

AGRION

NEWSLETTER OF THE WORLDWIDE DRAGONFLY ASSOCIATION

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NEWSLETTER OF THE WORLDWIDE DRAGONFLY ASSOCIATION

AGRION is the Worldwide Dragonfly Association's (WDA's) newsletter, published twice a year, in January and July. The WDA aims to advance public education and awareness by the promotion of the study and conservation of dragonflies (Odonata) and their natural habitats in all parts of the world. *AGRION* covers all aspects of WDA's activities; it communicates facts and knowledge related to the study and conservation of dragonflies and is a forum for news and information exchange for members. *AGRION* is freely available for downloading from the WDA website at <http://ecoevo.uvigo.es/WDA/dragonfly.htm>. WDA is a Registered Charity (Not-for-Profit Organization), Charity No. 1066039/0.

Editorial

Keith Wilson [kdpwilson@gmail.com]

I trust those of you fortunate enough to attend the 1st European Congress on Odonatology, 2-5 July 2010 in Porto, Portugal had an enjoyable meeting (for further information see <http://europeandragonflies.com/>). In this issue (page 26) there is an announcement for the 2011 International Congress of the World Wide Dragonfly Association which will be held in Kanagawa Prefectural Museum of Natural History in Odawara City, Kanazawa in July 2011. This issue also includes articles on dragonfly flight, faunistic articles from Hainan and Cambodian, cannibalism and the rediscovery of *Rhinoneura caerulea* in the Hose Mountains, Sarawak, Borneo.

On page 25, opposite, there are details of Rosser Garrison, Natalia von Ellenrieder and Jerry Louton's new book titled: 'Damsel fly Genera of the New World', which I'm told by Rosser will be out either in July or August 2010 at the latest. According to the editors, The Johns Hopkins University Press, this book will have a smaller print run (ca. 1200) compared to the smaller Anisoptera volume (ca. 1600) printed in 2006.

For those members who have not yet renewed their membership for 2010 and any prospective new members there is a Membership renewal/application form at the end of this issue of *AGRION*.

For the next issue of *AGRION*, to be published at the beginning of January 2011, please send your contributions to Keith Wilson [kdpwilson@gmail.com] or Graham Reels [gtreels@gmail.com]. All articles, information and news items related to dragonflies or of interest to WDA members are most welcome and will be considered for publication. Please send a Word file by email (preferably) or on disk by post. Please do not forward any original artwork but send a soft copy, ideally in a compressed format e.g. 'jpeg' or 'gif', or as a file on disk if sent by post.

In keeping with the practice adopted for WDA's official organ, the International Journal of Odonatology a dragonfly photo now appears on the front cover of each issue of *AGRION*. If you have a photo illustrating any rarely observed aspect of dragonfly biology, or an unusual species, or simply a stunning dragonfly shot, please submit it for consideration for publication in *AGRION*.

AGRION CONTENTS

Editorial	24
New book: Damsel fly Genera of the New World	25
2011 International Congress	26
The curious case of the cannibal coenagrionid	27
Finding the Holy Grail: the rediscovery of <i>Rhinoneura caerulea</i> in the Hose Mountains, Sarawak, Borneo	28
New records of <i>Odonata</i> on a birding trip to Cambodia	30
Dragonfly surveys in Hainan, China, 2007-2008	34
Members Update - July 2010	39
Dragonflies caught in flight	40
WDA Membership Application Form - 2010	42
Nominations to the WDA Board of Trustees 2011-2013	44
Trustee Nomination Form	45

Cover photo: *Rhinoneura caerulea* rediscovered in the Hose Mountains, Sarawak, Borneo (see article page 28).
Credit Graham Reels.

New book: Damselfly Genera of the New World

DAMSELFLY GENERA OF THE NEW WORLD

An Illustrated and Annotated Key to the Zygoptera

Rosser W. Garrison, Natalia von Ellenrieder, and Jerry A. Louton

In this companion volume to *Dragonfly Genera of the New World*, Rosser W. Garrison, Natalia von Ellenrieder, and Jerry A. Louton provide a comprehensive, fully illustrated guide to the damselflies of North, Central, and South America.

Damselflies are more diverse and harder to identify than dragonflies. This reference contains original, up-to-date keys to the 125 genera of Zygoptera in North, Central, and South America; descriptive text for each genus; distribution maps; and highly detailed diagnostic illustrations. Each account lists all known species and generic synonyms, information on the status of classification, and references to larval descriptions.

Featuring more than 2,500 illustrations and based on the authors' personal observations, *Damselfly Genera of the New World* is an indispensable resource for entomologists, limnologists, and naturalists.

"Damselfly Genera of the New World makes readily available, for specialists and amateurs alike, access to one of the most beautiful groups of insects in nature."

—Edward O. Wilson

August 532 pages 7 x 10
81 color photos, 11 b&w photos, 2,588 line drawings, 108 maps
978-0-8018-9670-5 0-8018-9670-3
\$125.00(s) / £65.00 hc Science



ROSSER W. GARRISON is a senior insect biosystematist with the California Department of Food and Agriculture. **NATALIA VON ELLENRIEDER** is an adjunct researcher for the CONICET at the Instituto de Bio y Geociencias, Salta, Argentina. **JERRY A. LOUTON** is a museum information technology specialist with the Department of Entomology at the Smithsonian National Museum of Natural History. The three coauthored *Dragonfly Genera of the New World*, also published by Johns Hopkins.

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2011 International Congress

Yoshitaka Tsubaki [ytsubaki@ecology.Kyoto-u.ac.jp]

The 2011 International Congress of the World Wide Dragonfly Association is coming soon. The congress will be held at the Kanagawa Prefectural Museum of Natural History in Odawara City, Kanazawa, Japan in July 2011. It is time to start arranging your diary, travel planning and reading up on the history, cultures and culinary delicacies of Japan.

The 2011 International Congress of Odonatology Home Page (<http://www.odonata.jp/wda2011/index.html>) will soon be updated to announce details of the symposium organization (there will be a call for papers, letters of invitation, registration, etc.). The core theme will be “Dragonflies in the Changing World” with wide perspectives including various scales of temporal and spatial changes.

We, the organizing committee, are going to try two new things in the congress. First, we will introduce a web registration system including payments of registration fees via credit cards. It means that you do not need to pay a commission for bank transfer or postal money order at your registration.

Second, we will try a “dynamic invitation system” for symposium sessions to activate participation and paper presentations. The list of symposium sessions will be updated from time to time, which may help you to know who will be attending, and what subjects will be discussed in the congress before your registration.

Call for Symposium Proposals

We invite submissions for symposium proposals. We look forward to receiving your contributions. Please send the following information through e-mail to the Congress Secretariat (intodon2011@gmail.com) as early as possible and by no later than December 20, 2010.

1. Symposium title
2. Organizer's name and affiliated institution, and contact details (e-mail address, telephone number, fax number)
3. Names and affiliated institutions of symposium presenters
4. Title of presentation by each symposium presenter
5. Outline of symposium (less than 100 English words)

Please note that the Congress Organizer can not promise any financial support at the moment.

