Worldwide Dragonfly Association

AGRION

THE NEWSLETTER OF THE WORLDWIDE DRAGONFLY ASSOCIATION

PATRON: Professor Edward O. Wilson FRS

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EDITORIAL

And so AGRION marches into its eighth year and I would like to take this opportunity of thanking all of you who have sent me accounts of your activities for inclusion in the Newsletter. But, like editors the world over, I appeal for more material. AGRION, as well as being a vehicle for passing on WDA news and information, is dedicated to the publishing of light-hearted, anecdotal, unscientific accounts of what our members have experienced. If such accounts are not published here there is a danger that all kinds of trivial, but extremely interesting and amusing, information will never see the light of day – and that would be very sad. AGRION awaits your offerings!

MESSAGE FROM THE PRESIDENT - *Mike May*

Having survived almost a year in this position, I think I'm beginning to get the hang of it. As a result, most of the work has been done by other Board members, with my role largely that of cheerleader. I do wish to make this cheer a hearty one, because working with this dedicated group has been a real source of satisfaction.

Our big news, of course, is that the transition of I.J.O. from publication by Backhuys Publishers to direct publication by W.D.A. has gone very smoothly so far. Backhuys, and their principal, Wil Peters, have done a good job for us for six years and have been very cordial and professional in facilitating this transition. We believe that the change will result in cost savings and will enhance our control of production, both of which should make it possible to bring members an even better journal. I particularly thank Linda Averill, David Fitch and Reinhard Jödicke for their unstinting efforts to make this work. We are currently finalizing arrangements for mailing and postage and for adjusting rates to reflect changes in currency exchange rates.

Partly as a result of this transition, efforts to regularize process of budgeting for the coming year have been delayed. Nevertheless, we (especially David) are pursuing this, so that funds can be predicted and, we hope, increased for conservation and research grants, support of sponsored memberships and symposia, and other efforts to advance odonatology.

Under the leadership of Viola Clausnitzer and Linda Averill, the Board has undertaken an examination of the tasks and responsibilities it should undertake, We've decided to make a few small changes, and these are reflected in the ballot enclosed with this issue regarding changes in the Constitution and By-Laws.

Finally a bit of bad news: Gordon Pritchard, who has served the Association almost since its beginning as a Trustee and Coordinator of International Symposia of Odonatology, has announced his resignation from the Board for health reasons. We will certainly miss his help and level-headed advice (of course we'd miss his other advice, too, but there hasn't been any other sort), and we wish him a rapid and complete recovery. We expect to name a new Coordinator of Symposia soon. In any case, the organization of the next (2005) Symposium is in excellent hands with Adolfo Cordero as local coordinator.

Thanks again to all the Trustees and other members who have helped WDA move ahead. I'm looking forward to continued good progress for the future.

Message from the Treasurer – David Fitch

The Worldwide Dragonfly Association is pleased to announce that it will publish the International Journal of Odonatology directly, beginning with Volume 7, issue number 1 in 2004. The Trustees of WDA and the Editorial Board of the IJO are grateful to Backhuys Publishers for its services in publishing the first six volumes of the IJO, and extend their appreciation and thanks to Backhuys and its principal, Wil Peters, for its and his good offices during the beginning of this Journal. We acknowledge the

generous help and support WDA and its first Editor (Henri Dumont) received in the early days of *Pantala* prior to the WDA membership reaching a 'break-even' level.

By self-publishing the IJO, the WDA expects to achieve even higher levels of timeliness and relevance in the materials published, and to be able to increase the range and amount of information offered to its readers and subscribers worldwide, including eventually through publication of more material and special issues.

As of November 2003, subscription orders, request for specimen copies, and enquiries about back issues should be directed to Reinhard Joedicke.

Subscription price for 2004 will remain EURO 75.00 or US Dollars $87.00, the former being the same as in 2003 and the latter adjusted only by exchange rate change. A special subscription price is available to members of the WDA; for more information visit the WDA website at http://powell.colgate.edu/wda/dragonfly.htm.

CHANGE in 2004 DUES/SUBSCRIPTIONS - Mike May, President

Owing to fluctuations in exchange rates, the Board of Trustees has been forced to adjust dues and subscription rates for members/subscribers not paying in Euros. Dues for 2004 will be as follows

	GB£	US$	Euro	Yen
Single (WITH Journal)	34	58	50	7000
Single (WITHOUT Journal)	15	26	22	3100
Family (WITH Journal)	46	78	67	9400
Family (WITHOUT Journal)	26	44	38	5300
Student (WITH Journal)	25	42	36	5000
Student (WITHOUT Journal)	6	10	9	1200
Affiliated Society	48	81	70	9800

Renewal of Membership for 2004

With this issue of AGRION is a renewal form for your 2004 membership, either as an email attachment or with your posted copy. Please help us by paying your dues as soon as possible either by sending a cheque in sterling to me or by bank transfer to the UK account or via Vicky McMillan in the USA, or Shigeto Dobato in Japan. European members may, for the present, continue to make a deposit, in Euros, directly to the account maintained by Wolfgang Schneider at: Mainzer Volksbank, Account number: 429403041, BLZ: 551 900 00, BIC (Bank Identifier Code): MVBMDE55, IBAN number: DE 09 55190000 0429403041

Proposed changes to the WDA Constitution and By Laws

Following discussion among the Board of Trustees the following proposal is made by Viola Clausnitzer and agreed by the Board, to change the wording of By Law 3.C(vii), to clarify Board positions and the tasks allocated to them. (changes are shown in bold type)

(vii) With the exception of the Secretary, Treasurer and Editor, Trustees shall regulate the allocation of tasks, under the direction of the Executive. Among these tasks are: **Chairman of a Conservation & Funds Committee; Membership Co-ordinator; Co-ordinator of International Symposia of Odonatology; Webmaster and Archivist. The detailed responsibilities associated to each task shall be determined by the Board of Trustees. When appropriate, and with the agreement of the member designated, more than one task may be assigned to a single member of the Board**. All members of the Board shall share responsibility for fund raising.

In addition it is proposed by Linda Averill that a change be made to the Constitution to allow the membership of WDA to take advantage of electronic voting if this method suits their situation. The proposal has been agreed by the Board of Trustees and will mean an additional clause being added to the Constitution and to the By Laws as follows:

Constitution Clause W. Electronic Voting

Wherever in this Constitution voting is required or authorised, such a vote may also be conducted by electronic mail initiated by the same officer who would preside at the voting if conducted by postal ballot or at a meeting, and subject to the same response times, quorum and majority requirements

By Law 12. Electronic Voting

Wherever in these By Laws voting is required or authorised, such a vote may also be conducted by electronic mail initiated by the same officer who would preside at the voting if conducted by postal ballot or at a meeting, and subject to the same response times, quorum and majority requirements

A ballot form to allow you to vote for these proposals is enclosed either as an email attachment or as hard copy if your newsletter is posted. Please return to the Secretary within four weeks of receipt.

Changes to the WDA Constitution and By Laws. Result of the Ballot held in July 2003.

Following the ballot sent out with the last issue of AGRION I am pleased to announce that more than 2/3rds of the membership returned ballot papers (182 in total) The following are the results for each proposal (please see AGRION 7,2, for the details of the wording)

Constitution Clause E5 Membership
Yes – 177, No- 3, Abstentions – 2

Constitution Clause F Honorary Officers
Yes – 178, No – 4, Abstentions – 0

Constitution G1 Board of Trustees
Yes – 178, No – 4, Abstentions – 0

By Law 3 Board of Trustees
Yes – 178, No – 4, Abstentions – 0

NEWS FROM MEMBERS

David Chelmick, Trevor Graves, Bert Orr, Mike Parr, Jill Silsby, and **Graham Vick** attended the Memorial & Thanksgiving Service in remembrance of Allan Davies held on September 6th at Caius College Chapel in Cambridge, together with his family, a few other odonatologists and many others with whom Allen had been involved during an exceptionally full life.

