



EDITORIAL

Many of you will remember the very successful **AFRICA** number (Vol.3, No.1) we produced in January 1999. I received a magnificent response resulting in interesting information from Algeria, Morocco, Senegal, The Gambia, Nigeria, Kenya, Tanzania, Uganda, Zimbabwe and South Africa. Since then we have had two other themed numbers, the first of which was brilliantly supported. "**Our Beautiful Dragonflies**" (Vol. 5, No.1 - January 2001) contained articles describing favourite species from Australia, Tasmania, China, India, Japan, Thailand, The Philippines, Cameroon, Ghana, Kenya, Uganda, Brazil, Costa Rica, Cuba, Surinam, Arizona, Arkansas and New York – a truly worldwide collection suitable for the newsletter of a worldwide association. The July 2002 (Vol.6, No.2) number containing "**Reminiscences**" was less generously supported with only eight contributions – seven from European members and one from an Australian, but they are well worthwhile reading again. I have just re-read the articles in all three themed numbers and any of you who, like me, preserve past copies of almost everything odonatological would, I'm sure, enjoy making the most of a spare quarter of an hour by following my example!!

All of which leads me to my plans for January 2005! I'd like Volume 9, No.1 to have an Asian theme and I would be so pleased if you would bear this in mind. I would like articles from all those who live, work or have visited any country within **ASIA**: articles on habitats; on endemic species observed; observations on unusual behaviour; work that is being carried out in universities; exhibitions that have been mounted in museums; holidays that have been enjoyed; **or on anything else to do with Asian Odonata that has struck you as interesting, amusing, unusual or even bizarre!** I would love a response as magnificent as the ones I received for Africa and Our Beautiful Dragonflies – just THINK Borneo, India, Hong Kong, Japan, Philippines, Thailand, etc. and let the articles come rolling in!!

DEADLINE: December 1st – but it helps a lot if contributions can be sent as early as possible.

The WDA ARCHIVE – Philip Corbet

It is accepted that each member of the WDA Board of Trustees shall be assigned a task, to be performed during his or her tenure. I am a member of the Board, in my capacity as Past President, and the task I have been assigned is that of Archivist. This role has only recently been approved by the Board and I am the first incumbent. I have suggested Terms of Reference for this position and these, together with the text of this article, have been approved by the Board. They are as follows:

"The WDA Archivist, acting in collaboration with the WDA Webmaster and several other WDA members who have agreed to assist, shall solicit, assemble, curate and make available to members material (textual, photographic and other) likely to be of interest to present and future members of WDA in documenting the origin and continuing development of the Association."

The following actions are envisaged.

1. Development of WDA. Close to the end of his/her term of office each Archivist shall prepare an article detailing significant happenings during that term, including the names of office holders (e.g. Board members, members of the Editorial Board and Advisory Committees), with the expectation that this article will appear in

AGRION and on the WDA website, after the text has been endorsed by all Board members. The first such article will place on record the events attending the formation of WDA, thus putting this into historical perspective. This article, like its successors, will likewise be subject to approval by all Board members before publication so as to validate its scope and accuracy.

2. Textual material. This will include seminal material such as the Constitution and By-Laws, Codes of Practice, Symposia booklets (comprising the programme, abstracts and list of attendees), minutes of General and Board meetings and any major policy documents (e.g. Terms of Reference for standing committees, Conservation and Funds Committee notices to applicants for grants). Textual material will be available on the WDA website and/or stored electronically elsewhere. If the latter, it will be listed in an inventory, items in which will be available to members on request, subject to a charge to defray expenses of meeting such requests. Also included will be a complete run of AGRION and of the *International Journal of Odonatology*. It is expected that these runs will be stored in hard copy, probably by the Editors of these periodicals, under an arrangement whereby they can be made available to members on loan or in photocopy on request, subject to mailing costs being defrayed. (The matter of a WDA library [comprising journals and reprints of papers relating to odonatology] will be continually under review but for the foreseeable future presents insurmountable difficulties relating to storage and curation.)

3. Photographic material. This will include (as a minimum) group photographs for each International Symposium of WDA and for each Board of Trustees. It is assumed that each such photograph will be accompanied by a key that allows each person in the picture to be identified. Other photographs of individuals or noteworthy group events (including regional meetings) will be included as opportunity arises. It is expected that all such photographs will be labelled with the date, location and names of persons pictured. Such material also will be available on the WDA website. It will be the responsibility of each Symposium organiser to obtain, and contribute, photographs of the incoming and outgoing Board and a group photograph of those attending the Symposium.

4. Miscellanea. We may become aware of material in other categories that deserves retention in the Archive. The only example I can think of at present is *curricula vitarum*, or brief biographical summaries (including lists of odonatological publications), of members above a certain age – say 50. Such material will prove very useful in ensuring the accuracy of obituary articles that may be called for after members die.

I have been seeking advice regarding the most efficient and economic way of proceeding and of assembling and storing archival material;

1. The Archivist makes known to members (through the website or through AGRION) the kind of material that will be needed and encourages members to notify him/her of its nature;
2. The Archivist obtains the agreement of certain members who will accept responsibility for receiving, storing, and making available archival material to members who request it; each such member will be designated a Receiver/Supplier (RS) and will report to the Archivist, with whom the RS's term of office will be negotiated.
3. Members send suitable archival material, preferably in electronic form, to an RS with the appropriate responsibility. The Archivist will inform all members of the contents of the inventories for the various categories of material, the WDA website perhaps being used for this purpose.

Regarding 1, this article has already met this requirement.

Regarding 2, Rob Arnold, in his capacity as Webmaster, has already kindly agreed to co-operate in handling certain material for exposure on the WDA website. When the identity of individuals willing to serve as RSs is known, members will be informed of this, probably through the WDA website. Volunteers are hereby invited. I should emphasise that the functioning of the WDA Archive will depend on the willingness of computer-literate members to serve as RSs and so I hope that volunteers (about three are needed) will soon be forthcoming. Anyone willing to serve in this essential capacity is asked to contact me soon.

It is expected that archival material in all categories will be stored on CDs.

It is anticipated that this system will be reviewed after two or three years of operation and certainly no later than the date of the International Symposium in Namibia in 2007, where the system's operation could usefully be discussed. In the meantime I shall welcome comments and suggestions on this protocol at any time.

During my term of office I shall expect to keep members informed of developments as they occur.

I wish to share with members my conviction that building a WDA Archive is a worthwhile venture and also that the sooner this is started the better. There are many examples of associations that have postponed the formation of an archive until too long has elapsed for reliable records of early events and people to be obtained. In WDA we are still close enough to our foundation years to assemble a complete record if we start to gather archival material now.

I thank the following friends for valued advice: Rob Arnold, Janet Axton, Peter Peitzner, Richard Rowe & Roger Slack.

30/01/2004

Worldwide Dragonfly Association Award – *Frank Suhling*

In 2003, the Board of Trustees of the Worldwide Dragonfly Association decided to donate an award to honour excellent studies on dragonfly research and conservation.

The WDA Award recognises outstanding achievements and contributions to the science of odonatology or its application. The award is an honorarium of \$1000 plus a certificate. It is open to odonatologists from anywhere in the world and may be awarded biennially at the WDA International Symposium of Odonatology. Odonatologists, who may or may not be members of WDA, can be nominated, or can themselves apply, for this award. If, in the opinion of the adjudicators, nominations achieve an appropriate standard, an award will be made biennially, based on projects completed within the two years immediately preceding the next closing date for submissions, which will be 30 September in alternate years, beginning in 2004.

To be eligible for consideration, a project must be deemed to have made a significant contribution to the advancement of odonatology or its application, preferably on an international scale. Nominations must be accompanied by:

1. a statement, signed by the nominee, indicating his/her acceptance of nomination and of the terms of the award and
 2. the endorsement of the nominator and a seconder and a concise statement of why, in their opinion, the nominee merits the award;
 3. by a *curriculum vitae* of the nominee, limited to two pages (i.e. surfaces) of A4
 4. a brief statement of why the project is regarded by the nominator as a significant contribution to odonatology.
- In any one two-year period the award may be divided between two persons.

In instituting this award, WDA intends particularly to encourage odonatologists less than 35 years of age and so welcomes nominations that further this aim, although older nominees are also eligible for the award.

Each recipient of the award shall present an account of his/her work (i.e. the successful project), as a lecture, at the next WDA International Symposium of Odonatology after announcement of the award.

Please, submit your nominations for the 1st WDA award, which will be conferred during the 4th WDA Symposium, to be held at University of Vigo, Pontevedra, NW Spain, July 26-30, 2005. Nominations and accompanying documentation (to be sent as MS Word or pdf files) should be addressed to Dr Frank Suhling, Chairman, WDA Conservation & Funds Committee, Institut für Geoökologie, Technische Universität Braunschweig, D-38106 Braunschweig, Germany, email f.suhling@tu-bs.de.

News from Members

Gordon and Valerie Pritchard spent four weeks in the UK in May, including a delightful week with Jill Silsby. Gordon is recovering well from spinal surgery and, although he still faces other medical challenges, is in very good spirits. Gordon and Valerie send good wishes to their many friends in WDA and are looking forward to seeing everyone again in Spain.

Professor E.O. Wilson, FRS, the Patron of WDA, was elected in March 2004 to an Honorary Fellowship of the Royal Society of Edinburgh. We record our pleasure at this event and convey our congratulations to Professor Wilson

Four days in Kanchanaburi

Bert Orr - (26 Currimundi Rd, Caloundra, Q4551, Australia)

In their Atlas of Thai dragonflies, Hämäläinen and Pinratana record about 320 species for Thailand as a whole. About 135 species are listed from the large province of Kanchanaburi, a total that is still quite incomplete. If the map of Thailand is regarded as an elephant, Kanchanaburi lies just above the base of the trunk along the western border with Burma. Zoogeographically the area represents a transitional zone between the southern Sundaland fauna and the northern Burmese fauna. The resultant mixture is rich in dragonflies. This is why, when I visited Thailand in March last year, researching a joint project with Matti Hämäläinen on the Caloptera of South East Asia, Kanchanaburi was one of three obvious localities to explore, the others being Chiang Mai, and Ranong (where I did not go).