Applicants will be informed whether their proposed symposium has been accepted, integrated with another, or rejected, after having been reviewed by the Program Committee. Information on accepted symposia will be placed on the website from time to time. On the website, you can also get information about who will attend the congress and what topics will be discussed before the deadline of registration.

There will be approximately 10 symposia in total, selected from those submitted through this application process. The timeframe for each symposium will be 1-2 hours. Each symposium may include four to six presenters.

At the time of your proposal we request that you will have already obtained the informal consent of the planned organizers and symposium presenters. If consent has not been gained, please indicate this in the name column, by adding “(to be contacted)” or “(under negotiation)”, etc.

Before or soon after the deadline for registration and paper submission, the Program Committee may request merging of proposed symposia with similar topics, or inclusion of regular presenters into a symposium. We therefore request that for the moment you do not offer any guarantees regarding the holding of a symposium to candidates.

The titles and organizers of symposia that have already been accepted will be listed in the page “[symposia](#)” of our Congress Home Page. The list will be updated from time to time, which may help you to include your name as a co-organizer or a presenter in the symposia after your contacts with the organizer(s). Symposium titles and organizers may be required to make appropriate changes, depending on the presentations included.

We are looking forward to your active contribution to the 2011 International Congress of Odonatology.

All questions about symposium proposals should be directed to:

Yoshitaka Tsubaki

E-mail: ytsubaki@ecology.kyoto-u.ac.jp

(Please include [2011WDA] in Subject Title to avoid your mail being treated as spam mail)

Center for Ecological Research, Kyoto University, Hirano 2-509-3, Otsu, 520-2113, Japan

The curious case of the cannibal coenagrionid

Graham Reels [gtreels@gmail.com]

It has often struck me that members of the coenagrionid genus *Ceriagrion* appear to be unusually voracious predators of other zygopterans. However, an observation that I made two years ago indicated that one species, at least, is even capable of reckless acts of cannibalism.

At ca 1030h on 25 July 2008 I was walking along a small stream at Luk Keng, N.T., Hong Kong (altitude ca. 20 m asl) when I noticed a male *Ceriagrion auranticum* (Zygoptera: Coenagrionidae) grappling with a mature female of the same species. The male had seized the female's thorax just above the wing bases with his mandibles (Figure 1). At first I assumed that this was simply a clumsy mating attempt, particularly since the female was making little obvious effort to free herself. However, in the ensuing five minutes, the male, rather than letting go and trying to mate, proceeded to munch his way up the female's thorax, until he reached the pronotum. The entangled pair made several short flights during this period, possibly because I was disturbing them while trying to photograph the action, or maybe because the female, having realised she was not hosting an amorous suitor, was belatedly attempting to escape. The male then spent some time chewing through the female's head attachment until her head fell off (Figure 2). Then he dragged the body to another perch to devour the thorax (Figure 3). Gruesome stuff.

This act of intraspecific predation (or, more simply, cannibalism) was, I believe, quite remarkable. As briefly summarised by Corbet (1999; p. 368), intraspecific predation in Odonata usually involves a mature adult preying on a general individual that is unable to perform threat behaviour, with males predominating as prey. In this instance, the victim was a fully mature female; slightly larger than its attacker. Unexpectedly, the male's desire to obtain a good meal seems to have overridden its mating instinct. Did it fail to recognise its victim as a viable mate? Did it start off with mating intentions and then suddenly decide it fancied a snack? Whatever the reason, it seems that sexual predators are not confined to *Homo sapiens*.

Reference

Corbet, P.S. 1999. *Dragonflies – Behaviour and Ecology of Odonata*. Cornell University Press, Ithaca, New York.



Figure 1. Male *Ceriagrion auranticum* seizes female. Photo: G.T. Reels.



Figure 2. Male *Ceriagrion auranticum* attacks female. Photo: G.T. Reels.



Figure 3. Male *Ceriagrion auranticum* consuming female. Photo: G.T. Reels.

**Finding the Holy Grail:
the rediscovery of *Rhinoneura caerulea*
in the Hose Mountains, Sarawak, Borneo**

**Rory Dow [rory.dow230@yahoo.co.uk] &
Graham Reels [gtreels@gmail.com]**

The chlorocyphid genus *Rhinoneura* has two species: *R. villosipes* Laidlaw, 1915 (Fig. 1), known only from montane forest streams on Mount Kinabalu in Sabah, but regularly encountered near the headquarters of the National Park, and *R. caerulea* Kimmins, 1936 (Fig. 2), until now only known from the type series of two males and one female, collected in montane forest above 1,000m on Mount Dulit in north-east Sarawak in 1932.



Figure 1. *Rhinoneura villosipes* male, Mt Kinabalu, Sabah (Photo: G.T. Reels).

we would not get into any good habitat. The first problem was encountered the day after we arrived at the foot of the mountains. There is a logging road (no longer in use) at the northern end of the mountains, which was supposed to cross the range, reaching at least 1,300m in the process. To reach this road took about one and a half hours along an awful dirt track, but almost immediately after we got onto the logging road we were stopped in our tracks by a broken bridge. After much debate, arrangements were made to find someone from Kampung Tunoh, the



Figure 2. *R. caerulea* male, Hose Mts, Sarawak (Photo: G.T. Reels).

We have been trying to relocate *caerulea* in Sarawak since we began getting research permits to work in the state back in 2005. We have made three attempts to find it on Mount Dulit, and have also tried on Gunung Mulu and in the Tama Abu Range – both areas where it seemed likely that the species might occur – as well as other high altitude sites. However, our efforts had been dismally unrewarded until this year, when we made a trip to the remote Hose Range in Kapit division in central Sarawak. Those who know us well will know that finding this species had become almost an obsession.

The Hose Range reaches 2,000m in places and is isolated from other high ranges in Sarawak, so it has always seemed like an interesting place to look for Odonata, but the problem had been to actually get there. This year we finally made it, but at times it looked as though

the nearby longhouse, with a chainsaw to help fix the bridge the following day. The day after the bridge was repaired we set off again, reaching an abandoned logging hut that was to be our base camp at about 950m on the third day. The problem now was that the accessible habitats around the logging road were completely trashed and the road was impassable shortly above our hut. Fortunately along with the chainsaw we had procured the services of its owner, Manau the great hunter (he bagged us two barking deer during the expedition, which more than made up for the deficiencies of the cook's provisioning), who told us that he could get us out of the logging devastation into good habitat higher up. Manau was true to his word, and the following day led us and our good friend Luke Southwell, to a stream in primary forest at about 1,200m. Rory stayed on this stream while

Graham worked a smaller stream nearby and Luke and Manau looked for more streams. Soon after the party split Rory had one of those rare ecstatic field work moments, on sighting and then catching a single male *caerulea* just before the sun decided to disappear. This caused him to perform a small dance at the spot of capture; a performance that was repeated with a can of beer in hand (carried just in case something really special was found) once the rest of the party rejoined him. Graham, who had spent a frustrating day battling through thorny plants and impenetrable tree falls on his poxy shaded little trickle, congratulated Rory through clenched teeth.



Figure 3. *R. caerulea* habitat, ca 1,350m, Hose Mountains (Photo: R.A. Dow).

