

ODONATOLOGICAL ABSTRACTS

1989

- (15052) JARZEMBOWSKI, E.A., 1989. A century plus of fossil insects. *Proc. Geol. Ass.* 100(4): 433-449. — (Maidstone Mus. & Art Gallery, St Faith's St., Maidstone, Kent, ME14 1LH, UK).
Progress in palaeoentomology is reviewed since H. Goss (1878-1880), with special reference to the British fauna and including the geological histories of the major insect and hexapod groups (incl. Odon. and Protodonata). Other types of information provided by insect remains, including environment, adaptation and stratigraphy, are briefly discussed. A selected but substantial bibliography is appended.

1990

- (15053) DONATH, H., 1990. Seltene Insektenarten im Kreis Calau. *Heimatkalendar Calau* 1990: 35-36. — (Luckauerstr. 1, D-03246 Fürstlich Drehna).
Concise notes on the biology of *Cordulegaster boltonii*, based on the 1986/1987 field observations. In the district of Calau (E Germany), the sp. is abundant in the Cabeler Berge.

1991

- (15054) JARZEMBOWSKI, E.A., 1991. The Weald Clay of the Weald: report of the 1988/90 Field Meetings. *Proc. Geol. Ass.* 102(2): 83-92. — (Maidstone Mus. & Art Gallery, St Faith's St., Maidstone, Kent, ME14 1LH, UK).
The Lower Cretaceous (Hauterivian/Barremian) geology of the Auclay, Clockhouse and Smokejacks Brickworks (Kent-Surrey-Sussex, UK) is described. References are made to *Cretacoenagrion alleni*, *Valdaeshna surreyensis*, and to various other odon. fossils.

1992

- (15055) VAN DER HAMMEN, H., 1992. *De macrofauna van het oppervlakte water van Noord-Holland. Een aquatisch-biologische studie: inventarisatie, verspreidingspatronen, tijdreeksen, classificatie van wateren.* — [*Macrofauna of the Noord-Holland surface waters*]. Prov. Noord-Holland, Haarlem. 256 pp., 1 fold. map excl. [PhD diss. Univ. Nijmegen]. ISBN 90-72624-36-X. (Dutch). — (Publishers: Dienst Ruimte en Groen, Prov. Noord-Holland, P.O. Box 6090, NL-2001 HB Haarlem).
Includes information on the occurrence, distribution, habitat features (incl. Cl mg/l) for 11 identified odon. spp. in Noord-Holland prov., the Netherlands.

1993

- (15056) CLOPTON, R.E., T.J. PERCIVAL & J. JANOVY, Jr, 1993. *Nubenocephalus nebraskensis* n. gen., n. sp. (Apicomplexa: Actinocephalidae) from adults of *Argia bipunctulata* (Odonata: Zygoptera). *J. Parasitol.* 79(4): 533-537. — (Sch. Biol. Sci., Univ. Nebraska, Lincoln, NE 68588-0118, USA).
The new eugregarine gen. & sp. are described from trophozoites, sporonts, gamonts and oocysts, collected from adult and larval *A. bipunctulata* and *Enallagma civile*, at Bowling Lake, Lancaster Co., Nebraska, USA.
- (15057) LOTZING, K., 1993. Die Odonatenfauna der Schlöteiche bei Zens im Landkreis Schönebeck. *Mitt-Bl. ent. Ver. Sachsen-Anhalt* 1: 9-13. — (Am Hollschen Bruch 4 c, D-39435 Unseburg).
A commented list of 16 spp.; — Schönebeck distr., Sachsen-Anhalt, E Germany.
- (15058) MEDRANO, G., 1993. Field records of some

predators of freshwater mosquitoes in Flagler county, Florida. *J. Fla Mosq. Control Ass.* 64(1): 24-25. — (East Flagler Mosquito Control Distr., 24 Utility Dr., Palm Coast, FL 32137, USA).

1 aeshnid and 5 libellulid spp. are listed as mosquito predators in Flagler Co., Florida, USA.

1994

- (15059) SANDHU, R. & S. GULATI, 1994. Karyological study of some libellulids from Himachal Pradesh State (India) (Anisoptera: Odonata). *Bioved.* 5(1): 21-32.

[Not available; reference & abstract from: *Bibliography of Indian zoology*, Vol. 31 (2001), Zool. Surv. India, Calcutta, p. 22, ISBN 81-85874-54-8]. The study includes observations on chromosomal numbers, sex determination and X:m ratio in ♂ *Brachythemis contaminata*, *Crocothemis servilia glaucum*, *Trithemis aurora* and *T. pallidinervis*. All of these show the typical odon. number, $n = 13$.

- (15060) STOKS, R., L. DE BRUYN & E. MATTHYSSEN, 1994. Reproductive behaviour in *Lestes sponsa* (Zygoptera: Lestidae). *Scient. Progr. Lecture Poster Abstr. 1st Benelux Congr. Zool., Leuven*, p. 88. — (First Author: Dept. Aquat. Ecol., Univ. Leuven, De Bériotstraat 32, B-3000 Leuven).

An informative poster abstract; see the papers listed in OA 11143 and 11619.

- (15061) STOKS, R., S. DE VOCHT, M. SANTENS, E. FIRQUET, W. STILMANT, S. HEYLEN, B. VAN DE VIJVER, B. VAN HOOYDONCK & L. DE BRUYN, 1994. Microhabitat induced effects on larval *Enallagma cyathigerum* (Odonata). *Scient. Progr. Lecture Poster Abstr. 1st Benelux Congr. Zool., Leuven*, p. 88 [abstract only]. — (First Author: Dept. Aquat. Ecol., Univ. Leuven, De Bériotstraat 32, B-3000 Leuven).