Philip Corbet (UK) has been awarded the DSc Degree of the University of Edinburgh. This is the third senior doctorate he has been awarded but the first one solely for work on Odonata. The first one (DSc, University of Reading, 1962) was awarded for research on freshwater biology in East Africa and the second (ScD, University of Cambridge, 1976) for research on medical entomology, including the biology of mosquitoes. The most recent award was based on his book (1999) "*Dragonflies. Behaviour and Ecology*". Congratulations, Philip.

K-D Dijkstra (Netherlands) enjoyed a visit to London working at the Natural History Museum in August.

Rory Dow (UK)**:** I would like to add a few more words of praise for Bert Orr's "*A guide to the Dragonflies of Borneo*". I have recently come back from three weeks in Borneo photographing Odonata; unfortunately I did not have the book with me (it arrived while I was away) but the author was kind enough to provide me with an electronic copy of the text, which I found invaluable in identification. Now I am back in England and have the full book I can appreciate it even more, it has enabled me to rapidly identify most of the species I photographed and get most of the rest to genus, which is no mean feat for the tropics without specimens (normally I spend months pestering the experts with photos; the credit has to go the Bert's excellent book.

Bert Orr (Australia) enjoyed a four-week stay in the UK in August/September, working at the Natural History Museum and spent a weekend with Graham Vick**.** Bert's excellent ***Guide to the Dragonflies of Borneo*** can be obtained through Bert himself (agorr@universal.net.au) at a cost of £45 inclusive of postage and packing.

WELCOME TO NEW MEMBERS

Australia	Elise King	7 Lambassa Grove, Keon Park, Victoria 3073
Italy	Soenka Hardersen	Via Mornaga 60, 25088 Toscolano, Maderno
UK	Harriet Webb	2 Edney Close, Church Crookham, FLEET, Hants. GU52 6BW

Changes of Address

Trevor Graves	8 Ashurst Close, Wigston, Leicester. LE18, **UK**
Willem Jan Hoeffnagel	Moeraszegge 8, 1241ZB Kortenhoef, **The Netherlands**
Reinhard Joedicke	Am Liefbrauenbusch 3, D-26655 Westerstede, **Germany**
Hidetaka Natsume	6-13-8, Shimomeguro, Meguro-ku Tokyo 153-0064 **Japan**
Akira Ozono	5-7-5, Myouken-Higashi, Katano, Osaka 576-0012. **Japan**
Graham Reels	26, 6th Street, Section C, Fairview Park, Yuen Long, **Hong Kong**
Klaus Reinhardt	Dept of Animal & Plant Science, Univ. of Sheffield, SHEFFIELD S10 2TN, **UK**
Jan Trybula	Biology Department SUNY Potsda,m44, Pierrepont Avenue Potsdam NY 13676 **USA**
Floris Vanderhaeghe	Emiel Lossiestraat 56, B-9040, Sint-Amandeberg, **Belgium**
Shigeki Wada	1-4-8-402, Nakameguro, Meguro, Tokyo 153-0061, **Japan**
Keith Wilson	18 Chatsworth Road, Brighton BN1 5DB, **UK**

Looking for Odonata in Hong Kong and Malaysian Borneo – Rory Dow

In late May and June I made a trip to Asia, looking for dragonflies of course. My first port of call was Hong Kong, where Graham Reels very kindly gave me a place to stay and undertook to show me as many of the Hong Kong species as was humanly possible in a few days. Keith Wilson also joined us on a couple of days and together they managed to show me over half the species currently recorded from Hong Kong; it would have been more, but I damaged my ankle towards the end of my stay and so lost a couple of days. Injuries apart, I had a great time in Hong Kong, very few things in life can beat spending all day looking at dragonflies and then retiring to a bar or restaurant to discuss Odonata over a beer and some nice food in such good company.

The main highlight of my stay in Hong Kong has to be *Philoganga vetusta* – a really spectacular damselfly. I knew that it was large and robust, but had not fully appreciated its size, or its ferocity. In Tai Lam Country Park, I witnessed a *Philoganga* attempt (but fail) to seize a huge female *Tetracanthagyna waterhousei, which* had flown up into the trees after Keith had posed it for photographs - an incredible sight. Another highlight, at the other end of the zygopteran size range, was

Mortonagrion hirosei, but the marsh it lives in is also inhabited by a herd of cattle, consequently to reach the spot where the damselfly is found, one has to wade knee deep through mud that is about 50% cow excrement: not for the faint hearted. Staying with small species, I was also treated to *Nannophya pygmaea* and *Nannophyopsis clara*, both absolutely lovely little libellulids. Other personal favourites include *Megalogomphus sommeri*, *Gomphidia kelloggi*, *Epophthalmia elegans*, *Lyriothemis elegantissimia* and *Pseudothemis zonata* - (+ many more, too many to mention here) - and also my first platystictid, *Protosticta taipokauensis*.

On to Borneo, with an electronic copy of the text of Bert Orr's "A Guide to the Dragonflies of Borneo" on my laptop, which Bert kindly provided, as the book itself was not going to arrive on my doorstep before I left England.

I began in Sarawak, staying in Kuching as a base for exploring the nearby Kubah National Park. Kubah is a nice place, including, as I understand it, the Matang Wildlife Centre, which has many pleasant trails through a variety of habitats that differ from the trails from the park HQ. In the forests here I saw many more Zygoptera than Anisoptera, platystictids seemed abundant, *Vestalis* and *Euphaea* species were everywhere, *Devadatta podolestoides* was readily found. Platycnemididae was well represented by *Copera* and *Coeliccia* species, especially the latter and Megapodagrionidae by the spectacular *Rhinagrion borneense*. Among the Anisoptera, *Orthetrum pruinosum schneideri* deserves mention - *O. p. neglectum wa*s by now an old friend, and *schneideri* was that friend, but wearing make up! It was at Kubah that I made the most exciting find of the trip, although I did not realise it until well after I had returned to England. One of the platystictids that I photographed has been identified by Bert Orr as *Drepanosticta barbatula,* described by Lieftinck in 1940 from a single specimen and apparently not since – until I stumbled across it.

One irritating (but also interesting) Kubah resident was a kind of large and very aggressive bee. When one of these was encountered it would fly around one's head fast in ever decreasing circles, its buzzing at a frequency and volume designed to fray mammalian nerves. Should anyone have an idea as to what these beasties might be, I would like to know – they were mostly yellow and black, but one at least seemed almost white).

From Kubah I moved on to Gunung Mulu National Park, apparently never surveyed for Odonata. Mulu is a spectacular park, with steep sided hills and mountains rising out of swamp forest. Huge hornbills can frequently be heard and occasionally seen, flying above one's head whilst wading in the middle of one of the larger streams: an incredibly impressive sight even to a non-birder such as myself. My time observing Odonata in the park was restricted due to frequent rainstorms - apparently there had been no real rain for three weeks prior to my arrival. There were not many visitors whilst I was there, but there was an eccentric I encountered one morning on one of the trails. This character, wandering about in his underwear, was carrying a large tape recorder into which he was ranting for long periods, before playing it back at top volume.