The plan for the following day was for us to sample a slightly lower stream whilst Luke and Manau scouted for higher altitude streams where the *Rhinoneura* might be more plentiful. The lower stream did not produce any *Rhinoneura*, but Luke and Manau came back with news of a higher stream, and Luke had a tidy haul of genuinely montane species that raised our expectations to a fever pitch. The problem now was that due to the incompetence of our cook (actually the guy who 'organised' the trip for us, but the cooking was the only thing he did right, and he shall remain nameless here), who was in charge of the rations, it was necessary for the 4WD to make the whole day journey back to Kapit town to get more provisions. In the interests of safety we decided that we could not stay in the mountains without the vehicle and had to retreat to Kampung Tunoh, Manau's longhouse at the foot of the mountains, meaning that we had to wait three days before we could get to the stream that Luke and Manau had found.

Thankfully on the day we could get up to the high stream, the weather looked good. After a gruelling climb through stunted ridge-top moss forest, we finally descended to a beautiful stream in pristine primary moss forest (Fig. 3) at between 1,300 and 1,400m, reminiscent of the habitats of *R. villosipes* on Mount Kinabalu. Before very long, and to our great relief, we were seeing *Rhinoneura*. Both of us repeated Rory's triumphal dance at the end of the day, in front of our bemused companions, after catching a series of male *caerulea*. During sunlit periods, male *carulea* seemed to be the last Caloptera to appear on the stream, only descending from the canopy after the sun had been out for several minutes.

Even then, they usually perched high, making them difficult to catch or photograph; they were also very wary, and disappeared almost the moment that the sun was obscured by cloud. The following day, at the same site, the sun only came out for very brief spells, and no males were seen, but a single female was caught whilst apparently ovipositing into a log emerging from the stream.

Many more interesting species were collected during this expedition. The results will be published elsewhere once identification is complete. However, finding the *Rhinoneura*, our 'Holy Grail', alone made the whole trip a resounding success. We will be returning to the Hose Mountains as soon as we can, hopefully with the same great team (Fig. 4), minus the cook; the area is big, largely unspoilt and must be home to many more fascinating odonates.



Figure 4. The Hose Team, May 2010 (Photo: G.T. Reels). From left: Luke Southwell (master facilitator), Rory Dow (team leader, sporting fashionably ripped trousers), Yohanes anak Jenok (court jester), Manau anak Budi (hunter / pathfinder), Somoh anak Nyangon (driver par excellence).

New records of *Odonata* on a birding trip to Cambodia 12th-26th February 2010

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Abstract

On a guided birding trip to various places in Cambodia, over 500 pictures of Odonata were taken by Ursula and Hanns-Jürgen Roland. 24 Anisoptera and 8 Zygoptera species could be identified. Among these only one was without photo evidence, *Pseudothemis jorina*. One *Neurothemis* species had to be left unidentified.

The following species have not been recorded for Cambodia before: *Aethriamanta aethra*, *Aethriamanta brevipennis*, *Aethriamanta gracilis*, *Brachydiplax farinosa* and *Rhyothemis triangularis*. This fact can be partially explained by the low number of observers of Odonata in Cambodia. Most of the species are rather common in neighbouring countries.

Method

The fact, that the trip was a guided birding tour with a firm programme left only little possibilities to change plans to have more time and visit better places for watching Odonata for a longer time. Nevertheless we took more than 500 pictures at about 16 locations. At many places we had less than 10 minutes for this. Very occasionally we caught some individuals and after taking pictures, they were set free. No specimens were taken.

Weather

On the whole tour it was predominantly sunny, sometimes a bit cloudy and always very hot, with temperatures over 30° C. There was no rain at all. Therefore many areas were dried out totally.

Field notes and description of locations

1. Hotel Khemara Angkor Siem Reap 13-Feb-2010, N 13°22.0600' E 103°50.809' (exact). *Brachythemis contaminata* was the first and only species at a tiny artificial poolside-pond of the hotel in Siem Reap.

2. Angkor Wat 14-Feb-2010, N 13°24.741' E 103°51.526' (nearest to 150m). We started to Angkor Wat very early in the morning, a big temple-complex with artificial ponds and canals. There were definitely more tourists than dragonflies and birds together assembled at that place. We photographed *Brachythemis contaminata* and *Crocothemis servilia*.

3. Temple Banteay Srei 2/14/2010, N 13°35.857' E 103°57.942' (nearest to 150m). The second temple, Banteay Srei, was much more interesting. On the way from the parking lot to the temple was one of the few wet and not harvested rice fields left at this time of the year. Also some drains and artificial ponds were found there. We took pictures of 13 species, of which

11 were new for the trip list, *Brachydiplax chalybea*, *Brachydiplax farinosa* (probably the first published and documented record for Cambodia), *Diplacodes nebulosa*, *Diplacodes trivialis*, *Neurothemis fluctuans*, *Neurothemis fulvia*, *Neurothemis ramburii* (identification not safe, it would be the first published record for Cambodia*), *Neurothemis tullia*, *Orthetrum sabina*, *Rhodothemis rufa*, *Rhyothemis variegata*.

4. Angkor Thom Banteay Samre 2/15/2010, N 13°27.719' E 103°52.708' (nearest to 100m). On the opposite side to the temple entrance was a flooded area, where we had some time to photograph four species. Many *Rhyothemis phyllis* and *Rhyothemis variegata* were flying around in front of the temple. Also we saw *Trithemis pallidinervis* there for the first time on the trip.

5. Angkor Thom, Royal Palace 2/15/2010, N 13°25.549' E 103°51.573' (nearest to 500m). Another place with some artificial ponds. Here we saw the first Zygoptera, *Agriocnemis minima*, and the only Anisoptera, which we could identify but not take a picture of, *Pseudothemis jorina*. About five individuals were flying around there.

6. Tonle Sap Lake 2/16/2010, N 13°10.149' E 103°38.615' (nearest to 100m). Another day trip from Siem Reap. This very large lake had low water. We drove to the northwest corner of the lake and from there we were taken by boat to the other side of the lake to the Prek Toul Conservation Area to look out for the Milky Stork (*Mycteria cinerea*). On the other side of the lake we changed to little canoes and were brought to a bird-observation tower. On the way we saw some dragonflies and damselflies, but there was no chance to take a picture or to identify them. At the tower we found two species which we had seen already the days before.

7. Ang Trapaeng Thmor Conservation Area 2/17/2010, N 13°47.388' E 103°19.126' (nearest to 500m). A day-long trip from Siem Reap. Here we managed to see the Sarus Cranes (*Grus antigone*) and the very rare Eldis Deer (*Rucervus eldii*). During lunchtime at the ranger station we had some time to look for dragonflies at a pond with a lot of lotus flowers not far away from a bigger lake. This was a really nice place for Odonata. We photographed 14 species of which five were new on the trip. Those were *Acisoma panorpoides*, *Aethriamanta aethra* and *A. brevipennis* (both probably first published records for Cambodia), *Urothemis signata*, *Pseudagrion williamsoni*. It would have been nice to explore this area



Photo 1: Ang Trapaeng Thmor Conservation Area.

with much more time available.