The differences in phenology, sex ratio and morphological features of the larval populations in a Sphagnum and in a *Juncus effusus* habitat were investigated. Significantly more larvae emerged from Sphagnum. These emerged also earlier than *Juncus* larvae. In *Juncus* the sex ratio is ♂ biased, while in Sphagnum it is not significantly different from 1:1. No size differences were found in the exuviae between the 2 groups. In *Juncus* the larvae show a higher degree of fluctuating asymmetry compared to those in Sphagnum.

1995

- (15062) CLOPTON, R.E., 1995. *Domadracunculus*

janovyi n. gen., n. sp. (Apicomplexa: Actinocephalidae) from adults of *Ischnura verticalis* (Odonata: Zygoptera) in Texas. *J. Parasitol.* 81(2): 256-259. — (Sch. Biol. Sci., Univ. Nebraska, Lincoln, NE 68588-0118, USA).

The new eugregarinide gen. & sp. are described from trophozoites, gamonts and oocysts. The odon. originate from Country Club Lake, Bryan, Brazos Co., Texas, USA.

- (15063) DOLMEN, D., 1995. Habitatvalg og forandringer av øyentstikkerfaunaen i et sørlandsområde, som følge av sur nedbør, landbruk og kalking. — Habitat and changes of the dragonfly fauna in an area of southern Norway, as a consequence of acid precipitation, agriculture, and liming. *Vitenskapsmus. Rapp. zool. Ser.*, Trondheim 1995(2): 1-86. (Norw., with Engl. s.). — (Mus. Nat. Hist. & Archaeol., Univ. Trondheim, N-7004 Trondheim).

The odon. assemblages of 152 lakes in agricultural and acidified areas of Aust-Agder Co. were studied and compared with the odon. fauna of the 1930/40s. The species occurrence differed depending on the elevation, pH, conductivity, and water colour of the localities (all documented sp.-wise in graphs). 4 species-groups were discerned, viz. euryecious, bog, lowland oligo/mesophyllic, and lowland meso/eutrophic spp. Many spp. are threatened, mostly so by wetland draining, strong eutrophication, and by pollution. Due to acidification, some spp. have locally disappeared since the 1930/40s (*Calopteryx virgo*, *Coenagrion puella*, *Erythromma najas*, [?] *Orthetrum coerulescens*, *Leucorrhinia albifrons*, *L. caudalis*). In the farmland areas, however, the influence of agriculture has stabilized or even increased the pH level. Liming has a similar effect. Moderate agriculture has a positive influence on the odon. fauna, but intensive agriculture seems to have a negative impact or even eradicates the rare rheophile spp. (*C. virgo*, *Onychogomphus forcipatus*, *Cordulegaster boltonii*), *O. coerulescens* and those associated with oligotrophic bog habitats (*Aeshna caerulea*, *A. subarctica*, *Somatochlora arctica*). The industrial effluents are causing biodiversity decrease along a watercourse. Among the spp. that rarely or never occurred in acidified waters are *C. virgo*, *E. najas*, *C. puella*, *C. pulchellum*, *Ischnura elegans*, *Brachytron pratense*, *C. boltonii* and *O. coerulescens*. *Leucorrhinia dubia* is unique in being significantly most frequent in acidic (pH 6.0) and even in extremely acidic (pH 4.6) localities. Limed habitats harbour often a relatively high number of spp., but the liming triggers the disappearance of typical bog spp., such as *Coenagrion lunulatum* and *A. caerulea*.

- (15064) STOKS, R., L. DE BRUYN & E. MATTHYSSEN, 1995. Population structure of the damselfly *Lestes*

sponsa. Scient. Progr. *Lecture Poster Abstr. 2nd Benelux Congr. Zool., Leiden*, p. 129. — (First Author: Dept Aquat. Ecol., Univ. Leuven, De Bériotstraat 32, B-3000 Leuven).

A concise, informative abstract of a poster. For an indicative version, see OA 12564.

- (15065) WANG, S. & Y. ZHAO, 1995. *A history of entomology in modern China (1840-1949)*. Tian-ze Publ. House, Shaanxi. xvi+230 pp., 8 black-and-white pls excl. Softcover (13.0×18.6 cm). ISBN 7-5369-2437-2. (Chin., with Engl. title). — Price: € 15.45.
The odon. studies are briefly outlined on p. 114, with reference to the works of Rambur, Selys, Brauer, Ris, Navas and Needham. — See also OA 3264 and 6927.

1997

- (15066) GU, B., V. ALEXANDER & D.M. SCHELL, 1997. Stable isotopes as indicators of carbon flows and trophic structure of the benthic food web in a subarctic lake. *Arch. Hydrobiol.* 138(3): 329-344. — (Second & third Author: Inst. Marine Sci., Sch. Fish. & Ocean Sci., Univ. Alaska, Fairbanks, AK 99775-1040, USA). Stable carbon and nitrogen isotope compositions ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$) of sediment fine organic matter, primary producers and benthic invertebrates from Smith Lake, Alaska, were analysed to track carbon pathways and trophic interactions in the benthic community. Data are provided for Enallagma, Aeshna and Cordulia.
- (15067) KUMAR, A., 1997. Odonata. In: Director Zool. Surv. India, [Ed.], *Fauna of Nanda Devi Biosphere Reserve*, pp. 45-47, Zool. Surv. India, New Delhi, ISBN 81-85874-00-X. — (Northern Regional Stn, Zool. Surv. India, Dehra Dun-248195, India).
With brief annotations, Calicnemia eximia, C. miles, C. pulverulans, Megalestes major, Cephaloeschna orbifrons and Cordulegaster b. brevistigma are listed from the elevations of 1800-2900 m in this Himalayan reserve, India.
- (15068) VAN AS, B., 1997. *Inventarisatie van flora en fauna in het Volksbos Lickebaert* — [Flora and fauna inventarisatie of the Volksbos Lickebaert]. Van As, Vlaardingen. 58 pp. (Dutch). — Author & Publisher: Insulindestraat 63, NL-3131 ZD Vlaardingen).
The site is located in the Aalkeet Binnen Polder, N of Maassluisdijk nr Rotterdam, the Netherlands. On pp. 41-42, a commented list is presented of 9 odon. spp. (1995-1996).