The areas we were to visit were well removed from the tourist trail and difficult to locate without local knowledge. Fortunately, Brother Pinratana had kindly made all travel arrangements. We departed Bangkok well before sunrise, in the company of Brother Pirating and his three assistants. After the town of Kanchanaburi, the provincial capital, the route lay through a dusty valley with the air of desolation produced by marginal, unprosperous agriculture. Increasingly as we drove northwest, jagged limestone mountains appeared clad with the sparse remnants of monsoon forest, the remains of a formerly vast forested area still intact fifty years ago. It was difficult to see where dragonflies other than the commonest ditch and drain species might be found, but I was soon to discover that in Thailand even quite unpromising looking sites could be very rich indeed.

Around midday after some six hours driving at a good pace we arrived at a broad, cobbled, shallow river at Pongpuron, beyond Thong Pha Phum, very near the Burmese border. The habitat generally was highly degraded but the riverbanks and bars were clad in dense undergrowth providing good habitat for generalist species. As I approached the stream large numbers of black *Euphaea masoni* fluttered from their waterside perches. I soon netted one, but as I was attempting to extract it an emerald male of *Neurobasis chinensis* fluttered around my ankles, while simultaneously the lilting cry of '*perforata*' came from the opposite bank, which Matti had already reached. This was the first chlorocyphid, my special interest. Over the

next hour I made discovery after discovery, many species quite new to me. *Heliocypha perforata* and *Libellago lineata* were common by the banks. *Trithemis festiva*, *Orthetrum glaucum*, *O. pruinosum* were all common, especially around a bar of cobblestones. *Gomphidia abbotti* made a brief appearance racing over the fast water. *Zygonyx iris*, in Borneo an uncommon species, was here as abundant as *Trithemis*. Other captures or sightings included *Prodasineura autumnalis*, *Copera marginipes*, *Pseudagrion rubriceps*, *P. pruinosum*, *Paragomphus capricornis*, *Trithemis aurora* and *Onychothemis culminicola*. Many exuviae were clinging to the waterside vegetation. Those of *Zygonyx* and *Libellago* were especially numerous.

We visited a couple of other streams, notably one at Ban Lampilok, adding *Vestalis gracilis*, *Heliocypha biforata*, *Argiocnemis rubescens* and a rogue buffalo to our list. Then with the rain pressing us hard we made for our lodgings, a comfortable guesthouse set atop a hill with glorious views and a stream below. Later, around dusk, when the rain had cleared, aeshnids flew close by in the failing yellow light but we never managed to catch any all the time we were there.

On day two the weather was cloudy. We visited Lam Khlong Ngu, where a deep stream runs through disturbed scrubland and bamboo groves. The locality is famous for its butterflies, which settled in myriads by the riverbank like kaleidoscopic snow, and also for *Indocypha vittata*, then out of season. I also made new records that day, notably *Aristocypha fenestrella*, my first sighting of this genus, but in the dull weather it failed to display any interesting behaviour. The *Neurobasis* on the other hand flew tirelessly up and down the border of the stream, beating their territory or fighting off other males, even when the skies grew dark and rain threatened. We recorded 24 species on the stream and up a stagnant ponded backwater, most of them common. I spent much of the day grubbing for larvae and was rewarded by an F0 *Gomphidia*. I put it in my pocket inside a film canister but on our return to the bungalow the lid was loose and the larva had escaped. That afternoon the heavens opened once more, and we all got very wet going into a shop to buy beer.

On day three the weather was no better, more cloud than sun, but not to be put off we trekked one mile through the forest to a beautiful limestone bedded stream at Kroeng Kra Via. The forest was as nearly intact as any in Kanchanaburi and the path ill marked and quite steep in places. The under-story was quite gloomy. Great cream and orange amathusid butterflies scattered before our feet as we slithered along. There were few birds, presumably due to hunting pressure. Otherwise I might have been back in Borneo, so rich was the vegetation. We arrived at the stream along a shaded reach. A little upstream the water fell over a series of pale limestone steps, some quite high. With Matti leading, we clambered up these for perhaps fifty yards until we arrived at a relatively open area where the stream bifurcated and a small tributary joined the main flow. I was still labouring up a difficult step when Matti returned in silent haste from ahead and whispered: 'Echo'. This of course was exactly the incentive I needed to scramble up the remaining few feet and, gaining the top, I carefully stalked up the creek indicated. The *Echo*, a white-faced male, was sitting on the upper side of a thin palm frond. With my net I swatted it at once, and a few minutes later bagged a female as she probed around the broken wood on the stream bed. 'Why didn't you study its behaviour' asked Matti, slightly reproachfully, when I returned with my prizes. Well it was my very first *Echo*! I needed at least to learn what it looked like!

As it was still quite overcast I spent a good deal of time searching for larvae, hoping for *Philoganga montana* and *Idyonyx iida* – this place encompassed the latter's exact type locality – but had little success except for a euphaeid, some fierce looking Ephemeroptera and a fat tipulid. However when the sun did shine briefly around midday the results were spectacular. *Vestalis anne* was common. *Aristocypha fenestrella* males perched just within net-reach on high sunlit leaves but were so skittish I took me a good while to capture a specimen. Other species included *Heliocypha biforata*, *Coeliccia didyma*, *Indocnemis orang*, *Prodasineura* sp.(nov.?) [nec. *verticalis*], *Copera vittata* and, gloriously, *Gomphidictinus perakensis*. The list is not long, but half these species I never saw again. On our return through the forest in growing sunny patches were many *Vestalis gracilis*. At one point we saw three men moving silently, stealthily, away from our trail towards Burma. Each carried a shotgun.

The afternoon was blessed with glorious sunshine. We made the most of it to explore the little stream, which ran though open country just below the bungalow. It proved to be surprisingly rich – every twig and branch by the waterside was festooned with the exuviae of *Zygonyx* – sometimes three to a twig. Also present were *Trithemis*, (*festiva* and *aurora*), *Orthetrum pruinosum*, *Prodasineura autumnalis*, *Pseudagrion pruinosum*. However of greatest interest to me were the *Heliocypha* species, *biforata* and *perforata*, as ever, neatly segregated from each other in their habitat preferences. *H. perforata* is found near faster water whereas *H. biforata* occurs among the floating twigs and other trash in protected areas near the stream bank. They may fly very close together but seldom interact. That evening, back at the bungalow, the lost *Gomphidia* larva was found clambering up Matti's mosquito net.

Late in the evening the clouds came up, then retreated, leaving us to a starry night and a glorious pristine morning. By 9 am after quite a complicated drive we arrived at Nang Kroan, a bamboo fringed stream at 600 m altitude. It was a wonderful place, although lacking the fairy-tale remoteness of the forest, it compensated with its odonatological offerings. I followed the curving stream about half a mile from our starting point through bamboo groves where *Vestalis gracilis* were incredibly common. I walked until I found a spot with a pool, a riffle and a vegetated rocky island midstream. There I found *Aristocypha iridea*, the species I was most anxious to see, and there I stayed for most of the day, photographing this species and recording its agonistic and mating behaviour.

I noted for the first time, the sexual habits of the males as they perch just above the water close to small dead branches in which the females oviposit. Around 1000h, males arrived at the water having spent the early morning perched higher in the surrounding vegetation sporadically feeding. Only a few territorial contests occurred. Around 1100h, just before the first females arrived to oviposit, the males cleaned both eyes with their tibial combs, their fore tarsi interlocked, presumably the better to see any female (!), and then rhythmically displayed their violet-iridescent hindwings in a stunning flash display, arching their blue abdomen sinuously and standing as high as possible as they did so. The translucent green- and orange-iridescent forewings were kept closed and their brilliance was not very apparent. The behaviour was quite similar to the hind-wing clapping displays of calopterygids such as *Neurobasis chinensis* but I had never before observed it in a chlorocyphid.

When a female landed in a male's territory and began ovipositing, or at least simulating oviposition, she was courted immediately. The male hovered first about 15 cm in front of her for a few seconds, displaying his vibrating white tibia, then briefly repeated the performance from the side, then mounted her and mated.

I also gave some attention to *A. fenestrella* and *H. biforata*, which were nearby and came away with a highly satisfactory set of observations on all three species. It was because of this focus that I failed to capture the female of *Nihonogomphus pulcherrima*, which would have been only the second record of this species for Thailand. I was standing midstream armed only with binoculars, my net resting uselessly on the far bank. She hovered no more than four feet before my eyes, every detail of her lovely banded green thorax and colourful abdomen visible for perhaps thirty seconds. Later, towards 2pm, as I was idly watching the stream, I saw floating past an interesting leaf. On it was a gomphid larva, its dorsal skin already split, and as I watched, an adult female *Heliogomphus* struggled free. For the purpose of identification I placed it in an inflated plastic bag where it soon completed its expansion.