8. Way to Tmatbeay 2/18/2010, N 13°40.350' E 104°31,222' (nearest to 20m). On our drive to Tmatbeay we stopped for lunch at a dried out waterfall with one small puddle left. Two species were seen. We caught and photographed *Potamarcha congener*.

9. Tmatbeay 2/18/2010 - 2/21/2010, N 13°58.053' E 104°52.868' (nearest to 200 ± 3000m). We stayed at a small lodge in the forest, built up by locals for visiting birdwatchers. This place is known for Giant and White-shouldered Ibis (*Thaumatibis gigantea*, *Pseudibis davisoni*). This big forest was very dry. Some small rice fields were harvested and the rest were burned down as scrub. Many patches of bushes were present in the woods, too. About 3 km around that place a few very tiny waterholes were left. One close to the station was the biggest, at about 1,500 square metres. We found only six species, of which *Neurothemis intermedia atalanta* and *Vestalis gracilis* (seen and photographed by J. Schneider, another member of the group) were new. This place should be interesting at other times of the year, maybe directly at the end of the rainy season.

10. Beng Mealea 2/21/2010, N 13°28.286' E 104°13.749' (nearest to 50m). On our way to Stoung and Kampong Thom we stopped for lunch at a temple at Beng Mealea, which gave us the opportunity to look for 30 minutes for Odonata at the ditch around the temple. *Pseudagrion australasiae* was the only new species. Four Anisoptera species we had seen before.

11. Stoung 2/21/2010, N 13°00.864' E 104°29.856' (nearest to 200m). We stopped at this conservation area to find the Bengal Florican (*Houbaropsis bengalensis*). It was already late in the day. Again the area was very dry with only a few waterholes left between the harvested rice fields. We found *Paracercion calamorum dyeri* and two other species which had been already seen on the tour before.

12. Kratie Mekong and surroundings 2/22/ -

2/23/2010, N 12°29.192' E 106°00.977' (nearest to 2000m). In search of the freshwater dolphins on the Mekong we did not see any dragonfly or damselfly. That was a little frustrating. At least we found the dolphins. Next day we started very early to some nearby rice fields and only took pictures of three species, seen before.

13. Mondulkiri 2/23 ± 2/25/2010, N 12°08.344' E 106°55.046' (nearest to 50m). The best always comes last. We stayed at the station of the Seima Bioersity Conversation Projekt at Mondulkiri, a huge area of intact natural forest. On our bird excursions within the forest, far away from water, we found *Neurothemis intermedia atalanta* and *Diplacodes trivialis*, at the station *Neurothemis fulvia*. Close to the station was a pond of about 4,000 square metres in size, where we had four hours. We photographed 23 species. At least two more were flying around, but could not be identified. New for the trip were *Aethriamanta gracilis* and *Rhyothemis triangularis*, both probably first documented and published records for Cambodia, *Ictinogomphus decoratus*, *Trithemis aurora*, *Ceriagrion cerinorubellum*, *Copera cliata* and *Ischnura senegalensis*.

Identification

Identification was first done with assistance of the book *Dragonflies of Peninsular Malaysia and Singapore* by A.G. Orr (2005) and then by comparing our pictures to the photos on the website <http://www.asia-dragonfly.net/index.php>. The results were then reviewed by Oleg Kosterin (Institute of Cytology & Genetics, University of Novosibirsk, Russia). For the *Aethriamanta* matters, we consulted Tang Hung Bun. Identification of most species was rather easy. The pruinosed males of *Aethriamanta* photographed at Ang Trapaeng Thmor and Mondulkiri exhibited certain differences: in the former the hind wing basal spots were dark, the tergite 7 mostly dark and the pruinescence dull-blue, while the latter male had yellowish spots, a rather pruinosed tergite 7 and a light bluish pruinescence tint. According to these characters, the Ang Trapaeng Thmor male can be identified as the most likely *A. aethra* while the latter could be identified as *A. gracilis*. Our provisional identification of both males was kindly confirmed by Tang Hung Bun. Confirmation of this record by a specimen copy would be desirable.

Discussion

Looking for Odonata on a bird watching tour is only partially satisfactory. We probably only saw the most common species of Cambodia. As we had no chance to search for Odonata at creeks and rivers, we missed the species of these habitats almost totally. We observed *Odonata* at 16 locations. The most common were *Brachythemis contaminata* at eight locations, and *Crocothemis servilia* and *Orthetrum sabina* at six locations. Overall we found 24 Anisoptera and



Photo 2: *Aethriamanta brevipennis*.



Photo 3: *Aethriamanta gracilis*.



Photo 4: *Neurothemis fluctuans*.



Photo 5: *Neurothemis fluctuans*.



Photo 6: *Rhythemis triangularis*.



Photo 7: *Brachydiplax farinosa*.



Photo 8: *Aethriamanta aethra*.

eight Zygoptera species.

The published knowledge on the Odonata fauna of Cambodia is surprisingly scarce for such a promising country. The records published prior to the year 2000 were summarized by Tsuda (2000). Later, some occasional records from short tours like ours were added (Donnelly 2000, Benstead 2006, Kosterin & Vikhrev 2006); in total these sources mention only 59 species for Cambodia.

We encountered the following species so far not reported for Cambodia:

Aethriamanta aethra (Ris, 1912) (see photo 8)
Aethriamanta brevipennis (Rambur, 1842) (see photo 2)
Aethriamanta gracilis (Brauer, 1878) (see photo 3)
Brachydiplax farinosa (Krüger, 1902) (see photo 7)
Rhyothemis triangularis (Kirby, 1889) (see photo 6)

There are a lot of places in Cambodia where, apparently, nobody has ever searched for Odonata. For example Edward Pollard, technical advisor from the Wildlife Conservation Society in Mondulkiri, told us that nobody has ever examined insects at Mondulkiri. For odonatologists Cambodia is a really exciting place.

[*Reviewer's note: There are taxonomic problems with *N. fluctuans*, *N. ramburii* and *N. terminata* – in parts of their ranges it is common to find intermediate forms between each of them and it is quite possible that *ramburii* and *fluctuans* at least are a single species.]

Acknowledgements

Thanks to: Tang Hung Bun and Oleg Kosterin for helping to identify some of the species and also to Oleg for encouraging and motivating us to write this report, Thomas Sacher for reviewing an earlier version of the manuscript, Ms Sanh Sophoan from the Sam Vaesna Center for guiding the field visits, The Cambodian Forestry Administration and Ministry of Environment for allowing access to the conservation areas, Dr. Til Macke for guiding and Jürgen Schneider of Albatros-Tours, Bensheim Germany for the perfect organisation of this birding trip.