I was confined to the lowland areas of the park by my ankle (still giving me problems), where I found an impressive variety of Odonata, including four chlorocyphid species, of which the star must be the lovely *Rhinocypha cucullata*. The megapod *Podolestes orientalis* joined *Rhinagrion borneese* here, the latter being more abundant than at Kubah, and I was lucky enough to photograph the elusive female on two occasions, on the second catching one ovipositing. Here also were numerous *Vestalis* and *Euphaea*; *Neurobasis longipes* was common, as were *Cratilla metallica* and *Tyriobapta torrida* whilst *Tetrathemis irregularis* and *Onychothemis coccinea* were encountered several times. From the gomphids I was treated to an all too brief sighting of *Megalogomphus sumatranus*. Outside the park, in the roadside ditches and on a series of pools I found many more species, including the beautiful *Ceriagrion cerinorubellum*, three species of Neurothemis, three species of *Rhyothemis* (*obsolescens*, *phyllis* and *triangularis*) and *Nannophya pygmaea*. I also photographed a coenagrionoid that does not appear to have been recorded in Borneo previously, Bert Orr and Matti Hamalainen have suggested that this might well be *Pesudagrion pilidorsum* and it certainly bears a strong resemblance to the photo of that species in Jill Silsby's "Dragonflies of the World". There is doubtless much more to find in Mulu, especially if one could get there with a collecting permit.

From Mulu I moved on to Sabah. I spent a day in Kota Kinabalu, where I visited the botanical gardens and found quite a few odonates, most notably *Rhodothemis rufa* and *Rhyothemis phyllis*. From KK I moved on to Mt. Kinabalu, where I saw fewer species, but most of them endemic to the Kinabalu region - *Matronoides cyaneipennis* (incredible, I wish I could have caught on camera the deep metallic blue reflections from its black wings when the upper surface caught the sun), *Euphaea basalis*, *Rhinoneura villosipes* (such a long chlorocyphid), *Protosticta kinabaluensis* and *Coeliccia nemoricola*. Also notable, though not endemic to the Mt Kinabalu region, was the long-abdomened *Vestalis beryllae* which I saw above Poring Hot Springs during a nightmarish day on which I toiled up a trail to the Langanan waterfall in the rain, hoping in vain to find *Rhinocypha moultoni*, and wondering why I was getting so exhausted, not realising that I was coming down with a virus that was to force me to delay my return to England as I was too ill to fly.

Overall this was a very good trip, I loved Hong Kong, and Borneo was great (I would love to go back, preferably with my own transport), but frustrating at times. I saw many more species than I have mentioned above, but did very badly with a few families, most notably the aeshnids. I had no great expectations of seeing (or at least identifying) large numbers of the mostly crepuscular species to be found on the island, but I did think I might manage to identify and photograph a few. In fact I saw very few aeshnids and cannot identify any of them for certain; most frustrating was my failure to find *Indaeschna grubaueri* and the fleeting glimpse, in Kubah NP, of what was almost certainly the gigantic female *Tetracanthagyna plagiata*. Still, the things I failed to see or of which I only caught a glimpse, provide all the more reason to return sooner rather than later.

Macromia splendens in Iberia - David Chelmick

The Iberian peninsular is an odonatological backwater much neglected in favour of more glamorous and easily accessible locations. It is also a region to be avoided if your interests lay with *Somatochlora* and *Leucorrhinia.* However, a fine selection of African species enriches the fauna and, bearing in mind how neglected is the region, almost anything is possible. The purpose

of this short article is to provide a taster for the fauna and encourage the reader away from his home shores to the land where *Macromia splendens* is at its most widespread and where real discoveries are waiting to be made.

Firstly, a word about the Chelmick methods. They are simplistic, superficial and subjective: quite without scientific basis. They have one overwhelming advantage however: they are fun. In spring and summer I collect exuviae and observe adults. I collect adults rarely, not for any other reason than my overall ineptitude with a net. I photograph whenever possible. At other times of the year I am to be found happily riddling for larvae in rivers and streams. A process that involves getting very wet, spending hours sifting through mud and litter and no doubt laying myself open to a host of waterborne diseases: but the pleasure of lifting the riddle, parting the litter and finding *Macromia splendens* nestling in the bottom is one not to be missed.

Askew (1988) cites the only recent record for *Macromia splendens* for Iberia as being from Cadiz. A mere decade later, Adolfo Cordero Rivera working in North West Spain found this insect from a nine rivers as well as on two reservoirs constructed to provide hydroelectric power. Rivera describes the habitat as slowly flowing rivers with deep warm water and to *M splendens* the reservoirs must simply seem like an extension of this habitat. Rivera describes the larval habitat as either tree roots or flattened on the muddy substrate. This is reminiscent of the genus in Africa where the larvae of at least two upland species in Cameroon can be seen flattened with only their tell tale eyes protruding above and betraying their presence in a sandy stream base.

Moving south, *M splendens* is by no means rare in Portugal. I found this insect quite easily as exuviae on the River Ceira near Coimbra and my colleague Pete Mitchell observed the adult insect attack and kill a male *Anax imperator*. Rivera believes that this magnificent insect probably breeds on most suitable river systems in Portugal and probably in more rivers in South West Spain. Indeed a number of new localities throughout Spain have come to light since Askew was published.

In western Spain and Portugal rainfall invariably exceeds 600 mm per year and in many areas 1200 mm is recorded. The Country becomes progressively drier as one moves east and on the eastern coast annual rainfall of only 400 mm is normal. One exception to this is the area around Gibraltar. This is Southern Andalucia, which has an annual rainfall of around 800 mm and is a land of verdant pastures and woodlands in stark contrast to the surrounding arid regions. *M splendens* is to be found here in at least two localities on the Rio Hozgarganta and its tributaries. This is a truly magnificent typical *Macromia* river with warm deep stretches where I managed to find larvae. The whole river basin forms part of the Alcornocales national park and I am told by bird watching friends that it is a very good place to see Eagle Owl (*Bubo bubo*) Also In this comparatively wet region, I have found and bred out the larvae of *Oxygastra curtisii*. and *Boyeria irene.*

The east coast of Spain does have an historical record for *M. splendens*. In the summer of 2003, from Segorbe near Valencia, spurred on by my earlier success in Andalucia, I decided to investigate the region.

In summary, I worked the Province of Valencia and mainly the Rivers Xuquer and Turia. Of course one has to be careful with rivers in Spain. In France, where many of the smaller rivers and streams are viewed from a leisure and hunting perspective, clean unpolluted water is the norm. In Spain it is a different story. Remote streams can often be little more than glorified sewers and it is wise to follow simple rules in fieldwork.

- First, as you approach are there small clouds of pencil white *Platycnemis* hovering at your feet?
- As you approach the river, is the water turbid with the faintest of odour?
- Is the only species present *Calopteryx haemorrhoidalis* ?

If the answers to these questions are respectively no, yes and yes then go no further, jump back in the car and move on. With a little perseverance, however, some superb rivers are to be found but you are soon aware that this is not *Macromia* country. These are desert rivers as evidenced by the presence of *Onychogomphus costae* which I found in copula and emerging in two localities. I also got a fleeting glimpse of *Zygonyx torridus,* one of the African specialities in Spain, on the River Xuquer but found no further evidence of either larvae or exuviae.

But what of the old *Macromia* record? I had no alternative but to visit the historical site of Segorbe. This bustling industrial town is situated on the River Palancia, which is a typical upland stream – well vegetated, tree lined, fast flowing and a typical habitat for *Cordulegaster boltonii*, which was present in abundance. This latter insect does have a passing resemblance to *M. splendens* and I can only assume that this is where the confusion has arisen. The River Palancia does not look like Macromia habitat although it would be nice to be proved wrong. Interestingly the common damselfly on the streams in this area was *Coenagrion mercuriale*, which is an insect far more catholic in its habitat than most observers would believe.