The species list that day was long and varied – 23 in total – in addition to those mentioned there were numerous *Neurobasis chinensis*, *Prodasineura* sp. (nov.?), *P. autumnalis*, *Indocnemis orang*, *Coeliccia* sp., *Copera marginipes*, *Rhinagrion mima*, *Gomphidia abbotti*, *Zygonyx iris*, *Neurothemis fulvia*, *Brachythemis contaminata*, *Palpopleura sexmaculata* and several other unidentified Anisoptera. The following morning we left very early for Bangkok, where Matti and I spent two days before continuing to Chiang Mai, where I was able to continue many of the observations on chlorocyphids begun in Kancharaburi. I take this opportunity to thank Matti and Brother Amnuay for providing the opportunity to visit this fascinating area and to observe at close quarters at least thirty species previously outside my experience, all in the space of four days

A Peninsula with its Toe in the Tropics - Baja California, Mexico -

Dennis Paulson

In January 2004 my wife Netta Smith and I undertook a short one-week expedition/vacation (always in that order of precedence) to the Cape region of Baja California. This long (1300 km) peninsula extends from the US border down to just below the Tropic of Cancer. Drier than the mainland, it supports desert or thornscrub vegetation all the way down to its tip. The tip is affected by the summer rainy season widespread in Mexico, but both La Paz and Cabo San Lucas, representative of the tip, average only 17 cm of rain each year, dry by any standard.

Nevertheless, there is some permanent fresh water there, mostly in the form of small rivers with sand and gravel substrates flowing through desert canyons lined with cottonwoods and willows and often palms. Burrowing odonates such as gomphids, rock-dwellers such as *Argia* and *Paltothemis*, and rootlet-clingers such as *Hetaerina* and *Macrothemis* can all be found. Many of the rivers run only during the rainy season. Occasional backwaters of these rivers furnish habitats for species of still waters, but natural ponds and lakes are rare. Notwithstanding the general scarcity of water, there is a surprising diversity of Odonata.

It turns out that rainfall in the autumn of 2003 was above average, so there was still quite a bit of water around during our visit, although the weather was generally hot and sunny.

Our first stop was the Estero San José in San José del Cabo, a wide river that discharges into the ocean and attracts great numbers of birds at and near its mouth. Distracted greatly by the birds – including such local rarities as a Bald Eagle – we nonetheless saw many odonates there. Widespread Neotropical species were the most common, including *Ischnura ramburii*, *Micrathyria aequalis*, *Orthemis ferruginea*, and *Pantala flavescens*, but there was a smattering of others, everything from the surprisingly wide-ranging *Enallagma civile*, common from south-eastern Canada to the mountains of Central America (but not previously recorded from Baja California Sur!), to *Enallagma eiseni*, one of three odonate species endemic to Baja. Although a typical bluet, *eiseni* was easily distinguished from *civile* and a welcome sign that we were in an exotic locale.

Other localities at which we found a good variety of odonates included marshy streams and a large lagoon at the foot of Cerro La Poza, just south of Todos Santos, and a river 23 km from highway 1 on the road to San Antonio de la Sierra, southwest of La Paz.

The Baja peninsula furnishes a fascinating study in biogeography. Although the southern tip just dips into tropical latitudes, almost no terrestrial vertebrates have colonized it from the tropics. Exceptions are a few bird species that are generally rare there. On the other hand, 15 species of odonates from the Mexican mainland occur there that do not have populations in northern Baja or California: *Argia oenea**, *A. tezpi**, *Enallagma novaehispaniae*, *Remartinia luteipennis**, *Dythemis sterilis*, *Erythemis plebeja*, *Erythrodiplax basifusca**, *E. berenice**, *Macrothemis inequiunguis*, *M. pseudimitans*, *Micrathyria aequalis*, *M. didyma*, *M. hagenii*, *Orthemis discolor**, and *Tramea calverti** (asterisked species are known from Arizona and/or New Mexico). Note most of these are libellulids, a family noteworthy for the dispersal abilities of many of its species.

So it appears that many odonates but very few birds have colonized the peninsula from the south, including the adjacent mainland of Sonora. This is a striking difference. Are odonates more accomplished dispersers than birds? One explanation comes to mind. Because there are few odonate species characteristic of the deserts that form the primary terrestrial habitats on the peninsula, perhaps the source fauna from the north was sufficiently depauperate that dispersal from the north was limited, and colonists arriving from the south found little competition. In birds, on the other hand, logical colonization came from the north, where there was a diverse desert avifauna to fill the desert habitats of the peninsula all the way to the tip.

In addition to *Enallagma eiseni*, there are two other endemic odonates in Baja: *Telebasis incolumis* and *Rhionaeschna manni*. The former looks exactly like *T. salva*, and we collected the latter wherever we could but were unable to find *incolumis*. We saw only one *R. manni*, a male at a small isolated river pool in low mountains southwest of La Paz; it was our most exciting find, although to be expected. Another exciting find was *Orthemis discolor*, a species very similar to the widespread *O. ferruginea*. *O. discolor* was not previously recorded from the peninsula, but the two have been confused until very recently, and it may be that examination of all earlier specimens might turn up some *discolor*. In any case, it was exciting for us to see the bright red male *discolor* among the more purplish *ferruginea*. A special thrill to me was to be able to photograph males of each species perched together.

Wherever we went, we saw large numbers of *Pantala flavescens*. This species is well known to disperse with tropical storms, and it is often one of the most apparent species during rainy seasons, but I had never seen so many on a dry-season visit to the tropics. I thought perhaps the tip of the Baja peninsula represented a dry-season refugium for a population of the species, but a colleague who visited the area a few months later found almost none, and I suspect what we saw were the remnants of the rainy-season population, still abundant because of the greater and later precipitation than usual. We saw its congener *P. hymenaea*, which is also often common during the rainy season, only a few times, singles except at a "swarm" of about 10 over a dry riverbed. I thought it was especially fascinating that a species that uncommon would either (a) travel around as a group or (b) be concentrated at one spot because of some feeding opportunity yet not be apparent anywhere else.

Another point of interest was the minimal presence of two species that we consider migratory in western North America, *Anax junius* and *Sympetrum corruptum*. I expected more individuals of both to be present during winter at this latitude, a terminus to their migration, but we saw only a few *Anax* (breeding) and a single mature male *Sympetrum*.

We saw 25 species during our visit, a very low diversity for a tropical locality but a rather high diversity for such a dry area in the dry season (and temperate winter). Many parts of Mexico become almost dragonfly-free in winter, and I suspect we were fortunate in visiting after a late and great rainy season.

The odonate fauna of the peninsula is best known south of the middle, where there has been the most collecting. The high mountains of the Sierra San Pedro Martir and the Colorado River delta remain virtually unknown, and birders and butterflyers who have made recent incursions there are already adding to the list of dragonflies known from Baja. Fortunately, many naturalists are becoming interested in dragonflies, so we may expect many more observations from this interesting peninsula with its toe in the tropics.

Grand Places - Jill Silsby

There's nothing the matter with me
I'm as healthy as healthy can be.
I have arthritis in both of my knees
And when I talk, I talk with a wheeze
My pulse is weak, my blood is thin
But I'm awfully well for the shape I'm in.

The moral of this as the tale I unfold?
That for me and for others who are all growing old
'Tis better by far to say we're fine, with a grin,
Than to let folks know this shape we are in.
How do I know my youth is all spent?
Well, my get up and go has got up and went.

But I really don't mind when I think, with a grin
Of all the grand places my get up has bin!

This extract of a poem, that has always made me smile, stirs me to recall some of the many "grand places" Ronnie and I visited during the long years in which, together, we got up and went! Rain forests, deserts, rivers, wetlands, savannahs, mountains, and so many other terrains all over the world. We visited countless areas in Africa, Asia, the Middle East, Australia, North and South America and Europe. And we marvelled at the things we saw.

Of all ecosystems, forests are probably the most at risk. I forget how many hectares of rainforest are destroyed every year but it is a really terrifying number. The forests are home to countless species of flora and fauna: flowers, trees, animals, birds and insects. Many species have already become lost and, as the destruction continues, there will be no home left for the struggling, crowded survivors. As the forests shrink due to constant and increasing logging and clearing, the rain-clouds that provide their lifeblood dissipate and before long will cease to form. In an alarmingly short time the areas will become dry, and arid desert will take over more and more parts of the world, with ever-increasing disastrous consequences to Planet Earth. **I am, I know, preaching to the converted!**

Probably the most spectacular rainforest we visited was that of the **Amazon**. It is SO huge and everything in it appears to be huge too!! The trunks of the trees with their massive stabilizing buttresses and the immense distance between the ground and the canopy above; the size of the trailing vegetation, the size of some of the damselflies (*Mecistogasters* and *Microrostigmas*) fluttering way above our heads and, above all, the enormous numbers of colourful flowers, birds (toucans, macaws and kingfishers), butterflies - and the DRAGONFLIES! It was steamy hot, we poured with perspiration and there were plenty of less than friendly insects - but everything was SO absolutely fascinating that no nature lover, let alone odonatists like Ronnie and me, could fail to ignore the discomfort, in the wonder of what we were seeing.

Another notable remnant of a once widespread rainforest lay in **The Philippines**. We slithered and slid down mountainsides, scrambled over rocks beside fast running streams and chased wonderful odonates in order to photograph them and witness their individual behaviour patterns. And we met a witch!! She was standing beside a steaming sulphurous pool, throwing live chickens into the water in order to provide a daily meal for the deity residing at the top of Mount Makeling. Even in this extraordinarily insalubrious spot, I found the lovely red and black form of *Cyano unicolor*.

In the forested area on the lower slopes of Mount Fuji in **Japan**, we spent hours in cold mountain streams photographing the shy *Rhipidolestes hiraoui* and turning over rocks as we searched for the larvae of *Epiophlebia superstes*.

And we've struggled through heavily forested areas in **South Africa** - in one, at Umhlanga Rocks near Durban, I was bitten by a very virulent spider and was unable to ignore that particular discomfort! (arachnids are just about the only group of animal life that I really can't bear!!) In another small forest (Tsitsikama) in Cape Province, we spotted the rare shade-loving *Ecchlorolestes nylephtha*. Here the light was very dim and the little damsel was hard to spot until our eyes became tuned to what we were trying to find: a tiny patch of bright blue moving amongst the undergrowth beside a very small stream which became recognisable as the tip of a narrow, otherwise dark-coloured abdomen.