1998

- (15069) PAULIAN, R., 1998. *Les insectes de Tahiti*. Boubée, Paris. 331 pp. Softcover (15.8×23.8 cm). ISBN 2-85004-090-8. Price: € 26.- net. — (Publishers: 9 rue de Savoie, F-75006 Paris).
3 Zygoptera and 10 Anisoptera spp. are known from the Tahitis; Ischnura tahitiensis is endemic. On pp. 56-58, these are listed and the genera are keyed. The bibliography is provided.
- (15070) PROKOP, J., 1998. Fossil insects from the Lower Miocene locality Bilina (brown coal mine) in northern part of the Czech Republic. *Abstr. 6th Europ. Congr. Ent., České Budějovice*, p. 314. — (Dept Palaeont., Charles Univ., Albertov 6, CZ-12843 Praha-2).
Includes a reference to "Aeshnidae gen. n., sp. n.", subsequently described as Merlax bohemicus Prokop & Nel, 2000 (cf. OA 14946).
- (15071) RYAZANOVA, G.I., 1998. The gonad size determines results of the territorial conflict in male Calopteryx splendens Harris (Odonata). *Abstr. 6th Europ. Congr. Ent., České Budějovice*, pp. 415-416. — (Dept Ent., Fac. Biol., Lomonosov Univ., RUS-119899 Moscow).
It is shown that in the ♂, its dominant status during reproduction and its success in territorial conflicts are mainly determined by the relative size of the gonads and by the corresponding level of hormonal activity rather than by the size of the individual and the right of the first owner.

1999

- (15072) DELARZE, R., Y. GONSETH & P. GALLAND, 1999. *Lebensräume der Schweiz: Ökologie, Gefährdung, Kennarten*. Ott, Thun. 415 pp. Hardcover (17.4×24.5 cm). ISBN 3-7225-6749-1. Price: CHF 59.- net.
A systematic description of all biotope types occurring in Switzerland. Each biotope is presented on 2 pp.; the treatment includes a description of the general appearance and ecology, relationship to man, biotope requirements and its definition, phytosociological composition, guide- and characteristic plant and animal spp., occurrence in Switzerland (maps), and the current status in Switzerland. The characteristic odon. spp. are listed for 14 biotopes as follows: *Potamion* (Platycnemis pennipes), *Lemnion* (Erythromma viridulum), *Nymphaeion* (Erythromma najas, Aeshna juncea, Anax parthenope), *Epipotamon* (Gomphus simillimus, Ophiogomphus cecilia), *Hyporhithron* (Calopteryx splendens, Gomphus vulgatissimus),

Metarhynon (*Calopteryx virgo*, *Pyrrhosoma nymphula*), *Sphagno-utricularion* (*Coenagrion hastulatum*, *Leucorhinia albifrons*), *Phragmition* (*Sympecma fusca*, *Anaciaeschna isosceles*, *Brachytron pratense*, *Epitheca bimaculata*, *Somatochlora flavomaculata*), *Glycerio-sparganion* (*Cordulegaster boltonii*), *Magnocaricion* (*Lestes virens*, *Sympetrum depressiusculum*), *Caricion fuscae* (*Aeshna caerulea*, *Somatochlora alpestris*, *Sympetrum danae*), *Caricion davallianae* (*Ceriagrion tenellum*, *Ischnura pumilio*, *Orthetrum coerulescens*), *Caricion lasiocarpae* (*Aeshna subarctica*, *Somatochlora arctica*, *Leucorhinia dubia*, *L. pectoralis*), and *Salicion elaeagni* (*Chalcolestes viridis*). — Generally, this is a very valuable and highly useful handbook. The original (French) edn was published by Delachaux & Niestlé (1998).

- (15073) JIANG, S., 1999. *Medical insects integration in China*. China Forestry Publ. House, Beijing. vi+351 pp. Softcover (18.4×26.5 cm). (Chin., with Engl. title & hardly comprehensible s.). ISBN 7-5038-2256-2. — Price: € 25.74 net.

This is presented as a "reference book" on the subject; the odon. are dealt with on pp. 18-21. For a much better work, see OA 2870.

- (15074) ROSS, S. & M.F. O'BRIEN, 1999. *Williamsonia lintneri* (Odonata: Corduliidae): a first Michigan record with additional notes on *W. fletcheri*. *Great Lakes Ent.* 32(3): 201-205. — (First Author: 16809 125th Ave, Rodney, MI 49342, USA).

Both spp. appear to be bog/fen-obligate inhabitants, and adults may appear as early as late Apr. in Michigan. In addition, the N American distributions of both spp. are summarized.

- (15075) STEFFENS, W.P. & W.A. SMITH, 1999. New distribution records for Minnesota Odonata. *Great Lakes Ent.* 32(3): 219-223. — (First Author: 1993 Holm Rd, Two Harbors, MN 55616, USA).

Several Minnesota state record Odon. (*Coenagrion interrogatum*, *Aeshna subarctica*, *Ophiogomphus anomalus*, *Stylogomphus albistylus*, *Stylurus scudderi*) are reported along with notes on the distribution and habitat of *Aeshna sitchensis*. New county records for Minnesota spp. are also included.

2000

- (15076) HUA, L.-z., 2000. *List of Chinese insects*, Vol. 1. Zhongshan Univ. Press, Guangzhou. vi+445 pp. Hardcover (21.0×28.0 cm). ISBN 7-306-01701-2. Price: ¥

280.- net.

A fairly incomplete checklist of the Odon. of China (a (incl. Taiwan and Tibet) appears on pp. 6-15, 251 (addenda). The annotations include some synonymy and information on the province-wise species occurrence. There are some errors in the spelling of taxonomic names.