One final thought; what of the reservoirs? Was there evidence of *Macromia* in such habitats as there was in the northwest? Sadly no, the dominant species in the many “embalses’ that provide southern Spain with both water and electricity, was always *Trithemis annulata*, another African species taking advantage of our warming climate and now common through much of eastern Iberia. *29-Sept-2003*

The 150th Anniversary of Selys’ Synopsis des Caloptérygines -

Matti Hämäläinen

Baron Michel-Edmond de Selys Longchamps (1813-1900) was a remarkable man. Born into a wealthy, ancient family of the Belgian nobility he became involved in the politics of his country, independent since 1831. He was one of the founders of the liberal party in 1846, became senator in 1855, and rose to become the President of the Senate in 1880-1884. However, it was not his achievements as a politician for which he was immortalized in a stamp issued in Belgium on September 29, 1986. This honour was bestowed for his achievements as a scientist.

De Selys Longchamps, sometimes called the "Father of Odonatology", has been widely regarded as the world's greatest authority on the taxonomy of dragonflies. In his synopses and monographs and in numerous other publications he provided a firm basis for the taxonomy of the world fauna of Odonata. He named over 950 new species-group taxa in Odonata, many more than any other worker.

The reprint issue of his first synopsis - "*Synopsis des Caloptérygines*" - is dated "29 juillet 1853". The Annexe 20 of *the Bulletin de l'Académie*, where it was included, appeared in 1854 but, since the reprints were sold and circulated separately in 1853, this is the valid publication year of the synopsis. Now, exactly 150 years after its first appearance, a few lines on this publication and its contents may be interesting. The synopsis (73 pp.) was actually a shortened version of a much more detailed "Monographie des Caloptérygines" (291 pp. and 14 plates) authored by de Selys Longchamps and H.A. Hagen, published in *Mémoires de la Société Royale des Sciences de Liége* (vol. 9) in 1854.

Selys was listed as sole author of the Synopsis, although the contributions of Dr. Hermann August Hagen (1817-1893) were duly acknowledged in the introduction. In it Hagen described 27 new species, whereas Selys described 39 species. In addition 6 subspecific (race) names were introduced. Total full species included numbered exactly 100, only 34 of them having been described by earlier authors. The Monograph also included the same 100 spp., but a few more subspecific names were introduced. Of the 100 full species, 87 are presently considered valid.

The species were placed in 12 genera and 25 subgenera. Selys' subgenera correspond perfectly with the genera in present use and in fact Selys' binomial names were combined from the subgeneric and the species name. Of the subgeneric names most were new, only *Calopteryx*, *Epallage*, *Euphaea*, *Rhinocypha*, *Micromerus* and *Libellago* having been introduced earlier.

Classification

In Selys' system Odonata was placed as a suborder of the Orthoptera; it was divided into the "tribes" Anisoptera and Zygoptera. Zygoptera contained only one family Agrionidae, divided to two subfamilies "Agrionines" and "Caloptérygines". In the Synopsis the subfamily Caloptérygines was divided into 7 legions. See Selys' 1853 scan below:

LÉGIONS.	GENRES.	SOUS-GENRES.
I. CALOPTERYX.	CALOPTERYX.	1. Sylphis, Hagen.
		2. Calopteryx, De Selys.
		3. Matrona, De Selys.
	NEVROBASIS.	4. Nevrobasis, De Selys.
	ECHO.	5. Echo, De Selys.
		6. Maïs, De Selys.
		7. Sappho, De Selys.
	PHAON.	8. Cleis, De Selys.
		9. Phaon, De Selys.
	VESTALIS.	10. Vestalis, De Selys.
II. HETAERINA.	HETAERINA.	11. Lais, Hagen.
		12. Hetaerina, Hagen.
III. EUPHAEA.	EUPHAEA.	13. Anisopleura, De Selys.
		14. Epallage, Charp.
		15. Euphaea, De Selys.
		16. Dysphaea, De Selys.
IV. DICTERIAS.	HELIOCHARIS.	17. Heliocharis, De Selys.
	DICTERIAS.	18. Dicterias, De Selys.
V. LIBELLAGO.	LIBELLAGO.	19. Libellago, De Selys.
		20. Rhinocypha, Ramb.
		21. Micromerus, Ramb.
VI. AMPHITERYX.	AMPHITERYX.	22. Amphipteryx, De Selys.
VII. THORE.	THORE.	23. Chalcopteryx, De Selys.
		24. Thore, Hagen.
		25. Cora, De Selys.

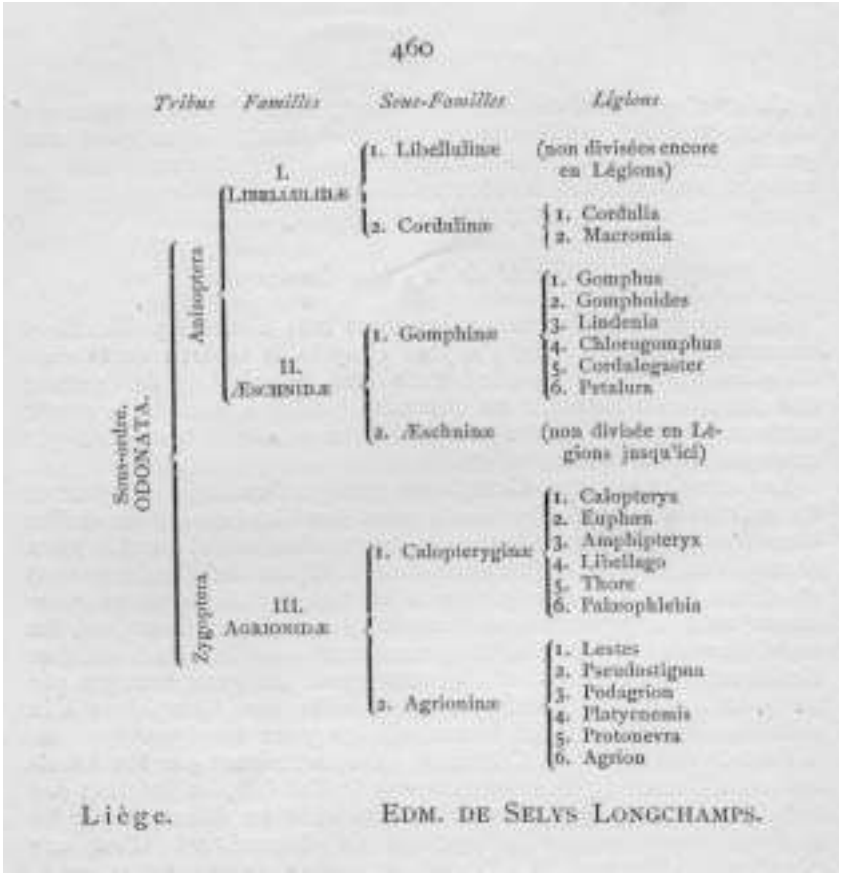
These legions correspond to families in our present classification. Recently, the validity of Selys as the author of the family names derived from his legions has prompted lively discussion (see the articles in *International Journal of Odonatology* 2(2), 1999). We do not need to discuss this further here, although I am in favour of the view presented by John Trueman.

Already in "additions and corrections" in the last two pages of the Synopsis, Selys presented a corrected classification of Caloptérygines, where Légion Hetaerina was combined with Légion Calopteryx and Légion Dicterias with Légion Euphaea. This classification with 5 legions was then used in the Monographie and in the additions of the Synopsis, issued in 1859-1879. In 1889 Selys established one more legion in the Caloptérygines, Légion Palaeophlebia, for the famous Japanese species presently known as *Epiophlebia superstes* (Selys, 1889).