List of species seen on the trip (number of the location):

Zygoptera

Vestalis gracilis (9)
Agriocnemis minima (5, 7, 13)
Ceriagrion cerinorubellum (13)
Paracercion calamorum dyeri (11, 13)
Pseudagrion australasiae (10, 13)
Pseudagrion williamsoni (7)
Ischnura senegalensis (13)
Copera cliata (13)

Anisoptera

Ictinogomphus decorates (13)
Acisoma panorpoides (7, 9, 13)
Aethriamanta aethra (7)
Aethriamanta brevipennis (7, 13)
Aethriamanta gracilis (13)
Brachydiplax chalybea (3, 7, 10, 13)
Brachydiplax farinosa (3, 9, 13)
Brachythemis contaminata (1, 2, 3, 6, 10, 11, 12, 13)
Crocothemis servilia (2, 4, 7, 10, 13)
Diplacodes trivialis (3, 6, 7, 12, 13)
Diplacodes nebulosa (7, 11, 13)
Neurothemis fluctuans (3, 13)
Neurothemis fulvia (3, 8, 13) (see photos 4 & 5)
Neurothemis intermedia atalanta (9, 13)
Neurothemis tullia (3, 7, 9, 12)
Orthetrum sabina (3, 4, 7, 9, 10, 13)
Potamarcha congener (8)
Rhodothemis rufa (3, 13)
Rhyothemis phyllis (4, 7, 13)
Rhyothemis triangularis (13)
Rhyothemis variegata (3, 4, 7)
Trithemis aurora (13)
Trithemis pallidinervis (4, 7)
Urothemis signata (7, 13)

(A list in Excel-format (.xls) can be provided for species/location and date). Further photos can be seen at our website http://www.libellen-wetterau.de/exotische_libellen/libellen_anderer_laender.html.

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Dragonfly surveys in Hainan, China, 2007–2008

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In 2007 and 2008, I made four short trips to Hainan, China to obtain material for a field guide to the Odonata of the island, now scheduled for publication in early 2011. The trips were organised and led by Kadoorie Farm & Botanic Garden (KFBG), a Hong Kong-based conservation charity organisation. KFBG paid my day to day costs in Hainan, while my four return flights from Hong Kong were generously funded by a grant from the International Dragonfly Fund (IDF).

Hainan is a large tropical island in the South China Sea, occupying an area of 34,000 km² and measuring 257km along a SW-NE axis, with a maximum width of 145km. The central and southern uplands include the island's highest peak, Wuzhishan (1,867m), while there are extensive low-lying plains in the northeast. The island has a tropical monsoon climate. Seventy per cent of annual precipitation falls during the summer. Typhoons may hit the island from May to September. The longest river, the Nandu, flows from the central uplands northwards to Haikou, the capital, and is 314km long.

This large island is the most tropical part of China and is rich in wildlife. Patches of primary rainforest still exist at Yinggeling, Bawangling, Wuzhishan, Jianfengling and various other upland protected areas. There is a high level of endemic biodiversity, particularly in the island's flora. At least 22 odonate species are currently thought to be endemic to Hainan, from a total of over 160 recorded to date.

The surveys

The first field trip (18–26 May 2007) centred on sites in and around Yinggeling Nature Reserve in central Hainan, with two days at Ganzaling Nature Reserve in southern Hainan. The next trip (17–23 June 2007) was to the Wanning region of southeast Hainan. This was followed by two trips to Wuzhishan Nature Reserve (16–23 April and 8–14 August 2008); the latter trip also involving sites between Wuzhishan and Wanning, and in the Wanning region. In total, 28 days of field work were conducted, and 98 species recorded (vouchered, photographed, or, in the case of common and easily-recognised species, unambiguously sighted).

Four species had not previously been found in Hainan (the first three of these were reported by Wilson et al., 2008): *Lestes praemorsus*, *Rhyothemis obsolescens*, *R. plutonia* and *Zyxomma petiolatum*. New locality records were made for five interesting species previously known from only a single location in Hainan: *Rhinagrion hainanense* and *Nannophyopsis clara* (first reported by Wilson & Reels, 2001) *Dysphaea gloriosa* and *Rhipidolestes cyanoflavus* (first reported by Wilson et al., 2008), and *Hylaeothemis clementia* (unpublished;

one male collected by Bosco Chan at Yinggeling, 2005; det. by G.T. Reels – the first specimen of this genus for China). By an extraordinary coincidence, a female specimen of a new *Sinosticta* species that was subsequently named *S. sylvatica* Yu & Bu, 2009, was collected by team member Hilario Padilla on the same date (25 May 2007) that Yu Xin, working completely independently, collected the first of his two males, and both records were made in Yinggeling, by groups unaware of each other's existence! The following year, I found this species to be quite common around Wuzhishan.

The survey sites were concentrated in the central and southeastern parts of Hainan (Fig. 1), and the main focus was on upland running water habitats. Hence the preponderance of Caloptera records (particularly *Neurobasis chinensis*, *Heliocypha perforata* and *Euphaea ornata* – three common stream species). Ponds and marshes, that occur extensively in the northern lowlands, were poorly sampled, as reflected by the low number of records of Coenagrionidae and many Libellulidae. Much obviously remains to be done, and I hope to have future opportunities to return to Hainan and contribute more to a thorough understanding of the distribution and composition of its odonate fauna.

Survey sites

Odonates were recorded at the following locations, indicated on Figure 1:

- [1] Nankai River (18, 19 & 21 May 2007); a broad open river at Yinggeling in shrubland/forest, flowing over exposed bedrock, with large boulders and sand accumulations; low gradient; 15–25m wide; 400m asl.
- [2] Namkang River (19 May 2007); a tributary of the Nankai River with boulder/cobble substrate in secondary forest; 500m asl.
- [3] Secondary and primary forest above Namkang River (20 May 2007); 600–1,000m asl.
- [4] Ganzaling (22 & 23 May 2007); a small nature reserve in southern Hainan, in low hills, comprising shrubland/secondary forest, with small slow-flowing shady streams and pond/marsh areas; 200m asl.
- [5] Nanyi River (24 May 2007); a 20m wide boulder river near Bulun in the Yinggeling area, in shrubland/forest, fast-flowing in the steeper sections; 200m asl.
- [6] Qingjie (25 May 2007); mountain in Yinggeling Nature Reserve; trail and steep streams in secondary and primary forest; 750–1,000m asl.
- [7] Yinggezhuai (26 May 2007); an upland basin in Yinggeling containing clear rocky boulder streams in shrubland/agricultural habitats; 600m asl.
- [8] Fan Jia (17 June 2007); area near Wanning with low gradient streams, with small boulders on the main

stream, and sandy substrate in slow-flowing upstream tributaries; set in shrubland and secondary woodland; 150m asl.

[9] Hui Shan Nature Reserve Site 1 (18 June 2007); shrubland with weed-choked marshy pond and forest areas, near Wanning; 200-500m asl.

[10] Hui Shan Nature Reserve Site 2 (19 June 2007); large boulder stream, moving from shrubland up into forest; 200-300m asl.

[11] Xiaonanning (20 June 2007); mixed shrubland and secondary forest near Wanning, drained by small streams; 150-400m asl.

[12] Nanlin Nature Reserve (21 June 2007); tall shrubland site near Wanning; trail at 300-500m asl.

[13] Jiaxin-Tongtielin Nature Reserves (22 June 2007); lowland secondary forest/shrubland near Wanning, with sandy-bottomed slow-flowing streams; 50-150m asl.

[14] Liulianling Nature Reserve (23 June 2007); near Wanning; rice paddies at 50m; steep rocky gorge at 100-300m asl.