- (15077) SCHULTZ, T.D., 2000. *Libellula flavida* (Odonata: Libellulidae), a dragonfly new to Ohio. *Great Lakes Ent.* 33(3/4): 205-207. — (Dept Biol., Denison Univ., Granville, OH 43025, USA).

A breeding population in a Sphagnum fen in Pike Co. is brought on record. The habitat is described and notes on behaviour are provided.

2001

- (15078) FANG, Z. & H. WU, [Eds], 2001. *A checklist of insects from Zhejiang*. China Forestry Publ. House, Beijing. vi+452 pp. ISBN 7-5038-2904-4. Softcover (18.5×25.5 cm). (Chin., with Engl. title).

An annotated checklist of 163 odon. spp. (pp. 4-9).

- (15079) HEIKOOP, J.E., L. VAN DER HOEK & W. REVET, 2001. *Libellen langs natuurvriendelijke en traditionele oevers in Gouda, 2000*. — [*Dragonflies along natural-like and traditional banks at Gouda, 2002*]. Gemeente Gouda, Afd. Milieu, Gouda. 72 pp., 5 App. (incl. map) excl. Softcover (20.8×29.5 cm), spiral binding. ISBN none. (Dutch). Price: € 22.50 net. — (Publishers: Gemeente Gouda, Stadskantoor, Agnietenstr. 24, 2801 HX Gouda).

This is a report on the first yr of a long-term inquire into the effects of bank condition on the odon. fauna in the city area of Gouda, Zuid Holland prov., the Netherlands. 1 km of "natural" and 1 km of "traditional" (often embanked) bank stretches were systematically surveyed (8 May-10 Sept.). 19 spp. were sighted; all of these occurred along the natural banks, but 12 spp. frequented also the "traditional" sections. The number of individuals on gently sloping banks (with small bays) was almost 3 times higher than along the timber-embanked sections. The "traditional" banks, exposed to sunshine during 2-6 h daily, yielded ca 5 times more individuals than those with 0-2 h of sunshine. Water bodies, the surface of which was no more than up to 25% covered by floating *Lemna*, yielded ca 4 times more odon. individuals than those covered for 51-100%. Intense bank mowing caused a 75% decrease in odon. occurrence, particularly so where these were mowed close to the water's edge. — Cf. also OA 14083.

(15080) KHAN, R.A. & L.K. GHOSH, 2001. Faunal diversity of aquatic insects in freshwater wetlands of south-eastern West Bengal. *Rec. zool. Surv. India* (Occ. Pap.) 194: 1-104. Price: US \$ 10.- net. — (Zool. Surv. India, M-Block, New Alipore, Calcutta-700053, India).
20 wetlands of almost all types were surveyed (1991-2000) in 6 districts, on either side of the Ganga R. 19 odon. spp. are listed, briefly described and keyed, and brief field notes are provided on each sp.

2002

(15081) CLEARY, D.F.R., A.Ø. MOOERS, K.A.O. EICHHORN, J. VAN TOL, R. DE JONG & S.B.J. MENKEN, 2002. Diversity and community composition of butterflies and odonates in an ENSO-induced fire affected habitat mosaic: a case study in East Kalimantan, Indonesia. In: D.F.R. Cleary, *Biodiversity and environmental change in the rainforests of Borneo*, pp. 79-110, PhD diss., Univ. Amsterdam, ISBN 90-76894-27-2. — (c/o J. van Tol., Naturalis, P.O. Box 9517, NL-2300 RA Leiden).

Little is known about how diversity of tropical animal communities changes with distance and with a varying environment, especially when the habitat-matrix has recently been modified: Here, levels of species richness, evenness, and community similarity of butterflies and odon. in a habitat mosaic that was severely affected by the 1997/98 ENSO (El Niño Southern Oscillation) event in E Kalimantan, Indonesian Borneo are assessed. These variables are related to variation at landscape scale in the habitat structure of differentially disturbed habitats. Post-ENSO species richness was higher for both taxa in a once-burned habitat than in either primary or twice-burned habitat. All 3 habitats, however, had a significantly depauperate butterfly fauna (mean and total rarefied species richness post-ENSO was 35-66% lower) compared to values from the same area that were recorded pre-ENSO. Variation in community similarity was explained by a reduction in similarity between plots in primary and burned forest (49% for butterflies and 6% for odon.) and by reduction of similarity with distance (22% for butterflies and 21% for odon.). Local habitat structure was relatively unimportant in predicting variation in community similarity of both taxa. Results emphasise the importance of an altered habitat-matrix in influencing patterns of biodiversity in tropical forest and indicate that environmental information needs to be assessed at greater spatial scales than is generally done. It is discussed how these findings may be related to the much larger phenomenon of ENSO-induced disturbance.

(15082) CLEARY, D.F.R., D. WIELAKKER, A.M. BIJLMER & M.J. GENNER, 2002. Alpha and beta diversity of Bornean rainforest assemblages. In: D.F.R. Cleary, *Biodiversity and environmental change in the rainforests of Borneo*, pp. 65-77, PhD diss., Univ. Amsterdam, ISBN 90-76894-27-2. — (Authors' addresses not stated).

Recent theoretical work has suggested that assemblage structure in rainforest biota is not the result of environmental determinism but rather has arisen through stochastic processes and dispersal limitations. Using data collected in Borneo from more than 1000 spp. belonging to butterflies, odon., lianas and trees, the relationship between distance, a set of environmental variables, and community structure was examined. It was found that environmental variables significantly explained variation in all 4 groups, but geographic distance only proved significant in lianas. These results emphasise the importance of the environment in determining the flora and fauna present within a habitat. — It was also assessed whether patterns of spatial diversity were consistent among the 4 groups. In correspondence with previous studies of tropical biomes no relationship was found between patterns of alpha diversity among taxa. Patterns of biota diversity, however, proved to be significantly congruent. It is suggested that studying patterns of biota diversity of groups of spp. can provide important insights into ecological processes and may be used to predict patterns of other spp. with which they share a habitat.