Tillyard & Fraser reinstated "Légion Dicterias" to family status in 1939. They named the family Heliocharitidae, but now it is usually called Dicteriadidae. Hetaerinidae and Calopterygidae were placed as separate families in the phylogenetic systems by Fraser (1954, Trans. R. ent. Soc. London (B)23: 89-94, pl. 1) and Pfau (1991, Adv. Odonatol. 5: 109-141). On the other hand in Bechly's (1996, *Petalura, Special*-Volume 2) classification, where no fewer than 20 new families and 63 higher taxa above the family-group level were established, Hetaerininae was still ranked as a subfamily of Calopterygidae. A ground breaking molecular genetic paper by Dumont & al., still in press in *Systematic Biology*, will hopefully provide a better answer to the taxonomic status of Selys' former Légion Hetaerina.

However, it seems that Selys' original idea of 7 legions, as presented in the *Synopsis of Caloptérygines*, was a better solution than his later systems with 5 (*Monographie des Caloptérygines*, 1854) and 6 legions.

Although Selys' categories were somewhat unusual and in the nomenclature of higher categories he used French instead of Latin, his system was fully consistent and he never changed his position. Below is a scan from the last page of one of his last papers "Le Progrès dans la connaissance des Odonates", published in 1896 in "Compte-Rendu des Séances du 3^{me} Congrés international de Zoologie. Leyde, 15-21 Septembre 1895" (pp. 441-460). This seldom referred to paper is a detailed historic and bibliographic review of the research on taxonomy and diversity of odonates. It can be considered as a address from the receding master to the new generation of odonatologists.



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Tribus	Familles	Sous-Familles	Légions
Sous-ordre. ODONATA.	Anisoptera	I. Libellulidæ	1. Libellulinæ (non divisées encore en Légions)
			2. Cordulinæ: 1. Cordulia; 2. Macromia
		II. Æschnidæ	1. Gomphinæ: 1. Gomphus; 2. Gomphoides; 3. Lindenia; 4. Chlorogomphus; 5. Cordalegaster; 6. Petalura
			2. Æschninæ (non divisée en Légions jusqu'ici)
	Zygoptera	III. Agrionidæ	1. Calopterygines: 1. Calopteryx; 2. Euphæa; 3. Amphipteryx; 4. Libellago; 5. Thore; 6. Palæophlebia
			2. Agrionines: 1. Lestes; 2. Pseudostigma; 3. Podagrion; 4. Platycnemis; 5. Protoneura; 6. Agrion

Liège. EDM. DE SELYS LONGCHAMPS.

Regional coverage

As might be expected in 1853 the Caloptera faunas of Europe and the adjacent areas of the Near East and North Africa were already quite well known; 6 species were listed. From the New World there was also quite good coverage; of 47 spp. listed, 37 are presently considered valid species corresponding to nearly one third of the presently known species. From Africa, south of Sahara, only 8 species were known (less than 1/7th of the presently known fauna). The 37 species listed from South, South-east, East Asia and Papua represent ca 1/7th of the presently known species. From Australia 1 sp. was known.

Of the 37 Asian species the greatest number came from India. From South-East Asia, 6 species were listed from Java, 2 from Sumatra, 2 from (Peninsular) Malaysia and 3 from Cochinchina (Vietnam).

Increase of the known diversity since 1853

Four additions to the *Synopsis des Caloptérygines* were published in 1859, 1869, 1873 and 1879, where many new species were described. Also many other papers authored by Selys, Hagen, McLachlan and Brauer brought new species to light in the latter part of the 19th century. Kirby's (1890) "*A synonymic catalogue of Neuroptera Odonata or dragonflies*" already listed 233 Caloptera species, although 51 of these are now considered synonyms. However, less than 40 years after the publication of the Synopsis the number of species had already doubled.

At present the number of the known Caloptera species (including the still undescribed ones in different collections) is already over 450, and new species are still being discovered in their haunts in the tropics, especially from the Oriental region. During the last 10 years the rich fauna of southern China has been more intensively studied, and at the same time the opening of Vietnam and Laos for foreign visitors has revealed many new Caloptera species. Burma, Cambodia, Borneo and Sulawesi are also promising areas for new discoveries. Undoubtedly tens of new species still await discovery worldwide. Moreover, new species are also discovered when old museum material is identified or re-identified for revisions. The fact that altogether ca 700 species-group names have already been established for the extant world Calopterygoidea indicates that the taxonomic work on them poses more difficulties than work on most other odonate groups. Among others, groups such as the genus *Mnais*, *Calopteryx splendens* – complex and *Rhinocypha tincta* – superspecies are notoriously difficult. Especially in the Chlorocyphidae and Calopterygidae many subspecies have been named, the status of which is still insufficiently known. I would not be surprised if the list of Caloptera species would eventually pass the limit of 500 species, unless an unexpected reason to lump many oriental taxa arises.

As conspicuous insects Caloptera damselflies were discovered and described proportionately much earlier than many other, more elusive odonate groups. An excellent basis for comparison is to look at the development of knowledge of Gomphidae diversity, as illustrated by Selys' second synopsis "Synopsis des Gomphines" (published in 1854). In this exactly 100 spp., (of Gomphidae in the present sense), were listed. In Kirby (1890) the corresponding figure is 228 spp., also very close to that for the Caloptera. However, presently ca 950 species of Gomphidae are known and there seems to be no end to the new discoveries being made. In their interesting article "*Pattern of discovery of the species of New World Odonata*" in Argia 8(4): 6-9, 1996, Nick Donnelly and Roy Beckemeyer calculated the median year for descriptions of new New World odonates: for calopterygids (including hetaerinids) it was 1869, for polythorids 1881 and for gomphids 1942.

Walker's catalogue

Another publication published exactly 150 years ago in November or December 1853 was "List of the specimens of neuropterous insects in the collection of the British Museum. Part 4. – Odonata", one of the series of 68 similar volumes in the small, 12mo size on various insect orders compiled by Francis Walker (1809-1874) between the years 1844-1873. Despite the implications of the titles of these catalogues, they were not simply catalogue lists, but often contained descriptions of all known species in the group in question. Although the title of this part was "Odonata", the catalogue covered only "Sub-fam. Calopteryginae" and it remained the only odonate volume in this series. Much of it is a direct translation of Selys' Synopsis des Calopterygines, which is duly acknowledged in the introductory words. From the added notes it is evident that only ca 30 Caloptera species were available in the British Museum collections in 1853.

Walker's nomenclature differed somewhat from that of Selys, and there were some errors. The catalogue has seldom been quoted in the odonatological literature. In fact, as a simple translation of Selys' Synopsis it is mainly just a bibliographic curiosity.

A slightly modified version of an article published in MALANGPO 20: 000-000, issued in Bangkok in Nov. 2003.

An Odonatologist in London – Bert Orr

I always envy those who grew up and learned their natural history in England. The flora and larger fauna, at least of the southern counties, are on the one hand sufficiently diverse to provide a good starting point to understanding global biodiversity, yet are also small enough to be comprehended almost completely during a well spent youth. Added to this is the advantage that the UK has always been exceptionally well served by a range of affordable, clearly illustrated and easily transportable field guides to almost every larger insect, vertebrate and plant group**.**

Nearly thirty years ago I visited Britain for the first time and stayed for much of the spring and summer. I armed myself with as complete a naturalist's library as was then available (at that time natural history guides were just beginning to proliferate once more having reached a low ebb in the '50s and '60s) and in an ancient blue mini and with a one man tent for shelter at night, I explored the botany, entomology and ornithology of the island from Cornwall to the Cairngorms. Such an expedition naturally produced a great many anecdotes, of which I relate but one, as it serves to indicate a profound change in social attitudes. I was driving along an apparently deserted lane in Brecon Beacons NP when I spied a Peacock sunning itself on the wayside shrubbery. At once I left my car, engine running, door flung open, in the middle of the road and set off in pursuit. After a short chase I returned panting, quarry safe in net, to find a line of three cars waiting patiently behind mine. Red-faced, I hurriedly moved my car and the trapped drivers responded with smiles and friendly waves, all approbation for my innocent activity. I wonder what reaction I would meet today.