Perhaps the rainforest I loved the most was Paluma In Queensland, **Australia**. Everything was so very different to anything we'd encountered before and we found it easy to remember that Australia was once in the centre of the vast super-continent of Gondwanaland. Here we found and photographed the enormous *Petalura ingentissima* as well as what is probably my favourite damselfly, the bright blue and black *Diphlebia euphaeoides* - and we fell in love with wallabies and koalas.

Lastly, we visited a remnant of a **North American** forest in Tennessee and here we read one of the most moving notices we'd ever seen:

PORTUGESE PRAYER OF THE WOOD

I am the heat of your hearth on the cold winter nights, the friendly shade shielding you from the summer sun and my fruits
are refreshing draughts quenching your thirst as you journey on.
I am the beam that holds your house, the board of your table, the bed on which you lie and the timber that builds your boat.
I am the handle of your hoe, the door of your homestead, the wood of your cradle and the shell of your coffin.
I am the bread of kindness and the flower of beauty
Ye who pass by, listen to my prayer. Harm me not!

As a postscript, may I assure you all that my "get up and go" has NOT yet "got up and went" – and I'm still seeing "grand places", albeit on my own now.

WELCOME to NEW MEMBERS

Belgium

Violaine Fichet
Marc Tilly
Centre de Recherche de la Nature, Avenue de la Faculte 22
Hoonakkerdreef 35, B- 8791 Waregem

Canada

Robert L Baker
Dept of Biology University of Toronto at Mississauga, Mississauga, Ontario, L5L 1C6

France

Cédric Vanappelghem
Jean-Pierre Boudot
15 rue Brûle Maison, FR-59000 Lille
Immeuble Orphee, Apt 703, Cidex62, rue de la Justice, F-54710 Ludres

Germany

Michael Kruse
Dr Bernhard Misof
Steffen Oppel
Juergen Ruddek
Kamila Sckonk
Markerweg 2A, D-22455 Hamburg,
Zoologisches Forschungsinstitut und Museum A Koenig, Adenauerallee 160, D-5311
Siedlungstr. 38, P5497, Goldkronach
Butendiek 34, D-28865, Lilienthal
Tannenbergrasse 9, D-38126, Braunschweig

Japan

Naoya Ishizawa
Yohei Kurauchi
Izumi Tsuchiya
1644-15 Yamaguchi, Tokorozawa, Saitama pref. 359
1-2-6 Tsurugadai, Kushiro, Hokkaido 085-0821
2-15-17, Teramachi, Joetsu, Niigata Pref. 943-0892

Poland

Rafal Bernard
Dept. of General Zoology, Adam Mickiewicz Univ., Fredry 10, PO-61-701, Poznan

Russia

Dr Elena Malikova
Blagoveshchensk State Pedagogical Univ., Lenina str.104, Blagoveshchensk, Amur Region 675000

South Africa

Dr Warwick & Michèle Tarboton
PO Box 327, Modimolle 0510

Spain

Bernat Garrigos
Adiantus, consultoria ambiental Batet Natural S.L., C/EI Salvador 33, 17800 Olot, Catalunya

Ukraine

Elena Dyatlova
French Boulevard 37, apt 3, Odessa

UK

Harriett Webb
26A The Square, Winchester, Hants. SO23 9EX

U.S.A.

Steve Jordan
Ellis Laudermilk
Shannon McCauley
Erik Pilgrim
Ralph T. Rogers
Tom D Schultz
Dept. of Biology, Bucknell Univ., Lewisburg PA 17837
709 St John's Road, Frankfort, NY 13903
Ecology & Evol. Biology, Univ. of Michigan, 830 N University, Ann Arbor, MI 481019-1048
141 West 1310 South, Logan, UT 84321
208803 Nachant Drive NE, Indianola, WA 98342
Dept of Biology, Denison University, Granville, OH 433023

Richard C. Wheeler PO Box 3176, Wareham, MA 02571

Changes of Address

Belgium

Philippe Goffart Erpigny 6A, B-6997 Erézee
Geert de Knijf Matrouwstraat 10, B-9661 Brakel-Parike

Germany

Burkhard Grebe Nemmenicher Strasse 3, D-53909 Zuelpich
Jochen Lempert Wohlers Allee 44, D 22767 Hamburg
Frank Suhling Inst. Of Geoecology, Dept. Envl System Analysis, Tech. Univ. of Braunschweig, Langer Kamp 19c, Braunschweig

Florian Weihrauch Jaegerstr. 21A, D-85283 Wolnzach

U.K.

The Dragonfly Project East Ardrasgairt, Fortingall, Aberfeldy, Perthshire

Reviews

A guide to the dragonflies of Borneo. Their identification and biology - A.G. Orr. 2003. Natural History Publications (Borneo). ISBN 983-812-069-3 (hardback). 195 pp. Price £46. 19.9 x 26.2 cm

It was a fortunate day for odonatology when in 1990 Bert Orr, a recent PhD graduate from the University of Queensland took up a lectureship in ecology at the Universiti Brunei Darussalam in Brunei. He remained there for six years, during which time his interest in dragonflies intensified and led to the preparation of this fine book, which now provides a secure foundation for anyone wishing to study Bornean Odonata. His achievement is all the more remarkable when one considers that the only taxonomic compilations upon which he could call (Fraser's volumes in *The Fauna of British India*, 1933-1936, and Lieftinck's *Handbook of Malaysian Odonata*, 1954) were pioneer works published about 50 years earlier.

In his book, Orr has aimed to provide a means whereby all the Odonata encountered in Borneo can be identified at least to family, and usually to genus and to "stimulate specialist interest and encourage odonatological research in Borneo." *The Dragonflies of Borneo* fulfils these aims in a distinguished manner. It shows how, in the hands of a perceptive naturalist, indefatigable collector, skilled draughtsman and talented photographer, a valuable start can be made with the characterization of a large, diverse, little-known fauna featuring a high level of endemism. Not many biologists will possess these attributes in so abundant a measure, but it is reassuring to know that these goals can be achieved by someone with sufficient talent and commitment. There are 275 named species of Odonata in Borneo, some 40% being endemic; Borneo is faunistically the richest sub-region in Sundaland (i.e. those lands, including the Malay peninsula, Sumatra, Java and Borneo, which formed a united landmass during the Ice Ages when sea levels were lower than now), and Orr estimates that the total odonate fauna of Borneo exceeds 300 species. It is therefore a treasure house for odonatologists.

The book contains the following sections: Introduction; Structure of larvae and adults; Life cycle and general biology; Classification and biogeography; Ecology and habitats; Collecting and preservation; Key to suborders and families of adults; Checklist of described species; Identification and biology of described species (comprising almost half the book); Further reading (comprising nine entries); Appendix (listing photographs taken outside Borneo by Matti Hämäläinen); Index to species names; and Colour plates (comprising 25 plates of watercolour drawings illustrating 18 images of larvae and 84 images of adults with line drawings of details of adult caudal appendages and accessory male genitalia). More than 200 beautiful colour photographs, of adults, larvae and habitats, grace the running text. These photographs, the great majority of which were taken by the author, and many of which were taken by Matti Hämäläinen) illustrate larvae and adults, mostly in characteristic postures, and typical habitats of certain species assemblages. The photographs of habitats provide telling reminders of the daunting richness of the environments in which the author worked, and also the physical difficulty he must have encountered in pursuit of his aims: on page 109 Orr writes "Only by wading neck-deep was I able to secure two pairs in the 30 minutes the swarm [of *Macromia fulva*] lasted." No open-minded person reading this book could remain in doubt about the need to obtain voucher specimens when investigating the biology or taxonomy of Odonata in a fauna as diverse and little studied as the Odonata of Borneo. Indeed, the author repeatedly stresses the necessity of establishing extensive reference collections from all national parks and conservation areas, making the point that, only by knowing what species inhabit such areas can a case be made for protecting them against the relentless advance of erosion by human activities. Whereas some species can be identified (by a specialist) in flight or in the hand, the lack of a voucher specimen will always open up the possibility that future taxonomic revision will make a sight record worthless, whereas, for genera such as *Coelliccia*, Orr counsels (p. 77) that "it is essential to collect specimens to confirm identity." Since the science of odonatology as we know it depends absolutely on the willingness of collectors to secure and retain voucher specimens, one can only despair that there exist so-called odonatologists that, in a display of ignorance or intolerance (or both), still try to prevent *bona-fide* investigators from collecting voucher specimens. Orr makes a compelling case for the need to establish reference collections that can be available for future investigators.

Publication of this book received enthusiastic support from Datuk Chong Kah Kiat, J.P., Chief Minister and Minister for Tourism, Environment, Science and Technology, Sabah who has contributed the Foreword.

The terminology in the text has been carefully standardised (except for the mistaken reference to setae as 'hairs' on page 10!) and the information about the general biology of Odonata has been authentically rendered. The tactic whereby adult

odonates are illustrated by colour photographs from nature (to show the typical posture) and also by detailed watercolour drawings, which include wing venation, is highly effective and greatly enhances the usefulness of the book as an identification guide. Orr has provided an introduction to larvae at the family level in the same way, illustrating the form and posture typical of 14 families. Orr touches on several fascinating facets of odonate biology manifest by species in Borneo, including the existence of several species of Zygoptera and Anisoptera that routinely use phytotelmata as habitats for larvae, a phenomenon the author himself elucidated some years ago (Orr 1994).

I recommend this elegant and beautiful book, without reservation, to any odonatologist who seeks an authoritative and informative introduction to one of the richest odonate faunas on the planet. The author, and his designer, Datuk C. L. Chan, have done a wonderful job.