(15083) FISCHER, U., 2002. Weiterer Fund der Südlichen Mosaikjungfer (*Aeshna affinis* v.d.Linden, 1820) in Thüringen. *Mitt. thüring. EntVerb.* 9(2): 23-24. — (Büro Landschaftsökol., A.-Günther-Str. 12, D-08340 Schwarzenberg).

4 specimens are brought on record: Gera distr., Thuringia, E Germany, 30-VII-2002.

(15084) HANCOCK, E.G., 2002. Scottish insect records for 2001. *Glasgow Naturalist* 24(1): 29-33. — (Zool. Mus., Graham Kerr Bldg, Univ. Glasgow, Glasgow, G12 8QQ, UK).

Sympetrum striolatum (Clyde Reserve, S Lanarkshire) is the only odon. sp. listed.

(15085) HEIDEMANN, H. & R. SEIDENBUSCH, 2002. *Die Libellenlarven Deutschlands*. Goecke & Evers, Keltern [*Tierwelt Deutschlands* 72], 328 pp. Hardcover (17.5x24.4 cm), ISBN 3-931374-07-6. Price: € 42.- net. — (Publishers: Sportplatzweg 5, D-75210 Keltern; — First Author: Au in den Buchen 66, D-76646 Bruchsal). It was a happy decision to include this (by now classical)

- work into the *Tierwelt Deutschlands* series, which makes it readily available and widely circulated. The original edn has appeared in 1993 (cf. *OA* 9273), and a French edn in 2002 (cf. *OA* 14503). In the same series, the (adult and larval) odon. were treated by E. May in the remote 1933 (Vol. 27). At that time, that was a leading work, though the knowledge on the European larvae was largely incomplete, hence its presentation required merely 31 pp. It is all the more appropriate, therefore, the present book provides an authoritative up-to-date coverage of the subject. — It goes without saying, the present work is not a mere reprint of the first German edn. Its coverage is restricted to the German fauna, the text is revised and updated, and the lay-out is somewhat modified and typographically improved; the book is easy to handle and easy to read. The information on the distribution of German spp. in France is retained, but the taxa that occur in France only (and which were dealt with in the first 2 edns) are omitted here. This applies e.g., also to the New World *Anax junius*, documented in Sept. 2003 from Loire-Atlantique (but “prophetically” included already in the 2002 Fr. edn), which, potentially, could turn up anywhere in the broader Atlantic region. The literature is considered up to about 2001, thus, for example, in the present work reference is made to the recentmost information on the *Sympetma paedisca* hibernation (cf. *OA* 14084). The excellent line drawings, organized on 112 pls, will make the book useful also to those lacking the command of German. — A warmly recommended, indispensable standard work.
- (15086) HELLEBUYCK, V.J., 2002. *Paltothemis nicolae* spec. nov., a new dragonfly from El Salvador (Odonata: Libellulidae). *Revta nicarag. Ent.* 59/62: 5-15. (With Span. s.). — (1277 Lincoln St., Sherbrooke, QC, J1H 2H8, CA). Both sexes are described, illustrated and compared with *P. cyanosoma*. Holotype ♂: El Salvador, Quebrada Piedra de Afilar, 5.5 km S of Tacuba, 19-IV-1986; deposited at FSCA, Gainesville/FL, USA.
- (15087) JOVIĆ, M., 2002. *Fauna odonata jezera Trešnja i Karagačkog potoka*. — [Odonate fauna of the Trešnja pond and the Karagački brook]. Diplomski Rad, Biol. Fac., Univ. Beograd. viii+36 pp., 5 col. pls excl. (Serbian). — (Nat. Hist. Mus., Njegoševa 51, P.O.B. 401, SM-11000 Belgrade, Serbia).
The locality is situated close to Avala nr Belgrade, Serbia (alt. ca 240 m). The adult odon. fauna was systematically investigated in 2001. 14 spp. (incl. *Epitheca bimaculata*; cf. *OA* 14886) were recorded from the pond, and 5 spp. from the brook. The biogeographic composition of the community is analysed, and col. phot. of all spp. are included. Also provided are a brief outline of the history of odonatology in Serbia, and a checklist of the 60 (at that time) known Serbian spp.
- (15088) KARUBE, H., 2002. *Watanabeopetalia* gen nov., a new genus of the dragonflies (Odonata, Cordulegastridae, Chlorogomphina). *Special Bull. jap. Soc. Coleopterol.* 2002(5): 67-85. — (Kanagawa Pref. Mus. Nat. Hist., 499 Iryuda, Odawara, Kanagawa, 250-0031, JA).
The new gen. is erected to include *Orogomphus atkinsoni* Sel. (type sp.), *Chlorogomphus uenoi* Asah. and *Chloropetalia signata* Chao. The *Chloropetalinae* Carle is redefined and downgraded to the rank of a tribe that includes the gen. *Chloropetalia* and *Watanabeopetalia* gen. n.; the pertaining spp. are redescribed and illustrated.
- (15089) KHAN, R.A., 2002. The ecology and faunal diversity of two floodplain ox-bow lakes of south-eastern West Bengal. *Rec. zool. Surv. India* (Occ. Pap.) 195: 1-57. — (Zool. Surv. India, 234/4 AJC Bose Rd, Nizam Palace, 13 Floor, Calcutta-700020, India).
The ecology and fauna of Beri Gopalpur Baor and Sosadanga Baor, close to the India-Bangladesh border, are outlined. 9 odon. spp. are listed. For Beri Gopalpur the odon. densities (individuals/m²) during premonsoon, monsoon and postmonsoon are given as 2.1, 14.0 and 4.5, resp. The same values for Sosadanga are 3.5, 4.7 and 4.2, resp.
- (15090) ŁABEDZKI, A., 2002. *Ważki (Odonata) zespołu zbiorników wodnych Czorsztyn-Niedzica i Stromowce Wyżne oraz okolic*. — Odonata dragonflies in the complex of water reservoirs Czorsztyn-Niedzica and Stromowce Wyżne, and the surrounding areas. *Pieniny Przyn. Człowiek* 7: 99-103. (Pol., with Engl. s.). — (Katedra Entomologii Leśnej, Akad. Rolnicza, ul. Wojska Polskiego 71c, PO-60-625 Poznań).
The results are presented of a 4-yr research on the odon. fauna of the Pieniny Natn. Park, with emphasis on faunal changes subsequent to the Czorsztyn dam construction; S Poland. The *Hemianax ephippiger* oviposition (May 1996) is brought on record.
- (15091) LAST, L.L. & R.L. WHITMAN, 2002. Aquatic macroinvertebrates of the Grand Columet River. *Proc. Indiana Acad. Sci.* 108/109(1/4) [1999/2000]: 45-81. — (Second Author: Lake Michigan Ecol. Res. Stn, US Geol. Surv., 1100 North Mineral Springs Rd, Porter, IN 46304, USA).
Unidentified *Lestidae* and *Aeshnidae*, and 6 coenagrionid, corduliid and libellulid gen. are listed for the river, Indiana, USA.