It was in Brecon that I netted a male *Cordulegaster boltoni* along a little brook – but I confess I was far too gormless to appreciate my luck – It represented my one Odonata record for the entire trip and, lacking a book to tell me better, I took it to

be some strange Palaearctic gomphid. What now I would give to see this fabulous creature alive, for the cordulegastrids and *Calopteryx* of Europe are just as exciting to an antipodean as are our *Diphlebia* and *Petalura* to northern entomologists.

This year when I arrived in London in mid-August, it was my first real chance to watch dragonflies in England with some knowledge and appreciation of what I was seeing – of course it was too late for many species, and I was disarmed, my net forbidden, but for closer viewing of Zygoptera at least the poacher's trick of catching them by the tail served me well (releasing all unharmed after inspection of course!).

Even in the heart of London there are living dragonflies – I stayed in Linstead Hall, overlooking Prince's Gardens, a quite small park almost at the back door of the Natural History Museum where by day I laboured through one of the World's truly great, but largely unsung collections of dragonflies. In the balmy evenings we would take our pints of dark Orkney beer into the park where we could always see *Aeshna mixta* hawking in the treetops high overhead late into the twilight. Most evenings I would walk to the Long Water in Kensington Gardens, generally cutting through the rough unmown grass and more than once I sensed an aeshnid hovering by my shoulder, no doubt feeding on small insects I disturbed. I believe these were all *A. mixta*. By the Long Water are well-vegetated banks but these are fenced off and inaccessible – perhaps they harbour some Zygoptera but I never saw any there, or in promising areas in Battersea Park, which I explored later. I did however follow an *Aeshna cyanea* male, an exciting species by any standard except that of rarity, along the Chelsea embankment. Its flight took me into a small garden, which was evidently also the territory of a recumbent tramp. He took me for another of his kind, invading his patch, and I was greeted by a volley of bad words, which I pretended not to hear or understand (indeed some I had never heard before), but which nonetheless followed me halfway across the Albert Bridge as I made a not so nonchalant retreat.

My first expedition proper came on the Monday of the August bank holiday, when I went to Wimbledon Common, guided by Rory Dow. As luck would have it this was the first overcast day of my visit, a little windy and a little cool. Nevertheless Rory had recorded 14 species three weeks previously and was full of optimism. The first small pond we inspected was totally dry and devoid of life. We found no exuviae on the bordering reeds. We then cut through some butterfly-rich woodland to reach the large pond figured on Page 36 of the 'Field Guide to the Dragonflies and Damselflies of Great Britain and Ireland'. This was also almost empty of water, but before long Rory, buoyed by faith, had found a mating pair of *Lestes sponsa* – Other species followed – a nervous ruddy darter which miraculously remained motionless for sufficient time to allow me to photograph it inexpertly with my new digital camera – a few common darters toward the farther end of the pond near the road – Several *Aeshna mixta* [?] zoomed past. Then, unmistakably, a huge *Anax imperator* soared across the parched mudflat and landed obligingly in a tree just by where we were sitting. There was little doubt of its identity even in flight (like the familiar Asiatic *A. guttatus* but more colourful) and two pairs of binos positively confirmed its identity. This was a late sighting, but not exceptional.

After lunch we made our way to another pond surrounded by woodland, but without dragonflies, and then finally to a green boggy patch bordering the main road. Here I disturbed an ovipositing female *Aeshna cyanea* – exquisitely banded in green it reminded me strongly of *Indaeschna grubaueri* of the South-east Asian rainforest.
However I have never known an aeshnid so personable. It hovered delightfully a foot in front of my face and oviposited repeatedly in a rotten log near where I sat. However it did not let me capture it, nor even touch it, despite many attempts, but for all my interference it insisted on returning to the same log for many minutes. By now it was past four o'clock, and apart from a Blue Tailed Damselfly, which I caught and subjected to undignified examination with my hand-lens, we saw little else. Our path to Wimbledon tube station mysteriously intersected with a very good pub, to which we repaired for some time to celebrate my sighting of five new species!

The following weekend took me further afield to Thursley Common, in the company of Jill Silsby and Rory Dow. After a wet and squally Friday, Saturday 30th August turned out to be glorious. As soon as we arrived at the lake we saw large numbers of *Sympetrum danae* and Common Blue Damselflies – again, netless, I was forced to capture a specimen by hand to be absolutely sure it was not an Azure Damselfly. The air was thick with Diptera too, and Red Admirals, Small Coppers, Tortoiseshells and Speckled Woods – an entomologist's delight. I was much distracted. From her director's chair, Jill spotted the dragonflies for me – *Aeshna grandis* made a majestic appearance, fluttering tantalizingly about the vegetation but never quite perching for a photograph. Rory and I walked off ostensibly in search of *Calopteryx*, but found ourselves on a boardwalk crossing a wonderful area of heath – There we saw countless *Sympetrum danae*, many *S. striolatum*, and fair numbers of *Orthetrum coerulescens* which perched obligingly on the boardwalk where they could be photographed. Both Rory and I caught independent glimpses of a broader blue-bodied insect – perhaps *Libellula depressa* – late in its season. Back at the pond we saw several large red-eyed damselflies sitting on waterlily leaves – my fifth confirmed new species for the day.

By this time the best of the day was past, so after much local enquiry we found ourselves lunching al fresco at a pub built over a millstream. Our earnest hope was that the stream should harbour *Calopteryx*, but alas we saw none - So by way of consolation we returned to Jill's flat and drank French wine, rounding off what had been the almost perfect day. I continued to see *Aeshna mixta* throughout my stay, but little else. Before I left on 27th September the days were shortening with appalling rapidity. Here we have entered the second month of spring, riotously proclaimed by birds, butterflies, moths - and dragonflies, always the latecomers. For the moment, to my sensitised London eye which would rejoice at the sight of a Blue-tailed Damsel or a Large White Butterfly, it is almost too much for the senses to bear, but soon I expect to revisit my own fauna with renewed appreciation. This is not I stress because it is in any sense a better or more interesting fauna. Rather, I have once more caught the ethos of English natural history which is to appreciate organisms and landscapes with a rare intimacy, interacting with nature in art and literature in a simple, matter of fact way that we in Australia have not yet achieved. *29 September 03*

Caliaeschna microstigma and me – Milen Marinov

It was in July 1991 when, as a biology student, I first visited the Sofia University Botanic Garden in the Black Sea resort of "St. Konstanitn & Elena" – Varna. Walking along the garden paths, my attention was attracted by the pale bluish abdomen of an aeshnid flying between the bushes at about a metre above the ground. I didn't realise that this was the beginning of one of my

greatest friendships within the dragonfly world. I promised myself I would come again but it was not until I had obtained my degree and no longer had student obligations, that I could spend time following the daily activity of this remarkable species from 7.30 in the morning until 9 in the evening. I did it with great pleasure and made so many interesting observations that I decided if I ever had the chance to choose the creature I might be reborn as, I would choose to be a dragonfly. Later when read the articles published by Frank Hecker (*Libellula, Supplement 2, 1999*) and Michael Breuer & Efrosini Douma-Petridou (*Libellula, Supplement 3, 2000*) I was pleasantly surprised to find their observations coincided with mine.

What first surprised me was the fact that I was seeing aeshnids in big numbers far from stagnant water. Within the area there was a small fast-flowing stream at the bottom of a totally shaded gully, but no still water. At one place, exposed to the sun, the stream was flooded to form a small lake so that it totally fitted the Breuer & Douma-Petridou (2000) parameters for an ideal *Caliaeschna microstigma* habitat. During consequent visits I trod a small area of about 200m beside the stream, making a path for myself by smashing the bank vegetation (mainly *Equisetum* spp.) while the water surface itself was almost completely covered with *Berula erecta*. Each year I visited the area I found very little had changed and it was a real pleasure to return to the same place knowing in advance what I could expect. Here is a brief description of my most interesting observations.