[15] Xie Jie Ranger Station (16 & 17 April 2008); shrubland and good secondary forest in Wuzhishan Nature Reserve; drained by small streams and seeps; 400-700m asl.

[16] Wuzhishan Nature Reserve Main Resort (19 & 21 April; 8 & 9 August 2008); small boulder/gravel stream with sandy riffles; fast-flowing boulder stream;

trails in secondary and primary forest; 700-850m asl.

[17] Shui Man River (20 April 2008); broad, open aspect stream in Wuzhishan Nature Reserve, with gentle gradient, boulders, large cobbles and sand, surrounded by agricultural land and shrubby vegetation, grading into forest at higher elevations; 400-500m asl.

[18] Jie Zu, Wuzhishan Nature Reserve (22 April 2008); broad boulder stream in open country; trail through secondary woodland; 400-520m asl.

[19] Luo Mi, Wuzhishan Nature Reserve (23 April 2008); broad boulder stream in open country; 400-550m asl.

[20] River east of Wuzhishan at N18°45.905' E109°35.559' (10 August 2008); large, broad, open aspect stream, ca 10m wide, with small boulders and sandy substrate; 450m asl.

[21] Rivers east of Wuzhishan at N18°46.467' E109°44.289' and N18°46.442' E109°44.729' (12 August 2008); 10m wide, open aspect boulder river with shallow gradient; shallow, 5m wide tributary stream with cobbles, boulders and sand, and a partially closed canopy; 200-215m asl.

[22] Stream near Tongtielin (13 August 2008); 5m wide stream in open country near Wanning; gentle gradient, with sandy/cobble bottom substrate; ca 50m asl.

[23] Tian Zai Stream near Qingpilin (14 August 2008); broad open aspect stream near Wanning, with surrounding shrubland; cobble/sand substrate, gentle gradient with some riffle sections; ca 20m asl.

Figure 1. Relief map of Hainan, showing approximate locations of field survey sites
[Adapted from a KFBG map]

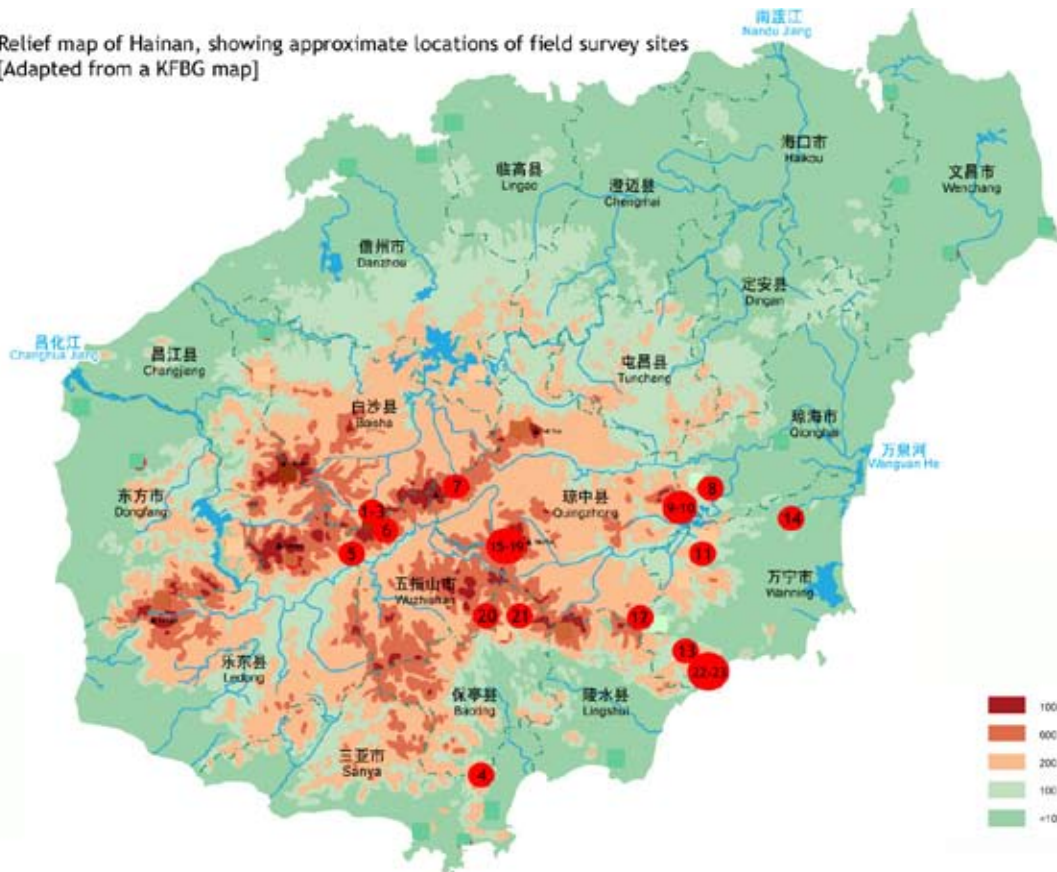




Photo 1: *Burmargiolestes xinglongensis*. Photo: G.T. Reels.



Photo 2: *Rhipidolestes cyanoflavus*. Photo: G.T. Reels.



Photo 3: *Rhinagrion hainanensis*. Photo: G.T. Reels.

Species recorded during the four survey trips

These are listed below, with survey sites at which they were recorded, and notes on species that are rare, endemic, or new records in Hainan.

Philogangidae

Philoganga vetusta Ris, 1912 [11,15,16]

Calopterygidae

Matrona basilaris Selys, 1853 [1,2,3,7,16,17,18,19]

Mnais mneme Ris, 1916 [3,4,6,11,16]

Neurobasis chinensis (Linnaeus, 1758) [1,5,7,8,10,13,14,15,16,17,18,19,20,21,22,23]

Vestalaria miao (Wilson & Reels, 2001) [9,10,11,16,18]

Chlorocyphidae

Aristocypha aino Hämäläinen, Reels & Zhang, 2008^{1,2} [9,10,15,16,18,19]

Heliocypha biforata Selys, 1859 [4,8,13,22,23]

Heliocypha perforata (Percheron, 1835) [1,2,5,7,8,10,15,16,17,18,19,20,21,22]

Libellago lineata (Burmeister, 1939) [8]

Euphaeidae

Dysphaea basitincta Martin, 1904 [1,5,8]

Dysphaea gloriosa Fraser, 1938³ [1]

Euphaea ornata (Campion, 1924)¹ [1,2,4,5,6,7,8,10,11,12,14,15,16,17,18,19,20,21,22,23]

Lestidae

Lestes praemorsus Selys, 1862⁴ [7]

Megapodagrionidae

Agriomorpha fusca May, 1933 [3,6,8,9,10,11,12,13,15,16]

Burmargiolestes xinglongensis Wilson & Reels, 2001¹ [6,11,15,16]

Rhinagrion hainanensis Wilson & Reels, 2001⁵ [8,13]

Rhipidolestes cyanoflavus Wilson, 2000⁶ [15]

Pseudolestidae

Pseudolestes mirabilis Kirby, 1900¹ [3,4,6,8,10,11,12,14,15,16,18]