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Philip Corbet. November 2003

The Dragonflies of Europe (Revised edition). R.R. Askew, BSc, DPhil, FRES. 2004. Harley Books, Great Horkesley, Colchester, Essex CO6 4AH, England. Paperback, 232 x 168mm, 308pp, incl. 32 colour plates, 513 text figs & 114 maps. ISBN 0 946589 75 5. £30.00 net.

The first edition of *The Dragonflies of Europe* was published, to great acclaim, in 1988, and this new revised edition should receive an even warmer welcome.

The bulk of the text is unchanged from the original edition and could hardly be bettered. The introductory section includes chapters on Life History, The Adult Dragonfly, the Distribution of European Dragonflies and the Morphology of the Adult Dragonfly. All these are accompanied by the author's exceptionally clear and detailed line drawings and make extremely informative and interesting reading. Chapter VI begins with a Check List of European Odonata (114 species in 1988) followed by clear and concise keys to the continent's zygopteran and anisopteran species, again accompanied by the author's accurate and very helpful line drawings. Following on from here there are 140 pages dealing with each species in detail: description of adult; biology; flight period and distribution map. Chapter VII gives us brilliantly illustrated keys to Europe's odonate larvae.

To bring the new edition up to date there is a Supplement in which, as Askew says in his Preface to the Second Edition: "I have summarized some of the important recent advances in European odonatology, concentrating first upon species newly discovered in Europe and how they may be recognised, and then upon apparent changes in distribution of the European Odonata."

The Supplement begins with a page of additions and corrections to the text of the first edition – and it is only here that I can find fault with the edition under review. It is understandable that significant changes to the original text could have been logistically impossible but it would have helped considerably if the alterations had been visibly linked in some way – by an asterisk in the margin of the relevant page or a footnote perhaps?

Very interesting are the descriptions of American species observed in Europe; the list of 'accidentals' introduced into Europe; descriptions of the nine species newly recognised in Europe (including one, [*Somatochlora borisi* Marinov, 2001] that is new to science). Of equal interest are the details of distributional changes, both of expansion and contraction; one does, maybe, need the fingers of more than two hands to link satisfactorily the supplementary information to that in the earlier part of the book: but that problem can be overcome. Finally there is a long list of supplementary References and a number of new titles under Recent Literature. The book ends with 30 brilliant colour plates, one more than did the 1988 version.

The disadvantages of the original book were its weight and its size. We couldn't stuff it in our pockets nor easily tote it around in a haversack. Now, thanks to Richard's publishers, Harley Books, these problems have evaporated and I predict that *The Dragonflies of Europe* in its new smaller format and with its updated information will become a trusted companion to every odonatist visiting the continent.
Jill Silsby June 2004

The Natural History of Ireland's Dragonflies. Brian Nelson & Robert Thompson, 2004. National Museums & Galleries of Northern Ireland, Belfast. ISBN 0 900761 45 8 (hardback). 454 pp. Over 300 colour photographs.

When I first heard that the publication of this book was imminent I knew we would all be in for a treat. I have long been an admirer of Robert Thompson's photography (indeed almost all the photos of larvae in my *'Dragonflies of the World'* are his) but I never expected anything quite as lovely as what the postman brought me yesterday morning. With the exception of just eight, Robert can take the credit for all 300+ examples of his very special gift as a nature photographer. And, as if they were not enough, there are three exquisite paintings from the brush of Richard Lewington.

The book is the culmination of a four-year all-Ireland survey (*DragonflyIreland*) and presents its results. It could be termed an atlas of Irish Odonata, but it is much, much more than that. The first five chapters include odonate biology, a fascinating history of odonate recording in the island, a Check List and, finally, the results of the Survey. Chapter Six (all 270 pages of it) is called 'Species accounts' and deals minutely with the 24 resident species and eight confirmed

migrants/vagrants; in addition there are abbreviated accounts of three unsubstantiated species. Each 'account' is spread over eight to ten pages; illustrated with photos of larvae, imagos (male & female, immature & mature) and typical habitat. The accounts of breeding species are written (by Brian Nelson and Robert Thompson) under eight headings: Description; Similar species (the text highlights the most useful and diagnostic identification features of both adults and larvae); Behaviour; Life cycle; Habitat; History in Ireland; Distribution; and Interpretation & trends. A distribution map and two useful graphs are included at the end of each account. Chapters Seven and Eight describe the habitats of Irish species and include a habitat gallery containing descriptions and pictures of 58 sites.

Brian and Robert make an ideal partnership: their combined knowledge of, and interest in, the odonate fauna of their "Emerald Isle" is immense; their reader-friendly style of writing together with Robert's skill with the camera and his artistic flair (evidenced in the design of the book), all ensure a superb addition to any odonatist's bookshelves. Their choice of vernacular names are, should I say, original and are certain to become a talking point!

The book, at £10 or 15 Euros, is amazingly good value. Post and packing is, however, expensive at £12 or 22 Euros – the book is very heavy! Cheques for the appropriate rate (£22 or 37 Euros) should be made payable to:

Museums & Galleries of Northern Ireland - and sent to:

Mrs Irene McKeown, CEDaR, Ulster Museum, Botanic Gardens, Stranmillis Road, Belfast BT9 5AB, Northern Ireland.

Jill Silsby 17 June 2004

Birds are the dragonfly watcher's Vertebrates.

Norman Moore March 2004

So much is now known about the status of the world's 10,000 species of birds and the threats to their survival that a detailed assessment of globally threatened birds is now possible. It has been achieved by the BirdLife Partnership in their recent publication - *State of the World's Birds 2004*". When I was working on the Odonata Specialist Group for IUCN I was struck by the considerable overlap between important Bird Areas and their equivalent for dragonflies and, indeed, for many other taxa. Therefore "*State of the World's Birds 2004*" is extremely relevant to all concerned with the conservation of dragonflies. It contains a vast amount of information and is clearly and beautifully produced. I strongly recommend it to the readers of AGRION. Obtainable from NHBS Ltd, 2-3 Wills Road, Totnes, Devon, TQ9 5XN. Paperback £10, postage £2 for UK

Errata

The following was regrettably omitted from the end of Philip Corbet's review of Steve Brooks' "Dragonflies", published by the Natural History Museum:

"This book represents a significant and praiseworthy addition to the literature on Odonata. For the first time the biology and systematics of the order have been reviewed, comprehensively and accurately, in a readable form. I know of no other book that presents this information in so attractive and readable a form for the non-specialist. Many aspiring odonatologists will be in Steve Brooks' debt for having achieved this task with such distinction. They will be in the publisher's debt for having made the book available at so low a price.

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Dunkle, S.W. (2000). Dragonflies through binoculars. Oxford University Press. 266 pp.

Nel, A., Martinez-Delclos, X., Paicheler, J.C. & Henrotay, M. (1993). Les "Anisozygoptera" fossils. *Phylogenie et classification. (Odonata). Martinia Hors-série 3*: 1-311."

PHAON and ECHO: communicating about Odonata of the Old World tropics

In the last few years several activities have been organised under the banner of PHAON (Pinhey's Heritage African Odonata Network). Among these were meetings in 2001 in Gällivare and in Bonn in 2004. The proceedings of the former have recently appeared. Another PHAON activity was an e-mail newsletter. Despite a strong start in 2000, various factors have led to the stagnation of the flow of e-news. To revive the stream of communication, we present a new format in a familiar medium: from now on, on a trial basis, the WDA Board have agreed that PHAON and its newborn Asian sibling ECHO can each grace AGRION once a year.

PHAON and ECHO focus on the odonate research in tropical Africa and Asia respectively. We invite all those interested and active in these regions to contribute. Contributions should be stimulating, informal, entertaining and preferably not too long.

Feel free to report travel highlights, remarkable observations, research interests or any other discovery or query that you wish to share with colleagues. We especially welcome contributions in which researchers keep their colleagues apprised of the focus, progress and problems in their studies.

In this issue of AGRION we present pieces dealing with both Africa and Asia, but henceforth PHAON and ECHO will appear in alternate issues. Because not everyone receives AGRION, all issues of PHAON and ECHO will be sent by e-mail to other interested readers once a year.

If you have questions or contributions, please contact one of us: *Klaas-Douwe B. Dijkstra*, PHAON, dijkstra@nnm.nl
Matti Hämäläinen, ECHO, matti.hamalainen@helsinki.fi
Vincent J. Kalkman, ECHO, kalkman@nnm.nl



Cimbebasia issue with review papers on African odonatology

The first PHAON meeting was held during the WDA symposium in Gällivare, Sweden, on the 26th of July 2001. The proceedings have now appeared in Cimbebasia (volume 18, November 2003), the journal of the National Museum of Namibia. The proceedings comprise of six review papers:

Dijkstra, K.-D.B., A. Martens & M.J. Parr. Foreword: African Odonatology – past, present and future. 161-166.

Corbet, P.S. Ecological perspectives of African Odonata. 167-172.

Clausnitzer, V. Odonata of African humid forests – a review. 173-190.

Dijkstra, K.-D.B. A review of the taxonomy of African Odonata – finding ways to better identification and biogeographic insight. 191-206.

Suhling, F., R. Jödicke & W. Schneider. Odonata of African arid regions – are there desert species? 207-224.

Martens, A. Reproductive behaviour of African Odonata – a review. 225-241.

The issue also contains an annotated checklist of Namibian Odonata, a note on the capture of dragonflies in a barbed grass and several papers on other natural history subjects. If you are interested in acquiring a copy of this issue, please contact us.

Andreas Martens, martens@ph-karlsruhe.de
KD Dijkstra, dijkstra@nnm.nl

Planned field guide for eastern African Odonata *Viola Clausnitzer, KD Dijkstra & Brian Finch*

Natural history is a growing sector in eastern Africa, which is reflected in the amount of bird guide books published for Kenya and/or East Africa over the last ten years. Recently the largely “feather” and “hair” based natural history has turned its interest to more “unspectacular” groups, such as dragonflies. These developments resulted in seven pages entirely devoted to dragonflies in the latest SWARA, East Africa's leading Natural History magazine (2003, SWARA 26, p. 48-54). Hoping to meet this spirit of the age of natural history, we are currently trying to launch a “**Fieldguide to the Dragon- and Damselflies of Eastern Africa**”.