Caliaeschna microstigma individuals were most active in early afternoon till about 4 o'clock. After that activity diminished, to explode again a couple of hours later. Then they started to gather together over the pool and perform their well-known group flight, which usually continued until after sunset (I could generally count about 60 to 70 individuals). It was a hunting flight and all individuals captured during that time had unchewed insects in their mouths. Prey was almost invariably consumed in flight although I did once observe a male perched in order to deal with a particularly large *Pieris sp.* No aggressive interaction was observed during these group flights, but males did show high aggressiveness on arrival in the morning, particularly when flying over temporarily occupied areas on the water surface or over the smashed-by-me vegetation. I've seen strong attacks and even heard the sound of the crash when two males met frons to frons.

Watching carefully, I could detect two types of flight: 'fl*y'* and ``b*ee'*. During the former, males stayed in the air for lengthy periods, with little wing movement but with sharp, frequently changed flight direction, thus resembling a dipteran's flight. Males flew in this way when hunting, defending temporary territories or moving along the stream. Typical of the latter flight was that individuals passed about 10-20 cm over water surface, moving slowly for short periods, while slightly shaking the body, as hymenopterans do. They would often approach the steep bank, even touching it with their frons. These two types of flight coincide with those named by Hecker (2000) - "*Jagdflug*" (*fly*) and "*Suchflug*" (*bee*) but, in my opinion, the difference between the two types of flight is not always clearly seen.

When not active, individuals choose to rest (with their abdomen perpendicular to the surface beneath), roost and probably mature in the branches of tall trees some 60 to 100 m away from the stream. Tenerals emerged early in the morning and flew directly up to the treetops. The same places were used for copulation although I failed to observe the whole process as tandem couples flew immediately up into the canopy. I observed females ovipositing alone, perched on damp ground near the steep stream's banks. They laid eggs on closely situated places, staying at one spot usually for between 30 to 90 seconds.

That was how it started - and now, more than 10 years later, they still surprise me and offer new aspects of behaviour. In May 1995 I found them in a mountain spring in Eastern Balkan, situated more than 50 km from the Black Sea coast. Earlier in that year larvae appeared under stones in the biggest Strandja Mt. river – Veleka, and in 1999 I found sure evidence that *C. microstigma* larvae could inhabit lithorheophilic *coenosis*. Their larvae are known to be of capable of walking out of the water (Beshovki 1964), but I didn't expect they could climb perfectly as well: the highest position I've seen exuviae was about 2,15m. In 1997 some males were seen in a stream in the northerly town of Kavarna. When I saw the earliest emerged individual for the year (on 08.05.2001) I decided that that should be the last surprise, but in the very next year it offered yet another - well-developed *C.microstigma* population in Northern Bulgaria before the Balkan. I first found a dead specimen in the town of Troyan but decided a car could have carried this accidentally, as it was not expected to find this Mediterranean species so far North and West from the Black Sea. But five days later some 20 km to the West near the village of Shipkovo, *C.microstigma* gave me its yearly portion of emotions – there were more. So, I wonder what else? I hope they will not disappoint me and that I will not have to wait too long for yet another surprise.

Obituary

MINTER J. WESTFALL, JR. PASSES AWAY - Ken Tennessen

[The following is an obituary of Minter Westfall, written by his friend and former student, Ken Tennessen. With Ken's permission, I have edited it for length, and he kindly allowed me to arrange that it be reprinted here. Although Minter was not a member of WDA, he was a teacher, friend and inspiration to many of its members, and it's only appropriate, I think, that we remember him and his many contributions to our science – *Mike May*]

Minter Jackson Westfall, Jr. died peacefully at his home in Gainesville, Georgia on July 20, 2003, at the age of 87. With Minter's passing, a chapter in the history of Odonatology is closed. His name will be revered along with the likes of other great 20th century odonatologists before him, such as Calvert, Walker, Williamson and Lieftinck, to name a few. He touched the lives and careers of nearly all North American odonate workers and influenced the entire world dragonfly community. His strength faded only in the last couple of years. To say Minter was devoted to dragonfly study is an understatement, but he was even more devoted to his family and his Christian faith. His son David, daughters Carol and Holly, and numerous grandchildren and great grandchildren survive him. Our condolences to each of them.

Minter's wife, Margaret, passed away three years ago [see M. May, **ARGIA** 12(1):4-5]. Their son David said that, in his words, his father was "ready to go join Margaret." Through their years together, they graced many national and international symposia on Odonata and travelled on collecting trips to many parts of the world. They made lasting friendships wherever they went because they cared about people. Throughout his career, from his first publication on Odonata at age 25 (1941, Notes on Florida Odonata, Entomol. News 52:15-18,31-34) until his last in 2000 (Dragonflies of North America, Revised Edition), Minter was respected and renowned by hundreds of odonatologists. For those who did not get the chance to meet him, his books, papers, and letters nourished all.

Minter was a natural teacher, beginning at a very early age teaching nature study to boy scouts in North Carolina, all the while slipping in facts about dragonflies. Early on, Minter was greatly influenced by Edward M. Davis and James G. Needham, both of whom steered him toward dragonfly study. He completed his Ph.D. at Cornell in 1947 and found a teaching position at the University of Florida. His career in Zoology there spanned 38 years. Throughout that time, he gave undivided attention to every student who sought help, biology major or not, however long it took. At times his devotion to students took valuable time from his research on Odonata. At other times, he was responding to letters from around the world posing difficult questions on odonate taxonomy. He still had to find time for attending staff meetings, counselling graduate students, refereeing papers, and preparing the newsletter SELYSIA. All in all he authored or co-authored over 50 refereed journal papers and book chapters on dragonflies and contributed many notes concerning Odonata and Odonatologists in society newsletters. In hindsight, I think his greatest professional contributions were the help he gave to others who were interested in studying dragonflies (he was so generous with his knowledge and time, it often meant delaying work on his own papers), and secondly his use of larvae toclarify taxonomic relationships.

Minter introduced 16 new taxa of Odonata to science, namely the genus *Elasmothemis* (1988), and 15 species and one subspecies: *Enallagma davisi* (1943), *Libellula needhami* (1943), *Macromia margarita* (1947), *Celithemis bertha leonora* (1952), *Gomphus (Gomphurus) septima* (1956), *Philogenia leonora* (1956, and *Philogenia zeteki* (1956, with R. B. Cumming), *Telebasis byersi* (1957), *Protoneura viridis* (1964), *Gomphus (Gomphurus) ozarkensis* (1975) *Protoneura sanguinipes* (1987), *Micrathyria divergens, M.dunklei, M. occipita*, and *M. pseudeximia* (1992), and lastly, *Erythrodiplax bromeliicola* (2000).

One of Minter's favourite subjects for study was the larval stage. He reared and described too many to list here, but most notable were his papers on larval Gomphidae and Zygoptera. When he discovered the larva of *Elasmothemis cannacrioides*, which was so different from the larvae of *Dythemis*, it convinced him that the group deserved generic rank.

When, in 1996, he left the Florida State Collection of Arthropods in Gainesville, Florida to move close to his son David in Gainesville, Ga., he left a file drawer with several unfinished ms.s and drawings on temperate and tropical Odonata larvae.