2003

- (15092) ANSORGE, J., 2003. Insects from the Lower Toarcian of Middle Europa and England. *Acta zool. cracov.* 46(Suppl.): 291-310. — (Inst. Geol. Wiss., Univ. Greifswald, Friedrich-Ludwig-Jahn Str. 17a, D-17489 Greifswald).
The Lower Toarcian (Lower Jurassic) insect (incl. Odon.) localities of central Europe and England are reviewed. In addition to a spider and a scorpion, insects of 21 orders were identified. The species composition of the different taphocoenoses is very similar. A faunal exchange between Laurasia and Gondwana was possible in the Lower Jurassic. Species inventories are not presented.
- (15093) ARAI, Y., [Ed.], 2003. *A countrywide survey of Red Dragonflies*. Musashino Satoyama Research Group & Institute of Agriculture and Natural Environments [Place not stated in Engl. translation]. 47 pp. Softcover (21.0x29.5 cm). ISBN none. (Jap., with an unabridged Engl. translation available from Dr N. Ishizawa, 1644-15, Tokorozawa, Saitama, 359-1145, JA).
In Japan, the "red dragonflies", *Sympetrum frequens* and *Pantala flavescens*, are swarming against the red sky at sunset. The booklet is directed at general readership. Its objectives are twofold: to draw the attention of the general public to the observation of nature in their neighbourhood through dragonflies, and, in particular, to gather information on biology and behaviour of the "red dragonflies". It includes the following articles (pagination of the Jap. original): *Arai, Y.*: Introduction (p. 3); — Aim, methods and results of the survey (pp. 4-12); — *Arai, Y.*: Problems of *Pantala flavescens* and *Sympetrum frequens* (pp. 13-18); — *Iwabuchi, S. & Y. Ukawa*: Survey of Red Dragonflies by using Internet (pp. 19-23); — *Hayashi, F., S. Dobata & Y. Arai*: Countrywide DNA genetic map of migratory *Pantala flavescens* (pp. 24-32); — *Nagasaka, T., T. Motobayashi & M. Nakagawa*: Relation of the rice planting period to the quantity of occurrence of *Sympetrum frequens* (pp. 33-37); — *Ishizawa, N.*: Population dynamics of *Sympetrum frequens* in the Okumusashi Hills (pp. 38-43); — *Shimoyamada, T., W. Murayama & Katsushika Society of Odonatology*: Survey of dragonfly larvae in primary school swimming pools in the Metropolis (pp. 44-47).
- (15094) BECHLY, G., 2003. Description of a new species of *Nannogomphus* (Insecta: Odonata: Nannogomphidae) from the Upper Jurassic Solnhofen Limestone in Germany. *Stuttg. Beitr. Naturk.* (B) 339: 1-6. (With Germ. s.). — (Staat. Mus. Naturk., Rosenstein 1, D-70191 Stuttgart).
- N. buergeri* sp. n. is described from the Lower Tithonian of Eichstatt, Bavaria, and compared with *N. bavaricus*. The diagnosis of the genus is amended with a list of apomorphies.
- (15095) BECHLY, G., 2003. The phylogenetic relationships of the three extant suborders of Odonata. *Ent. Abh.* 61(2): 127-128. — (Staat. Mus. Naturk., Rosenstein 1, D-70191 Stuttgart).
The order Odonata includes 3 extant suborders, viz. Zygoptera, Anisozygoptera: Epiophlebiidae, and Anisoptera, with 5538 described spp. The fossil record is documented by over 600 spp. The system is still largely based on the typological classification of Fraser (1957), though during the past 2 decades several attempts were made towards a phylogenetic system. Differences between the results of these are due to different selections of characters and, above all, to different methodological approaches, e.g. the traditional Hennigian phylogenetic systematics vs computer-based numerical analysis. The various views are concisely outlined. The evidence on the phylogenetic affinities of the order within the class is ambiguous, hence the issue is still to be considered as unresolved.
- (15096) BECHLY, G., G. DIETL & G. SCHWEIGERT, 2003. A new species of *Stenophlebia* (Insecta: Odonata: Stenophlebiidae) from the Nusplingen Lithographic Limestone (Upper Jurassic, SW Germany). *Stuttg. Beitr. Naturk.* (B) 338: 1-10. (With Germ. s.). — (First Author: Staat. Mus. Naturk., Rosenstein 1, D-70191 Stuttgart).
S. rolffhuggeri sp. n. is described from the Late Kimmeridgian of SW Swabian Alb, Baden-Württemberg.
- (15097) BECKEMEYER, R.J., 2003. A few records of owlflies (Neuroptera: Ascalaphidae) encountered while collecting Odonata in the southwestern United States and in Nicaragua. *J. Kans. ent. Soc.* 76(4): 651-652. — (956 Perry, Wichita, KS 67203-3141, USA).
The paper includes an appeal to the collectors of the cryptic Platystictidae in tropical forest streams, to pay more attention to the ascalaphids, which often occur at the same localities as the odon.
- (15098) [BECKEMEYER, R.J.] WENZL, R., 2003. The flight idea. *Wichita Eagle*, issue of 23 Oct., pp. 1A, 7A. — (c/o Dr R.J. Beckemeyer, 956 Perry, Wichita, KS 67203-3141, USA).
A biographic article in a local daily, outlining the odonatal. work (fossil and extant) of RJB (retired aeronautical engineer with Boeing). A portrait and other phot. are included.