The envisaged guide will show colour photos of many species, accompanied by a text about biology, distribution and identification. This book will be appealing to a broader public than the purely scientific identification key “The dragonflies of eastern Africa – an identification manual”, which is currently in the final editing phase. The planned fieldguide and the forthcoming key will complement each other in a perfect way.

We hope to cover a region with nearly 320 species, including Ethiopia (about 100 species), Kenya (170), Malawi (150), Tanzania (180) and Uganda (230). Although this looks like an awful lot at first sight, most of the species can be identified in the field, often without catching them. This became quite obvious when we all met for the first time. Brian's passion for dragonflies started by simply taking photographs of them all over East Africa. As we browsed through his hundreds of photos we were surprised how many we could identify, despite our initial doubts. In the end, it was possible to name nearly all the portrayed individuals (leaving *Orthetrum* females aside!) and –on top of that– two new species records could be added to the Kenya list.

On the trail of Ethiopia's endemic dragonflies *Viola Clausnitzer & KD Dijkstra*

Ethiopia's main topographic feature is the vast and very fertile central highlands with an average elevation of 1800-2400m. It is in this Afrotropical Highland biome, whose environment has been under tremendous pressure of agriculture for a long time, where most of Ethiopia's endemic plants and animals are found. This is also true for the dragonflies: all eleven endemic species reported so far were found here. Another unique feature of Ethiopian odonatology is the paucity of information: most of the endemics are known from the type records only. Thus our aims during a recent trip to West and Central Ethiopia were to find the endemics and to check the forests in western Ethiopia (former Kaffa and Illubador Provinces) for relict species from central Africa.

Despite our initial frustration about the entirely densely populated highlands and the non-existence of natural habitats, the results soon exceeded our best expectations. Of the eleven known endemics we found nine, all at new localities: *Ischnura*

abyssinica, *Pseudagrion guichardi*, *P. kaffinum*, *Elatoneura pasquinii*, *Notogomphus cottarellii*, *N. rueppeli*, *Atoconeura aethiopica*, *Orthetrum kristenseni* and *Trithemis ellenbeckii*. Only the two endemic *Crenigomphus* species eluded us, but ironically we encountered an unknown *Paragomphus* whose appearance is remarkably *Crenigomphus*-like. The habitat requirements of nearly all the endemics were less special than we had expected. We found some in very unappealing habitats that were far from “natural” (in the odonatologist’s eyes, of course).

Of a number of new species for Ethiopia, the most exciting were three species of *Gynacantha*, a genus previously unknown from the country. The records of the otherwise Central and West African species *G. nigeriensis* and *G. vesiculata* were most interesting in terms of the biogeography of Ethiopia’s forests: their nearest records are from near Kampala in Uganda!

Another interesting feature was the absence of many species that we expected based on our experience in other eastern Africa countries. The red *Trithemis* and *Pseudagrion* B-group species were missing entirely from the highlands, with only a few seen at the lakes on the Rift Valley floor. These are common dragonflies at nearly all aquatic habitats further south. On the other hand it was surprising to find *Lestes tridens* and *Tramea limbata*, predominantly coastal species in East Africa, on a swampy dam 1800m above and 1100km away from the ocean.

With an average of six species per locality (range: 1-17, n = 28), species numbers were very low. This might be because we were at the beginning of the (unfortunately) delayed rainy season. Still seasonality cannot explain the low scores entirely, when compared with results from countries further south. It seems that many of the widespread African species, which range from South Africa to Egypt, have not colonised the Ethiopian highlands. Thus the total number of species we recorded during our trip was also somewhat low with 72, although this includes nine endemics and one probable new species.

KD Dijkstra – Much of the past one and a half years was spent away from home. In April 2003 **Viola Clausnitzer** and I travelled to the isolated forests of Mt Marsabit in N Kenya. Afterwards I went on to W Uganda. Ten days each were spent in Bwindi Impenetrable NP (of Mountain Gorilla fame) and in Semliki NP. Bwindi’s montane forests and swamps were explored with **John Joseph Kisakye** and **Stanley Kyobe**. The rediscovery of Uganda’s endemic papyrus-dwelling *Agriocnemis palaeforma* was one highlight, but the greatest surprise was a female of the elusive genus *Idomacromia*: the first record in East Africa. This third species of the genus will be described in honour of our editor **Jill Silsby** in the next issue of IJO. Probable new species of *Notogomphus* and *Neodythemis* were further proof of this area’s value. Semliki’s lowland rainforest was hardly less spectacular: three impressive gomphids in the genera *Diastatomma*, *Ictinogomphus* and *Phyllogomphus* were found in East Africa for the first time. Each is confined to the Congo Basin of which Semliki NP is the most eastern snippet. In October 2003 I gave a week-long dragonfly workshop for students from Kenya, Malawi, Tanzania and Uganda at the National Museums of Kenya in Nairobi. Two exciting days were spent together in the field. Beforehand the slopes of Mt Meru in N Tanzania were explored with **Richard Rowe**, in search of *Platycypha caligata* larvae for Richard’s behavioural studies. Under river rocks we also found larvae of *Aeshna meruensis* and *A. rileyi* side by side, the first time that these – only recently taxonomically untangled – aeshnids were found in the same habitat. In March 2003 Viola and I set out together again, in Ethiopia (see report in this issue). Between trips, visits were made to the odonate collections in Berlin, Bonn, Brussels, London, Madrid, Nairobi, Paris, Stockholm and Tervuren. All this travel should lead to the publication of an identification manual and critical checklist of Eastern African Odonata –authored with Viola– in 2005.



Rory Dow and **Graham Reels**: Rory and Graham have just concluded a four-week sojourn in Sarawak, Borneo. Due to an administrative technicality, their collecting permits were not approved in time, but they were able to fully occupy themselves with observation and photography. They recorded over 110 species for the trip, which covered areas around Kuching, Lambir Hills National Park near Miri and Gunong Mulu National Park. Owing to park regulations they were unable to reach high elevations on Gunong Mulu, an area that has never been surveyed, but Rory hopes to return next year as part of a locally sponsored expedition to Mulu summit. Their visit has undoubtedly served to heighten awareness of Odonata locally with the park manager at Mulu now planning to produce a poster of common species.

Eric Gibert: Two years ago I started with the Asia-Dragonfly.net website. Originally I just wanted to sort out my photos of dragonflies and find some help with the identification. That is how I first met Keith Wilson. During a couple of discussions in a coffee place we defined the three objectives of the site: 1) collect photos of Oriental species to build a serious image database; 2) maintain an up to date species list; 3) gather other enthusiasts to share experiences. The site picked up some speed after 6 months of existence. Today, the photo library is a success: it contains more than 500 images, some of excellent quality, from all around Asia. The number of participants grew steadily and now more than 70 members have joined of which roughly half live in Asia. Some members are very active, having posted more than 20 photos. I met a couple of members while visiting their home country. The next step is to ensure that the site will offer more scientific information. ‘Echo - electronic version’ is a perfect move in this direction.

Everyone is invited to look at the website (www.asia-dragonfly.net) and to send additions for the image database.

Matti Hämäläinen: Matti's interests are becoming more specialized than previously, focussing on the taxonomy of the Oriental Caloptera damselflies (Calopterygoidea). He ranks them as the most beautiful and interesting odonates to watch, observe and photograph in the field. Moreover they are sufficiently speciose in South East Asia - his favourite travel destination - to be a fitting subject for specialized investigation, especially as they offer many conundrums and taxonomic challenges. To make room for his growing synoptic 'World Caloptera Collection', Matti deposited most of his other odonate and insect collections in Leiden in late 2002. The museum sent a large removal van to collect them. However, he is still active in monitoring the diversity of the whole Order in Thailand, where he keeps returning regularly, and plans to compile an account of general odonate diversity in Krau Wildlife Reserve in Pahang. He also recently described *Platycnemis phasmovolans*, an extraordinary damselfly from Laos with mid and hind tibia greatly expanded into a flattened petiolate shape, their width 37-43 % of their length, a record for the order. Matti's present ongoing taxonomic studies on Caloptera concern especially the genera *Neurobasis*, *Archineura*, *Caliphaea* and *Devadatta*. He has recently erected the new euphaeid genus *Cryptophaea* and described *C. saukra* from Thailand as its type. He is collaborating closely with Bert Orr, presently on a study of *Neurobasis*, with joint work on Chlorocyphidae planned.

Francy Kakkassery: At present I am engaged in the biodiversity studies of Dragonflies and Damselflies of Kerala State and Western Ghats (an array of mountains with tropical rainforests) in general, and with photographic documentation of endemic and endangered Odonates of this region and other parts of India in particular. A photo-field guide (Dragonflies and Damselflies of India, volume 1), the first of its kind in India, is going to be published by the end of this year.

Indian Odonatologists are scattered all over the country and effective communication through internet is lacking. To fill this gap, Dr. Tyagi, a well-known Indian odonatologist, and myself have taken the effort to start a new society focused on the study of Indian odonates named the Indian Dragonfly Society (IDS). One of the first activities will be the start of a web site containing information on Indian Odonatology. The formal inauguration of IDS and the first National Symposium on Indian Odonata, is to be held in St.Thomas' College (University of Calicut), Trichur, Kerala State, in December 2004.

For more information on the IDS contact F.K. Kakkassery, Ph.D, Senior Lecturer, Research & Postgraduate Department of Zoology, St.Thomas' College (University of Calicut), Trichur Dt. Pin 680 001, Kerala State, India. Phone: +91 491 2510755, www.geocities.com/indianodonata, E-mail: kakkassery@yahoo.com.