The respect and admiration other Odonatologists had for Minter Westfall is evidenced by the nine taxa that have been named for him: *Metaleptobasis westfalli* Cumming (1954), *Enallagma westfalli* Donnelly (1964), *Hetaerina westfalli* Rácenis (1968), *Ophiogomphus westfalli* Cook & Daigle (1985), *Epigomphus westfalli* Donnelly (1986), *Philogenia minteri* Dunkle (1986), *Gomphus westfalli* Carle & May (1987), *Epipleoneura westfalli* Machado (1986), *Argia westfalli* Garrison (1996).

Minter was awarded the Membership of Honour in S.I.O. (Societas Internationalis Odonatologica) in Ste. Therese, Canada in 1979. In 1986, on his 70th birthday, an entire issue of Odonatologica was dedicated to him. Less than a year ago [see **ARGIA** 14(3):4], Minter was named an Honorary Member in the Dragonfly Society of the Americas, proposed by one of his students, Dr. Sidney W. Dunkle. Many other honours and tributes were conferred upon him over the years.

I first met Dr. Minter Westfall in 1968 when I went to Gainesville to attend the University of Florida and begin pursuit of a Master's degree in Entomology. It didn't take long to know I was in the right place. Minter put me to work right away researching damselfly taxonomy for his forthcoming Zygoptera manual, which much later (1996), with the collaboration of Dr. Mike May, became the sequel to the famous 1955 Anisoptera Manual that Minter had co-authored with James G. Needham. The Anisoptera Manual has also been revised (2000), again with Mike's help, and together these two books serve as the foundation for identification of North American Odonata.

Through the 35 years I knew him, three of Minter's qualities really got through to me, though I'm not sure he consciously taught these things. These are: 1) study the entire biology of dragonflies if you want to understand their true nature, 2) take great care that you have it right before you publish (or edit and re-edit), and 3) persevere. I have never met another person more tenacious in their approach to furthering scientific knowledge. When on a seemingly impossible bibliographic search, he was a bloodhound. And watching him dredge all day with that cumbersome steel Needham scraper is etched in my mind forever. I think I am going to miss him in more ways than I realize right now. But I also feel unendingly rich in a way, for having known Minter Westfall gives me great inspiration to continue pursuing knowledge of the Odonata.

[**For biographic details of Dr. Minter J. Westfall, Jr., and a bibliography up to 1985, see Odonatologica 15:5-17]**

Reviews.

Dragonflies – Steve Brooks. The Natural History Museum, Cromwell Road, London SW7 5BD. ISBN: 0-565-09180-8 (limpback). £9.95. 96 pp. 21 x 23.5 cm.

The printing and layout of this attractive book attain a high standard. The text comprises three main sections: chapters 1- 5 describe the structure, behaviour and ecology of Odonata; chapter 6 gives an annotated and illustrated account of the order's 29 families; and chapter 7 treats the interaction of humans and dragonflies. There is also a Glossary and Index and a section enumerating sources of further information, comprising literature and addresses of odonatological societies. The language used is precise and simple. The many colour photographs are of high quality and complement the text admirably.

The Odonata are treated on a global scale. The author's approach has been to draw information from two, recent, synoptic, secondary sources and thus avoid the need to cite primary literature for facts in the running text. This practice, appropriate for a book designed for the non-specialist reader, has been accomplished with consummate skill. Steve Brooks'

coverage of detailed and specialised information presents the reader with an accurate and balanced overview of odonate biology in a form that is easy to read and digest. To achieve such a compilation for an insect order about which so much is known presents a daunting task. For one thing, the compiler must attempt generalisations, sometimes from a variable array of facts, without sacrificing accuracy; and for another, there lurks the continuing challenge of having to decide what to leave out, again without obscuring the overall picture. Steve Brooks has achieved this task so effectively that the reader can almost be unaware of its inherent difficulty.

In any book as comprehensive as this some readers will identify topics that they would like to have seen treated differently. Recognising the high likelihood that a second edition will soon be needed, I offer here a few suggestions, and a correction, that may be worth the author's notice when a revision takes place. The suggestions largely reflect individual taste and in no way detract from my opinion that this is a valuable and excellent book. First, the convention (observed by the British Dragonfly Society, by the Dragonfly Society of the Americas and by Dunkle 2000) whereby approved English names are dignified by having capital initial letters is in my view the preferred option; second, the muscular abdominal diaphragm of anisopteran larvae plays such a varied and important functional role in larval behaviour as to deserve mention; third, the view that the suborder Anisozygoptera occurred only during the Triassic, Jurassic and Cretaceous (see Nel et al. 1993; Bechly 1995; Carpenter 1992) commands sufficient respect that the unqualified statement that the extant family Epiophlebiidae belongs to that sub-order is misleading; fourth, the monotypic genus *Amanipodagrion* (p. 72) is known only from East Africa (see Clausnitzer 2003; and finally more could have been made of the rich and varied knowledge available about odonate life histories and the role of diapause in regulating them.

Philip Corbet – July 2003

A Fieldguide to the DRAGONFLIES of South Africa – Warwick & Michèle Tarboton. 2002. ISBN 0-620-29887-1. Privately published by the authors. Orders and enquiries via e-mail: wtarbotn@iafrica.com

This field guide emphases the fact that increasing numbers of birders are extending their interest to include dragonflies. Warwick is a well-known ornithologist and a co-author of one of the very best African bird books. He and his wife's new book will be of inestimable value to nature lovers in South Africa and it fills a yawning gap in the country's scant Odonata literature.

Although the sections on classification, life cycle, food and foraging habits will be of help and great interest to the ever-growing number of dragonfly-watchers in South Africa, it is in identification that the book will prove of greatest value to odonatologists living in and visiting the country – and its neighbours. As the authors say "The purpose of this guide is to provide a means of identifying all the true dragonfly species in South Africa" and anyone who has tried to separate species within the genera *Orthetrum* and *Trithemis* (for example) will find their task made infinitely easier with this field-guide in their pocket. Both sexes of most species are illustrated from above and from the side; the brief accompanying text for each species includes a distribution map and a clear and succinct description of the individual's occurrence and identification. In the case of particularly difficult species, the authors have included detailed line drawings of relevant parts of the body. The differences between similar species are pin-pointed on the very clear illustrations and, in a number of instances, pictures of the dead specimen are accompanied by very attractive photographs of the living insect. Finally there are exceedingly useful keys to gomphid and libellulid genera, both illustrated by excellent line drawings. It must be emphasised that this is a field guide and, as such, it is of the greatest value.

There are two unfortunate errors on the page of Further Reading. The worst is the erroneous information given for the Worldwide Dragonfly Association, and the lesser one informing us that "Dragonflies of the World" is published by Natural History Museum, DEVON instead of London! Both these will be corrected in the sequel on Damselflies upon which the authors are presently working. The expected work will be very welcome! *Jill Silsby – November 2003*

Many Thanks – Linda Averill, Secretary

Many of you will by now have purchased the excellent book written by our newsletter editor, Jill Silsby and published in 2001 – Dragonflies of the World. There is now an accompanying CD Rom available, Dragonflies of the World. Interactive Identification to Subfamilies. Jill and her co-author of the CD Rom, John Trueman have been extremely generous in donating all the royalties from the CD Rom to WDA. So if you have not purchased the interactive CD why not treat yourself and help WDA in the process. The CD Rom is published by CSIRO Publishing, 150 Oxford Street, PO Box 1139, Collingwood, VIC 3066, Australia, full details on the WDA website at: http://powell.colgate.edu/wda/dragonfly.htm.

Another member who has been extremely generous to WDA is Mike Parr. Mike has been kind enough to donate the proceeds of the many talks he has given about dragonflies during 2003 to WDA.

The Board would also like to extend thanks to all members who have made additional donations to the work of WDA throughout 2003. Thank you all.

W.D.A. has its roots in Slovenia but its branches are spreading all over the world. Our 257 members are spread over 34 countries