- (15099) BECKER, N. et al., 2003. *Mosquitoes and their control*. Kluwer, New York. xxi+498 pp. Hardcover (22.0x28.5 cm). ISBN 0-306-47360-7. — (Publishers: 233 Spring St., New York, NY 10013, USA).
The work deals with the European populations. The role of Odon. (with very few references) is outlined on pp. 355-356.
- (15100) BEDJANIČ, M., 2003. *Modrozelená deva*. — [*Aeshna cyanea*]. *Vrtnar* 12(5): 44-45. (Slovene). — (Fram 117/A, SI-2324 Fram).
An outline of the life and behaviour, directed at the general reader.
- (15101) BENSTEAD, J.P., M.M. DOUGLAS & C.M. PRINGLE, 2003. Relationships of stream invertebrate communities to deforestation in eastern Madagascar. *Ecol. Appl.* 13(5): 1473-1490. — (First Author: Ecosyst. Cent., Marine Biol. Lab., Woods Hole, MA 02543, USA).
Madagascar has been recently identified as a global hotspot for freshwater biodiversity. Loss of most of its E rain forest, combined with a high incidence of micro-endemism and specialisation to forest stream habitats, has likely led to extinction of many of the island's stream insect spp. Habitat and macroinvertebrate community structure in 3 streams draining protected rain forest within Ranomafana Natn. Park in E Madagascar and 3 agricultural streams draining the park's largely deforested peripheral zone are compared. Odon. were not the principal order studied; data are presented for the Libellulidae only, but the order is considered of high value for each comparison. Also: the Odon. are perhaps the best understood of the major aquatic insect orders in Madagascar, nevertheless, the emergence trapping has already yielded at least 2 new spp. and 1 new genus, as communicated by Dr T.W. Donnelly (Binghamton, NY, USA) in a pers. comm. Deforestation in the Ranomafana region is associated with distinct changes in the structure of stream insect communities, incl. community simplification, shifts in the relative importance of functional feeding groups, and associated declines in species richness.
- (15102) BEREZINA, N.A., 2003. *Rezistentnost' presevodnykh bespozvonochnykh k izmeneniyu mineralizatsii vody*. — [Resistance of freshwater invertebrates to changes in water mineralisation]. *Ekologiya* 2003(4): 296-301. (Russ.). — (Inst. Zool., Russ. Acad. Sci., Univerzitetetskaya nab. 1, RUS-199034 Sankt-Peterburg).
The tolerance of some macroinvertebrates to both elevated and decreased water mineralisation was examined in laboratory experiments. The tolerance ranges in *Epiphetca* bimaculata and *Libellula depressa* are relatively wide and similar to those in some Diptera and Crustacea.
- (15103) BOUWMAN, J. & D. GROENENDIJK, 2003. *Hoe groen is de groene glazenmaker?* — How green is *Aeshna viridis*? *Vlinders* 18(4): 12-13. (Dutch, with Engl. s.). — (Author's addresses not stated).
The biological and morphological features of *A. viridis*, separating it from similar congeners in the Netherlands are outlined.
- (15104) BRACHYTRON. (ISSN 1386-3460), Vol. 7, No. 1 (Nov. 2003). (Dutch, with Engl. s's). — (c/o R. Manger, Stoepveldsingel 55, NL-9403 SM Assen).
Boesveld, A. & J. van der Neut: News on dragonflies from the Biesbosch: increasing water quality facilitates settlement of special species (pp. 3-14); — *Kalkman, V.J. & M.T. Wasscher*: Rare dragonfly species in the Netherlands in 1998 (pp. 15-22); — *Reumkens, H.*: A record of *Cordulegaster boltonii* in the Ruscher Pit near Schinveld (pp. 23-26); — *Goudsmits, K.*: *Coenagrion scitulum*, the first record for the Netherlands (pp. 27-29); — *Groenendijk, D.*: [Book review] *Die Libellenlarven Deutschlands*, by H. Heidemann & R. Seidenbusch (pp. 29-30).
- (15105) BUCZYŃSKI, P., 2003. *Ważki (Odonata) Parku Karajobrazowego Pojezierza Iławskiego*. — Dragonflies (Odonata) of the Landscape Park of the Iława Lake District. *Rocz. nauk. pol. Tow. Ochr. Przyr. Salamandra* 7: 65-85. (Pol., with Engl. s.). — (Dept Zool., Univ. Lublin, Akademicka 19, PO-20-033 Poznan).
47 spp. are listed and the composition of the odon. communities in the Park (N Poland) is analysed. The drainage of grasslands, peatbogs and fens, the degradation of lakes, and peat digging present a serious threat to the local fauna.
- (15106) BUCZYŃSKI, P., 2003. *Ważki (Odonata) poligonu artyleryjskiego w Nowej Debie (Kotlina Sandomierska), z uwagami o stanie wiedzy o ważkach Kotliny Sandomierskiej*. — Dragonflies (Odonata) of an artillery range in Nowa Deba (Sandomierska Basin). *Nowy Pam. fizjogr.* 2(1/2): 15-29. (Pol., with Engl. s.). — (Dept Zool., Univ. Lublin, Akademicka 19, PO-20-033 Lublin).
Sympetma paedisca, *Aeshna juncea* and *Cordulegaster boltonii* are among the 36 spp. occurring within this military training area in SE Poland. The odon. fauna (40 spp.) of the Sandomierska Basin is discussed and a comprehensive regional bibliography is included.