Vincent Kalkman: In March this year I, together with **Jan van Tol**, visited Mindanao for two weeks. The visit was aimed at helping the local university to establish a monitoring program for macroinvertebrates in two rivers in the Mount Malindang area. After the official part of our visit we went one day collecting together with **Reagan Villanueva**, a biology student from Mindanao who has taken a very active interest in odonates. The catch included good series of some undescribed or poorly known species of *Drepanosticta*. This material will be used in Jan's forthcoming revision of the Philippine Platystictidae. On our way back we had a short meeting with Professor **Victor P. Gapud**. Recently he described *Argiolestes baltazarae*, as the second Philippine representative of this largely New Guinean genus. His efforts to find the larvae of these species has not been successful thus far. In November this year I together with **KD Dijkstra**, **Niels Dingemans** and **Kees Goudsmits** hope to visit Borneo. Birds will take much of our time but we hope to be able to see and photograph many of the interesting Bornean odonates. Our itinerary will include Mount Kinabalu, Poring hot springs and Brunei, where we hope to visit Kuala Belalong Field Study Centre. This place is among the best-studied sites in SE-Asia and provides excellent opportunities to study odonates. I visited the station together with **Rodzay Wahab**, a member of the scientific staff of the station, in August 2003. The odonatological wealth of this location is stressed by the fact that we were able to collect specimens of 14 families and larvae of 13 families within just one kilometre of the station. Several species were new for Brunei among which were several poorly known Bornean endemics, such as *Leptogomphus pendleburyi* and *L. pasia*, showing that in SE-Asia even well-studied sites are not that well studied.

John Michalski: For the past 16 years I have been at work on a handbook to the Odonata of New Guinea and the neighbouring islands, from Maluku in the west to the Solomons in the east. This book will be a composite of all the work performed by Lieftinck, Brauer, Watson, and all the others, going back to 1867, and will feature roughly 1,400 line drawings, many taken from Lieftinck and other authors, but many others created by myself for this book. The work encompasses nearly 600 taxa including 5 previously undescribed. It is currently being edited for publication in the Netherlands (Fauna Malesiana), hopefully to reach press before 2005.

Bert Orr: Bert continues to work on the faunistics of Sundaland, especially Borneo, and is slowly compiling a complete key to the Odonata of Borneo. He would be grateful to hear of any interesting records from that Island. He is also, in collaboration with **Matti Hämäläinen**, studying the entire World chlorocyphid fauna, which includes elements in both Phaon and Echo. Currently Bert is working through photographs of type material taken on an extended trip to the BMNH last August-September.

Of his recent field activities he writes 'Most of my fieldwork lately has been conducted from a comfortable divan set in front of the TV. I recently received two video tapes of South East Asian Caloptera damselflies, kindly prepared by Matti Hämäläinen, providing six hours viewing in total! I have especially been analysing the flight mechanics of *Neurobasis chinensis* males, so far as is possible at 25 frames per second. It seems that even in normal flight, such as when foraging, the amplitude and frequency of the hindwing beat are much less than that of the forewing. It has recently been shown by Dr Peter Vukusic of Exeter University School of Physics and colleagues that the iridescent green colour of the hindwing is due to structural

interference caused by a multi-layer system of contrasting cuticular layers (Proc. R. Soc. Lond. B 271, 595-601). A result of this is that the hindwing membrane is much thicker and heavier than that of the hyaline forewing. Apparently, partly because of this anomaly, the major propulsive power derives from the forewings. Of course this is especially so when the hindwings are held rigidly flat in display'. Wanted one energetic postgraduate student – has high speed camera, will travel.

Keith Wilson: The second edition of the *Field Guide to the Dragonflies of Hong Kong* is due to be published in late June 2004. The first edition, published in October 2003, sold out very quickly, no doubt due to dual language content i.e. Chinese and English. The first edition treats the 111 species known from Hong Kong and the second edition provides an account of 112 species following the discovery of a new species of *Fukienogomphus* in Hong Kong. The book is authored by KDP Wilson in collaboration with a young team of local Chinese employed by the Agriculture, Fisheries and Conservation Department. The book should be available from Comos Books Ltd., 13/F Greatmany Centre, 109-115 Queen's Road East, Wanchai, Hong Kong, Fax: (852) 28652609 or Yesasia online booksellers. I am just completing the Anisoptera of Guangxi Zhuang Autonomous Region and intend to submit for publication during this summer. Some 117 species of Anisoptera are recorded from Guangxi, which at 273,000 km² is slightly larger than the United Kingdom. Later in the year I hope to study material from Guangdong Province and plan to publish an inventory of this region in 2005-2006. Last year I undertook fieldwork in Guangdong but this year I hope to spend a little time in the relatively unknown Guizhou Province and make a short fieldtrip to Malaysia.

From cool hill resorts to humid rainforest: an odonatological trip to Peninsular Malaysia (July 2002) Vincent Kalkman

In July 2002 I, together with my girlfriend Anke Wouters, went on a three-week holiday to peninsular Malaysia. Besides having a good time I hoped to get somewhat more acquainted with SE-Asian odonates. Our itinerary took us to many of the well-known birding hotspots and touristic sites. Luckily most of these places offered dragonflies also.

After arriving in the middle of the night we spent the first annoying hours at the still deserted airport and in the oppressing heat of Kuala Lumpur's major bus station. After this we were relieved to arrive in the cool air of the Fraser Hill hill-resort, one of a number of hill-resorts build by the British as summer-retreats. The combination of good roads, large gardens and surrounding forest make birding easy and the montane forest yields many species absent from larger parts of Peninsular Malaysia and southern Thailand. Birding took most of the time and most of the dragonflies encountered were common species such as *Orthetrum glaucum* and *O. luzonicum*, which were encountered at small ditches in the village. Half an hour was spent at a small brook somewhat lower near the Gap Rest-house. Here *Devadatta argyoides*, *Euphaea ochracea* and *Rhinocypha fenestrella*, all true running water species, were encountered. Most interesting was a male *Calicnemia rectangulata*, which was found sitting on leaves above the brook. This species is endemic for the mountains in Peninsular Malaysia and is only known from localities above 500 metres in the hill resorts of Fraser Hill, Cameron Highlands and Larut Hill. The other fourteen species of this platycnemid genus all have a montane distribution, most of them found in the Himalayan range.

Next on our trip was the reserve of Taman Negara, one of the largest pieces of tropical rainforest left in Asia. The reserve covers 4343 square kilometres and large parts are still difficult to explore. Happily the few square kilometres with easily accessible tracks near the park headquarters offers first time visitors enough to see. The dense forest and the humid heath made birding difficult and sometimes slow. But the forest itself and its rich birdlife made it extremely worthwhile. We regularly encountered wardens and so we did not dare to use our nets very much. Both *Indaeschna grubaueri* and *Gynacantha subinterrupta* were found during daytime in the forest when they were resting on twigs along the track. During a late evening swim we saw numerous Anisoptera, probably mostly aeshnids, hawking above and along the river. One of these was gigantic and I believed it to be a *Tetracanthagyna*. Due to its accessibility, good facilities and its size Taman Negara is probably one of the best places to study lowland rainforest odonates in SE-Asia. Not only does it give opportunity to catch a range of interesting species but it would also offer a good opportunity to do ecological studies or collect larvae.

Our next destination, Lake Chini, does not feature on the itinerary of most tourists but is certainly worth a visit as large parts of the lake are covered with lotus. At many places the lake is bordered with marshy fringes but sadly most of the adjacent forest has been converted to oil-palm-plantations. The marshes along the lake were inhabited by many common coenagrionid and libellulid species. More interesting species were found at a small, almost stagnant runnel, in a small piece of secondary swamp forest. Along a small track in this forest six male *Podolestes buwaldai* were caught. This megapodagrionid was so far only known from one male from Sumatra and two males and one female from the Selangor Province in Peninsular Malaysia. All males I collected were caught along the track in the forest, all of them sitting on the vegetation about a metre above the ground. None of them showed active behaviour and no females were encountered. The seven species of the genus *Podolestes* are confined to Sumatra, Borneo and Peninsular Malaysia. The description of their habitats gives the impression that all of them are confined to muddy brooks in marshy forest. Little is known of their behaviour and their larvae have not been described. The inner surface of the femora and tibiae of *P. buwaldai* are conspicuous orange. The only other species of *Podolestes* where the inner surface of the femora is brightly coloured is *P. chrysopus*, where they are sulphur yellow. It seems likely that these conspicuous colours have a function during contests between males or during courtship. Also at this locality two females of *Amphicnemis* or *Teinobasis* were found which are difficult to identify without a male. In one of the more or less standing pools an ovipositing female *Tetrathemis irregularis* was observed. She made fast dipping movements and continued even when I tried to catch her and touched her with my fingertips.

In order to have an opportunity of snorkelling, we visited the Isle of Tioman on the east coast. This isle is quite large and, due to its mountainous interior, still largely covered with forest. During a walk from Kampung Tekek to Kampung Juara we crossed a number of brooks. Besides a number of common running water species we caught two males of a *Drepanosticta*

fontinalis (det. Jan van Tol). This is probably the most common of the seven species of *Drepanosticta* known from the Malaysian Peninsula, five of these, including *fontinalis*, are endemic for Peninsular Malaysia. All species of *Drepanosticta* have small areas of distribution and it is therefore interesting that *fontinalis* is found both on the Isle of Penang and on the Isle of Tioman, the latter lying at a distance of approximately 50 km from the mainland. In the villages of Tioman only common ubiquitous species were found. Most interesting among these is *Raphismia bispina* of which one male was caught. This species is distributed across Sundaland and is one of the few species of dragonfly to live mainly in mangrove swamps. The species reminded me of a very slender *Brachydiplax* and is peculiar in having two spines on the synthorax between the legs. Lieftinck's handlist of the Odonata of Malaysian region gives only four species for the isle of Tioman, two of which we did not see (*Devadatta argyroides tiomanensis* and *Prodasineura notostigma*). The total for the Isle stands now on 13, but several common wanderers from mainland are yet to be found and as the isle is largely covered with virgin forest and has a number of brooks it is also likely that several more interesting additions to its fauna are to be found.

