conformans, PSG278 Phyllium sp., PSG85 Pseudophasma rufipes.

Book Review: The Complete Field Guide to Stick and Leaf Insects of Australia
Ed Baker (Editor)

Paul D. Brock and Jack W. Hasenpusch
xii+204pp · full colour
ISBN:9780643094185
CSIRO Publishing

Despite the large number of books on stick and leaf insects published in recent decades, there have been few field guides. Indeed this is the first publication to use the term “field guide” in the title. It should be noted that for many of the more temperate regions the number of phasmids is small enough that they do not warrant their own field guide, and they are adequately covered in books on the orthoptera or insects of a region (the exception to this is Brock's Stick-Insects of Britain, Europe and The Mediterranean - although it covers a large geographic area).

Good field guides must fulfil a number of criteria:

Identifiability - is it possible to accurately identify specimens in the field?

Size - the book must be easily carried alongside any collecting and photographic equipment. This means it must be small enough to fit in the side or top pockets of a rucksack, or in a camera or map case.

Durability - you don't want the cover falling off or pages falling out!

The issue of size remove Salmon's The Stick Insects of New Zealand and Seow-Choen's An Illustrated Guide to the Stick and Leaf Insects of Peninsular Malaysia and Singapore from being considered as field guides. These books are much better suited as reference works before and after a trip, as is Bragg's Phasmsids of Borneo and Brock's Stick-Insects of Britain, Europe and The Mediterranean. These books may well be worth taking with you on your trip, but are best left behind where you're staying when you venture into the field.

The only two previous publications that have use as field guides therefore are Seow-Choen's Phasmsids of Peninsular Malaysia and Singapore (A Pocket Guide) and Brock's Stick and Leaf Insects of Peninsular Malaysia and Singapore. As would be expected these have a large overlap! Seow-Choen's publication is full colour throughout with every species photographed, Brock's contains the taxonomic detail supported by line illustrations. The Complete Field Guide to the Stick and Leaf Insects of Australia covers the middle ground between these two - albeit for a different region.

Following a forward by David Rentz (a leading Australian orthopterist who has the genus Davidrentzia and species Onchestus rentzi & Sipyloidea rentzi named after him) the introductory chapters cover the basics of phasmid life cycle,
anatomy and ecology. This in turn is followed by a chapter on collecting, preserving, photographing and rearing. The 'Guide to Species' begins with an overview of the subfamilies found in Australia.

The book uses full colour photographs throughout, and all species are photographed. Where possible live insects have been photographed, but occasionally a species is known only from museum specimens. In the field for many people photographs of live insects are far more useful as colour (particularly bright colour) fades rapidly after death. For each species as well as photographs a distribution map is given, along with body length, field characters, habitat and often other notes of interest. One annoyance for specialists will be the lack of authorities for names in the main text, although these are given in Appendix 3: Checklist of Australian phasmids. Appendix 1 contains keys to Australian genera and species which are presented in an easy-to-use table form.

Appendix 2 contains some brief notes on nomenclature, as well as listing major taxonomic publications of interest to those working on the Australian species. Appendix 3 is a concise checklist of species, with details of where to go for further information (http://phasmida.speciesfile.org is probably the easiest to access).

Although I suspect that many copies of this book will not be subjected to the rigours of field work, it has a cover of thick card and seems to be well bound (this is in contrast to Seow-Choen's Phasmids of Peninsular Malaysia and Singapore (A Pocket Guide)which seems invariably to have poor binding).

Brock & Hasenpusch (2007) updated the taxonomy of Australian phasmids, with the only subsequent changes (Hennemann & Conle, 2008) being too late to make it into this publication. The book follows the checklist given in the 2007 paper, and is an ideal introduction to the Australian phasmids for the non-specialist, while still being an essential work for the specialist.

References

PSG AGM and Winter Meeting, Saturday, 23rd January 2010
Mike Smith

Entrance to the meeting and museums are completely free, and this meeting will be fantastic. Have a look at the agenda (copy in this Newsletter) and see for yourself.

The Natural History Museum’s impressive main entrance is in Cromwell Road, London SW7 5BD; there is also the Earth Galleries entrance in Exhibition Road, formerly the Geology Museum entrance (which tends to have shorter queues). Bags are searched on entry so do not carry anything sharp in them (e.g. scissors) or it will be confiscated! The nearest tube (underground) train station is South Kensington which is on the Circle, District, and Piccadilly Lines. There is usually engineering work on this network at weekends, so go to www.tfl.gov.uk to find the best route before you set out. The Natural History Museum opens from 10am to 6pm so, if you get there early, you can walk around this amazing museum for an hour or so before the PSG Meeting starts. Although ideally you would need all day to do the museum justice, an hour or so is fine to get a flavour of the place, and you have time at the lunch break and after the PSG meeting to have another look around as well if you wish. Go to www.nhm.ac.uk to find out more about the Natural History Museum. There is also free entry to the equally amazing Science Museum next door – if only there were time to do it all…
The PSG meeting is in the Dorothea Bate Room on the ground floor of the Natural History Museum (when you arrive there ring the bell by the door for someone to let you in). Members start arriving from about 10.30am to help set things up and to have a social chat. This suite also has its own toilets. The meeting starts at 11.30am, by then everything should be laid out ready for use – the books and merchandise for sale, the refreshments table, the competition table, etc. Then at 12.30pm the AGM starts. More specific details on the meeting are at the bottom of the agenda. If any member wishes to stand for Office, or stand for the Committee, please contact the Chairman, Judith Marshall (j.marshall@nhm.ac.uk), to reach her by 8th January 2010.

There will be a table with books and PSG Merchandise for sale on it. You are welcome to put your own phasmid-related items here to give away or to sell at a reasonable price – but no livestock please (livestock should go on the Livestock Exchange Table). There will be a livestock, and a picture (photograph or drawing) competition so, if you have any interesting livestock or pictures, please bring them along, the more the merrier (registration details will be available on the day; entries to be registered by 12 noon please). We could always do with more entries, so please do bring some along – you could even win a prize.

Virtually everyone’s favourite part of the PSG meetings is the “Livestock Exchange” where members bring in their spare stock, and people wanting such stock can take it away, all free of charge. We of course want lots of stick insects for this table but, if you have any other critters you have an excess of (eg cockroaches, sun beetles, snails, mantises, centipedes, etc), you are welcome to bring these to the table too. But don’t forget to check before you leave that all of your livestock has been distributed and, if not, please take it back home with you.

After many years of organising these meetings, I’ve decided to retire from the role so someone new can take over and introduce some new ideas. Many thanks to all the speakers, people running the competitions, backroom people arranging the screens, microphones, etc, etc, who over these years have kindly responded to my calls and gentle arm-twisting, to help make these meetings so successful. Unfortunately, I cannot attend this meeting due to work commitments, however, I hope you all have a great day out and find lots of things that interest you.

Ian Abercrombie and Ian Bushell at the Summer Meeting 2009.