Coenagrionidae

Agriocnemis femina (Lieftinck, 1962) [7,16]

Agriocnemis lacteola Selys, 1877 [17]

Ceriagrion auranticum (Asahina, 1967) [4,16]

Ceriagrion fallax Ris, 1914 [16]

Onychargia atrociana Selys, 1865 [4,16]

Paracercion calamorum (Fraser, 1919) [4]

Pseudagrion microcephalum (Rambur, 1842) [4]

Pseudagrion pruinosum Schmidt, 1934 [14,17,20,22]

Pseudagrion rubriceps Selys, 1876 [1,8,12,14,17,22,23]

Platycnemididae

Coelliccia cyanomelas Ris, 1912 [3,6,15,16]

Coelliccia scutellum Laidlaw, 1932⁷ [1,2,4,8,10,11,12,14,15,16,18]

Copera ciliata (Selys, 1863) [4,15,17]

Copera marginipes (Rambur, 1842) [2,8,10,13,15,17,18,20,22,23]

Indocnemis orang Förster in Laidlaw, 1907⁸ [11,16]

Platystictidae

Drepanosticta elongata Wilson & Reels, 2001¹



Photo 4: *Sinosticta hainanense*.



Photo 5: *Sinosticta sylvatica*. Photo: G.T. Reels.



Photo 6: *Chlorogomphus usudai*. Photo: G.T. Reels.

[2,6,7,9,10,11,15]

Drepanosticta zhoui Wilson & Reels, 2001¹
[3,4,5,6,9,10,11,15,16]

Sinosticta hainanense Wilson & Reels, 2001¹ [11,15,16]

Sinosticta sylvatica Yu & Bu, 2009¹ [6,15,17]

Protoneuridae

Prodasineura autumnalis (Fraser, 1922) [1,4,5,13,14,16,17,18,19,22,23]

Prodasineura croconota (Ris, 1916) [10,11,17,18]

Aeshnidae

Anaciaeschna jaspidea (Burmeister, 1839) [6]

Anax guttatus (Burmeister, 1839) [1,14]

Anax immaculifrons Rambur, 1842 [14]

Periaeschna magdalena Martin, 1909 [16]

Polycanthagyna erythromelas (McLachlan, 1896)
[1,2,8,16]

Tetracanthagyna waterhousei McLachlan, 1898 [17,19]

Gomphidae

Asiagomphus hainanensis (Chao, 1953) [7,19]

Burmagomphus vermicularis (Martin, 1904) [1]

Gomphidia kruegeri Martin, 1904 [1,8,16,17,18,19]

Heliogomphus scorpio (Ris, 1912) [17]

Ictinogomphus pertinax (Hagen, 1854) [4,8,12,14]

Lamelligomphus camelus (Martin, 1904) [16]

Lamelligomphus hainanensis Chao, 1954 [21]

Leptogomphus celebratus Chao, 1982¹
[4,10,11,13,15,18]

Megalogomphus sommeri (Selys, 1854) [7,14]

Merogomphus paviei (Martin, 1904) [7,18,19,21]

Nihogomphus thomassoni (Kirby, 1900)
[1,15,16,17,18,19]

Paragomphus pardalinus Needham, 1942 [1]

Sinictinogomphus clavatus (Fabricius, 1775) [4]

Stylogomphus chunliuae Chao, 1954 [17]

Chlorogomphidae

Chlorogomphus usudai Ishida, 1996¹ [3,6,11,15,16,18]

Corduliidae

Epopthalmia elegans (Brauer, 1865) [4]

Idionyx victor Hämäläinen, 1991 [11,12,13,19]

Macromia calliope Ris, 1916 [21]

Macromia clio Ris, 1916 [1]

Macromia moorei Laidlaw, 1928 [1,6,16]

Macromia urania Ris, 1916 [12]

Macromia rapida Martin, 1907 [1]

Libellulidae

Acisoma panorpoides Rambur, 1842 [12,15]

Brachythemis contaminata (Fabricius 1793) [1]

Cratilla lineata (Brauer, 1868) [2]

Crocothemis servilia (Drury, 1770) [8,12,14,18]

Diplacodes trivialis (Rambur, 1842) [12,18]

Hydrobasileus croceus (Brauer, 1867) [4]

Hylaeothemis clementia Ris, 1909⁹ [15]

Lyriothemis tricolor Ris, 1919 [11,16]

Nannophyopsis clara (Needham, 1930)¹⁰ [4]

Neurothemis fulvia (Drury, 1773) [1,4,9,15,16,21]

Neurothemis tullia (Drury, 1773) [4]

Onychothemis testacea Martin, 1904 [17,18,19,22,23]

Orthetrum chrysis (Selys, 1891) [4,5,9]



Photo 7: *Hylaeothemis clementia*. Photo: G.T. Reels.



Photo 8: *Nannophyopsis clara*. Photo: G.T. Reels.



Photo 9: *Zyxomma petiolatum*. Photo: G.T. Reels.

- Orthetrum glaucum* (Brauer, 1865) [5,10,12,16,18,19]
Orthetrum pruinosum (Rambur, 1842) [1,8,13,15,16,18,19]
Orthetrum sabina (Drury, 1770) [4,8,12,13,14,15,18,19,22,23]
Orthetrum triangulare (Selys, 1878) [1,2,9,15,16]
Palpopleura sexmaculata (Fabricius, 1787) [15,18,21]
Pantala flavescens (Fabricius, 1798) [4,12,14,16,20]
Potamarcha congener (Rambur, 1842) [1,8,18,19,20,21,22,23]
Pseudothemis zonata (Burmeister, 1838) [5]
Rhyothemis obsolescens Kirby, 1889⁺ [4]
Rhyothemis plutonia Selys, 1883⁺ [4,5,9,12,13]
Rhyothemis variegata (Drury, 1773) [4,14]
Tetrathemis platyptera Selys, 1878 [1,8,16,18]
Tramea virginia (Rambur, 1842) [12,14,15,22]
Trithemis aurora (Burmeister, 1839) [1,7,8,10,12,14,15,19,22]
Trithemis festiva (Rambur, 1842) [1,7,8,10,15,16,18,19]
Urothemis signata (Rambur, 1842) [4]
Zygonyx iris Kirby, 1900 [1,8,10,13,14,17,18,19]
Zygonyx takasago Asahina, 1966 [5,16,21,23]
Zyxomma petiolatum Rambur, 1842⁺ [22]

Notes

- ¹ Endemic species.
² Previously reported as *A. fenestrella*.
³ Second Hainan record; first collected by G.T. Reels at Nankai River, 2005.
⁴ First Hainan records.
⁵ Second and third Hainan records; first collected by G.T. Reels at Lumushan, 1999.
⁶ Second Hainan record; first collected by M. Lau at Nanleshan, 2005.
⁷ Hainan subspecies, *C. s. hainanense*, is endemic.
⁸ Subspecies *I. o. kempii* is in Hainan.
⁹ Second Hainan record; first collected by B. Chan at Yinggeling, 2005.
¹⁰ Second Hainan record; first collected by G.T. Reels at Xinglong Botanic Garden, 1999.