After Tioman we headed for some sight-seeing in Malaka, and found its zoo to be productive for dragonflies. Of course the ponds in the zoo contained mainly common coenagrionids and libellulids but I was happy to see *Epophthalmia vittigera*. A few males of this species were patrolling along the boardwalk above a lake used for waterfowl. They stayed very neatly about one metre from the boardwalk and patrolled stretches of about 100 metres over and over again. This behaviour made them easy to observe and relatively easy to catch, quite unlike most of their near relatives (*Macromia*, *Macromidia*).

The last days of our holiday were spent in Kuala Lumpur where we visited the field station of University of Malaysia in the Gombak Valley together with Y. Norma Rashid. The valley offers good forest and numerous brooks despite the fact that it lies near the city and the number of inhabitants of the valley is still rising. *Zygonyx iris* is common and hunting individuals were seen at roadsides and between buildings. At a small brook several male *Echo modesta* were found, which were easily identified by their large size and the peculiar white square of pruinescence on a large part of the frons and postclypeus. The morning before our departure was spent at Rimba Ilmu, the botanical gardens University of Malaysia. The gardens offer an easy way to see many of the common Southeast Asian dragonflies without leaving Kuala Lumpur. And, although common and widespread, the miniscule *Nannophya pygmaea*, the first I ever saw, formed the final highlight of the holiday.

List of localities

- (1) Selangor, Fraser's Hill (Hill Resort), 65 km N of Kuala Lumpur; 07.July.2002
- (2) Selangor, Fraser's Hill (Hill Resort), 65 km N of Kuala Lumpur; 08.July.2002
- (3) Selangor, 8 km S of Fraser's Hill, brook 2 km E of The Gap Resthouse, 60 km N of Kuala Lumpur; 10.July.2002
- (4) Pahang, 55 km N of Jerantut, surroundings of Park Headquarters near village of Kuala Tahan; 12-15.July.2002
- (5) Pahang, 65 km SW of Kuantan, southern part of Lake Chini, few km west of Lake Chini resort at small forest stream; 16.July.2002
- (6) Pahang, 65 km SW of Kuantan, southern part of Lake Chini, few km west of Lake Chini resort, marshy area's along lake; 16.July.2002
- (7) Pahang, Isle of Tioman at Kampung Salang; 20.July.2002
- (8) Pahang, Isle of Tioman, Mountain between Kampung Air Bantang and Kampung Juara; 21.July.2002
- (9) Melaka, Melaka Zoo at Ayer Keroh, 10 N of Malaka; 23.July.2002
- (10) Selangor, Village Kuala Selangor, nature park Taman Alam Kuala Selangor; 25.July.2002
- (11) Pahang, 22 km N of Kuala Lumpur, Templer Park; 28.July.2002
- (12) Pahang, Gombak Valley, 20 N of Kuala Lumpur, between Bailey bridge and Orang Asli Museum; 29.July.2002
- (13) Pahang, Gombak Valley, 20 N of Kuala Lumpur, Surroundings of University of Malaysia field station; 30.July.2002
- (14) Pahang, Kuala Lumpur, University of Malaysia at Rimba Ilmu botanical gardens; 31.July.2002

List of records

Number of collected specimens is stated. No details are given if a species was not collected. p = present, m = male, f = female,

Platystictidae

Drepanosticta fontinalis Lieftinck, 1937: (8) 2m

Protoneuridae

Prodasineura autumnalis (Fraser, 1922): (11) 5m (12) 1m

Prodasineura ?collaris (Selys, 1860): (12) 1f

Prodasineura laidlawi (Foerster, 1907): (11) 2m (13) 2m

Coenagrionidae

Aciagrion hisopa (Selys, 1876): (14) 2m, 1f

Agriocnemis pygmaea (Rambur, 1842): (9) 1f

Argiocnemis rubescens Selys, 1877: (12) 1m

Amphicnemis / Teinobasis: (5) 2f

Ceriagrion cerinorubellum (Brauer, 1865): (14) 2m, 1f

Coelliccia albicauda (Foerster in Laidlaw & Foerster, 1907): (4) 1m (8) 6m, 2f (12) 1m (13) 4m

Ischnura senegalensis (Rambur, 1842): (9) 1m

Pseudagrion australasiae (Selys, 1876): (6) 1m (9) 1m

Pseudagrion microcephalum (Rambur, 1842): (9) 2m, 1f

Pseudagrion pruinatum (Burmeister, 1839): (11) 1m

Pseudagrion williamsoni Fraser, 1922: (5) 1m (6) 3m, 1f

P. coomansi Lieftinck, 1937 might be a synonym of this species]

Platycnemidae

Calicnemia rectangulata Laidlaw, 1933: (1) 1m

Copera marginipes (Rambur, 1842): (12) 3m, 1f (14) 1f

Copera vittata (Selys, 1863): (4) 2m (5) 1m

Megapodagrionidae

Podolestes buwaldai Lieftinck, 1940: (5) 5m (of which one is in collection of N. Rashid)

Amphipterygidae

Devadatta argyroides argyroides (Selys, 1859): (1) 2m (11) 2m (13) 2m

Chlorocyphidae

Libellago lineata (Burmeister, 1839): (11) 2m, 1f

Heliocypha biforata Selys, 1859: (11) 2m

Aristocypha fenestrella (Rambur, 1842): (3) 1m (11) 1m (12) 1m

Euphaeidae

Dysphaea dimidiata (Selys, 1853): (4) 1m

Euphaea impar (Selys, 1859): (8) 3m, 1f

Euphaea ochracea (Selys, 1859): (3) 2m (11) 1m, 1f (12) 1m

Calopterygidae

Echo modesta Laidlaw, 1902: (13) 2m

Neurobasis chinensis (Linnaeus, 1758): (4) p (11) 1m

Vestalis amethystina Lieftinck, 1965: (12) 1m, 1f

Vestalis amoena (Hagen in Selys, 1853): (8) 2m, 2f (11) 2m, 1f

Gomphidae

Ictinogomphus decoratus (Selys, 1854): (6) 1m (9) 1m

Microgomphus chelifera (Selys, 1858): (13) 1f

Aeshnidae

Anax guttatus (Burmeister, 1839): (9) p

Gynacantha subinterrupta Rambur, 1842: (4) 1m (5) 1m

Indaeschna grubaueri (Foerster, 1962): (4) 1m

Corduliidae

Epopthalmia vittigera (Rambur, 1842): (9) 1m

Libellulidae

Acisoma panorpoides Rambur, 1842: (14) 1f

Brachydiplax chalybea Brauer, 1868: (6) 1m (8) 1m (9) 1m

Brachydiplax farinosa Krüger, 1902: (12) 1m

Brachythemis contaminata (Fabricius, 1793): (6) p (9) 2m (10) p

Cratilla metallica (Brauer, 1878): (8) 1f

Crocothemis servilia (Drury, 1773): (6) 1m (9) p (10) p

Diplacodes nebulosa (Fabricius, 1793): (6) 1m, 1f (9) 1m

Diplacodes trivialis (Rambur, 1842): (4) p (8) 1f

Lathrecista asiatica (Fabricius, 1798): (5) 1f

Lyriothemis cleis (Brauer, 1868): (5) 4m (14) 1f

Nannophya pygmaea Rambur, 1842: (14) 3m

Neurothemis fluctuans (Fabricius, 1793): (5) 2m, 3f (6) 1m (7) 2m, 1f (11) 1m

Orthetrum chrysis (Selys, 1891): (11) 1m

Orthetrum glaucum (Brauer, 1865): (1) p (4) p (8) 1m (12) 1m

Orthetrum luzonicum (Brauer, 1868): (1) 1m, 1f (9) 1f (14) 2m

Orthetrum sabina (Drury, 1773): (4) p (9) 1m

Orthetrum testaceum (Burmeister, 1839): (5) 1m (11) 1m, 2f

Orthetrum triangulare (Selys, 1878): (2) p

Pantala flavescens (Fabricius, 1798): (2) p (4) p (5) 1m (8) p (9) p (10) p (11) p

Pseudothemis jorina Foerster, 1904: (9) p

Raphismia bispina (Hagen, 1867): (7) 1m

Rhyothemis obsolescens Kirby, 1889: (5) 1m

Rhyothemis phyllis (Sulzer, 1776): (6) 1f (9) p (14) p

Rhyothemis plutonia Selys, 1883: (6) 1m

Rhyothemis triangularis Kirby, 1889: (6) p (14) 1m

Tetrathemis irregularis Brauer, 1868: (5) 1f (9) 1m

Tholymis tillarga (Fabricius, 1798): (10) p

Trithemis aurora (Burmeister, 1839): (4) p (9) 1m (11) p (12) p

Trithemis festiva (Rambur, 1842): (9) p (11) p (12) p

Trithemis pallidinervis (Kirby, 1889): (6) 2m

Tyriobapta torrida Kirby, 1889: (4) 1m (5) 1f (14) p

Urothemis signata (Rambur, 1842): (6) 1m (9) p (14) p

Zygonyx iris (Laidlaw, 1902): (11) 3m (12) 1m, 1f (13) 4m, 1f

The WDA is about to celebrate its seventh birthday. It has its roots in Slovenia but its branches spread all over the world. Our membership is now 275 and we have members in 33 countries.