Acknowledgements

I am grateful for the dedicated support of KFBG, and the active encouragement of the official Hainan Wildlife Conservation Centre. I am profoundly indebted to IDF for the grant which enabled me to fly to the island four times. I also thank other KFBG team members Bosco Chan, Michael Lau, Philip Lo and Hilario Padilla, all of whom collected useful specimens during the field trips. Keith Wilson provided valuable assistance with some identifications.

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Members Update - July 2010

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506	Stephanie M. Welter	150 University Blvd, Lappin Hall 327D, Dept of Biology and Chemistry	Morehead State University, Morehead, KY 40351	USA	s.welter@moreheadstate.edu

Dragonflies caught in flight

Jan Taylor [jmtay5@bigpond.net.au]

When taking photographs of Australian emperor dragonflies (*Hemianax papuensis*) flying over my pool in Perth, I was reminded of how dragonflies bunch their legs up, with the front legs tucked in behind the eyes. I wondered what the reason might be: was it for aerodynamics only, or could there be some other advantage?

With the emperors the legs seem to be held tightly behind the eyes and I found the same applied when I took photos of emperors (*Anax imperator*) in the New Forest in England. I wondered whether they could possibly play a part in holding the head steady while the wings are flapping, because there must be an inertia vector in such a heavy head in relation to rather a narrow neck. However, this idea went by the board when I took photos of tau emeralds (*Hemicordulia tau*) flying over my pool. I found that their legs were well separated from the head when in flight.

I mentioned this idea to my brother Kim, who takes much better images than I do. He said he could not see the legs being used to hold the head at all. He has photographed many insects in flight, and can see that when banking



Photo 1: *Aeshna cyanea* showing head rotating as the animal banks in flight. Credit: Kim Taylor.



Photo 2: *Libellula depressa* showing how the legs are placed in flight. Credit: Kim Taylor.



Photo 3: *Hemicordulia tau* with front legs clearly not touching the head. Credit: Jan Taylor.



Photo 4: *Anax imperator* also with legs behind the eyes. Credit: Jan Taylor.

in flight, the head is rotated to keep it steady in relation to the background, as you can see from this image of a southern hawker (*Aeshna cyanea*) (see Photo 1). He finds the same applies to wasps and even blowflies when banking in flight.

His broad-bodied chaser (*Libellula depressa*) clearly shows how the legs are held in this genus (see Photo 2). I wonder if there are more variations: I found that the golden-ringed dragonfly (*Cordulegaster boltonii*) does not seem have them so closely tucked behind the head. This one was laying eggs in Yorkshire (see Photo 7).

I still wonder about the emperors: with the legs apparently so firmly behind the eyes, they could be used for some other purpose – having so many tactile setae, they may aid in assessing body orientation, for instance.



Photo 6: *Hemianax papuensis* with front legs firmly behind the eyes. Credit: Jan Taylor.



Photo 7: *Cordulegaster boltonii* laying eggs showing legs against thorax. Credit: Jan Taylor.

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ii) **EMU members** – should be paid in euros to the German account at Mainzer Volksbank Im Borner Grund, D-55127 Mainz. Quoting BIC MVBMD55 & IBAN DE 09 55190000 0429403041 (In Germany: Kto 429403041, BLZ 551 900 00). Send application form to Dr Wolfgang Schneider, Graefstrasse 51, D-60486 Frankfurt a.M., Germany. E-mail: Fri.Wol@t-online.de

iii) **Japanese members** – should be paid in Yen to the Japanese account at:

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名義: 角谷 拓 [かどや たく])

Application to be sent to:

〒113-8657 東京都文京区弥生1-1-1 東京大学大学院農学生命科学研究科 生圏システム学専攻
角谷 拓 宛 (Mr. Taku Kadoya, Department of Ecosystem Studies, Institute of
Agriculture and Life Science, The University of Tokyo, 1-1-1 Yayoi, Bunkyo-ku, Tokyo
113-8657, Japan.) E-mail: kado_taku@yahoo.co.jp

iv) **UK members & all others** – by sterling cheque or GB £ bank notes, or by international money order, postal order or transfer to UK account at Lloyds TSB plc, 942 Brighton Road, Purley, Surrey CR8 2XD. Quoting BIC: LOYDGB21151; IBAN: GB07LOYD30917201048068. Application form to be sent to Linda Averill, 49 James Road, Kidderminster, Worcs, UK DY10 2TR. E-mail: linda.averill@blueyonder.co.uk

WDA Secretary: Natalia von Ellenrieder, CDFA, 3294 Meadowview Road, Sacramento, CA 95832. E-mail: natalia.ellenrieder@gmail.com

Nominations to the WDA Board of Trustees 2011-2013

In accordance with the WDA Constitution and By Laws, all members of the Board of Trustees, except for the President Elect, resign at the Biennial General Meeting following that at which they took up their posts although all (apart from the President and the Immediate Past President) are eligible for re-election. **Boudjéma Samraoui** has agreed to stand for election to the post of President Elect having been formally nominated (by Wolfgang Schneider) and seconded (by M. L. May and Göran Sahlén). Reinhard Jödicke will be retiring as Managing Editor, and **Michael L. May** has been nominated (by Reinhard Jödicke) and seconded (by Ola Fincke, Andreas Martens, Göran Sahlén, Wolfgang Schneider, and Frank Suhling). Natalia von Ellenrieder will be retiring as Secretary in 2011, and **Robert Walter Reimer** has been nominated (by Wolfgang Schneider) and seconded (by Andreas Martens and Martin Schorr) and has agreed to stand for election to this position. Should you wish to nominate another/other member(s) of the WDA for any position on the Board of Trustees (except for President and Immediate Past President) please e-mail the Secretary or complete the following nomination form and return it to the Secretary so that it reaches her no later than 12 August 2010, after which no nominations can be registered. In the event of a vote being required for any position postal/email ballot slips will be issued in AGRION 15(1), January 2011 and will need to be returned by 12 February 2011. Please confirm that any nomination is supported by two WDA members and by the person nominated.

Nominated Board Members for the period 2011-2013 are as follows:

President: Göran Sahlén

Immediate Past President: Wolfgang Schneider

President Elect: Boudjéma Samraoui

Secretary: Robert Walter Reimer

Treasurer: David Allan Fitch

Managing Editor: Michael L. May

Webmaster: Adolfo Cordero Rivera

Chairman Conservation & Funding: Vincent J. Kalkman

Symposium Co-ordinator: Richard Rowe

Trustee: Dennis Paulson

Trustee: Keith Wilson

Trustee: Mamoru Watanabe

Trustee Nomination Form

I,.....(Write your name here) wish to nominate the following WDA member for the office of:

.....
Name of Nominee:.....(who has agreed to the nomination)

Address of Nominee:.....

The nomination is **seconded** by the following two WDA members:.....

.....

Please return to the WDA Secretary, Dr. Natalia von Ellenrieder, California State Collection of Arthropods, CDFA, 3294 Meadowview Road, Sacramento, CA 95832, USA or e-mail your nomination to natalia.ellenrieder@gmail.com by 12 August 2010 at the latest.