- (15107) BUCZYNSKI, P., S. CZACHOROWSKI, M. MOROZ & R. STRYJECKI, 2003. Odonata, Trichoptera, Coleoptera, and Hydrachnidia of springs in Kazimierski Landscape Park (eastern Poland) and factors affecting the characters of these ecosystems. *Supplta Acta hydrobiol.* 5: 13-29. — (First Author: Dept Zool., M.-Curie-Skladowska Univ., Akademicka 19, PO-20-033 Lublin).
The Park is located in the Vistula drainage basin. The adults of 10 odon. spp. were recorded from 4 out of the 8 explored spring areas. The assemblage does not include any characteristic spring sp.
- (15108) BUCZYNSKI, P., S. CZACHOROWSKI, E. SERAFIN & V. SZEZEPAŃSKI, 2003. Is nature reserve the best form to protect invertebrates? On the example of dragonflies and caddisflies (Insecta: Odonata, Trichoptera) of the Lake Košno Reserve. *Acta biol. Univ. daugavp.* 3(2): 125-132. — (First Author: Dept Zool., Univ. Lublin, Akademicka 19, PO-20-033 Lublin).
From the Reserve (Mazurian Lake Distr.; surface ca 1232 ha), 14 odon. spp. were recorded, while 30 spp. occur in the vicinity outside its boundaries. In order to encompass some more valuable wetland habitats, an enlargement of the Reserve is advocated. General principles of the set-up of protected areas are discussed.
- (15109) [CLAUSNITZER, V.], 2003. New SSC Chairs and Specialist groups, *Species* 40: 26. — (Liebenauer Str. 180, D-06110 Halle/Saale).
Dr V. Clausnitzer has taken on the Chair of the (IUCN Species Survival Commission) Odonata Specialist Group. Priorities of the Group include starting a Global Dragonfly Assessment. The Chairman is also working with the Freshwater Biodiversity Assessment Programme to deliver a small training workshop at the National Museums of Kenya for regional scientists to learn about odon. taxonomy and field survey. — As apparent from the Chairman's e-mail message (23-I-2004), various regions are to be covered by the following workers: *M. Bedjanič* (Sri Lanka), *R. Bernard* (E Europe), *J.-P. Boudot* & *A. Cordeiro Rivera* (Mediterranean), *V. Clausnitzer* (E Africa), *K.-D.B. Dijkstra* (Africa), *H.J. Dumont* & *V. Kalkan* (Middle East), *S. Dunkle* (N America), *M. Hämäläinen* (Thailand), *A.Yu. Haritonov* & *E. Malikova* (N Asia), *J. Hawking* (Australia), *K. Inoue* (Japan), *F. Kakkassery* (India), *A.G. Orr* (Malaysia, Indonesia), *D. Paulson* & *E. von Ellenrieder* (Middle & S America), *D. Polhemus* (Hawaii), *R. Rowe* (S Pacific), *G. Sahlén* (N Europe), *B. Samraoui* (N Africa), *W. Schneider* (Arabia), *F. Sühling* (SW Africa & Europe), *J. van Tol* (Indonesia), *G. Vick* (W Africa), and *K. Wilson* (China).
- (15110) COLON-GAUD, J.C. & W.E. KELSO, 2003. A suitcase trap for sampling macroinvertebrates in dense submerged aquatic vegetation. *J. Kans. ent. Soc.* 76(4): 667-671. — (Second Author: Louisiana St. Univ., 227 Renewable Natural Resources, Baton Rouge, LA 70803, USA).
The new type of trap, designed in the first place for sampling in dense *Hydrilla verticillata* stands, is described. The samples (incl. Coenagrionidae, Aeshnidae and Libellulidae) collected by it are compared with those taken by a sweep net.
- (15111) CÓRDOBA-AGUILAR, A., E. UHIA & A. CORDERO RIVERA, 2003. Sperm competition in Odonata (Insecta): the evolution of female sperm storage and rivals' sperm displacement. *J. Zool., Lond.* 261(4): 381-398. — (First Author: Insto Ecol., UNAM, Apdo Postal 70-275, MX-04510 Mexico, DF).
The objectives of the present review are: (1) to describe the copulatory mechanisms used during sperm displacement; (2) to analyse the causes of sperm usage patterns; (3) to discuss this information using current hypotheses on conflict between the sexes; (4) to illuminate topics for further research. 4 copulatory mechanisms are described: sperm removal (physical withdrawal of stored sperm), sperm repositioning ('pushing' of rival sperm to sites where its use will be least likely), ♀ sensory stimulation to induce sperm ejection, and sperm flushing (displacement of sperm using the copulating ♂'s sperm). Sperm-precedence studies in Odon. are scarce and their values vary considerably between spp. In those spp. in which sperm displacement is incomplete, the last copulating ♂ obtains a high but variable short-term fertilization success which decreases with time. Some ♂ and ♀ factors affecting sperm precedence patterns are mentioned: (1) ♂ variation in genital morphology; (2) duration of copulation influenced by the ♂ (the longer the copulation, the more stored sperm displaced); (3) adaptations of the sperm-storage organs that allow the ♀ to manipulate the sperm she has received (i.e. avoiding sperm displacement, re-distributing sperm masses, favouring sperm located in certain sites and ejecting sperm after copulation). It is suggested that ♂ and ♀ odon. have co-evolved at the level of genital function with the control of stored sperm as the focus of the conflict. The benefits for ♂ ♂ in this co-evolution lie in maximizing their fertilization success. However, it is not clear what ♀ ♀ obtain from storing sperm and making it unreachable during sperm displacement. 2 hypothetical benefits that ♀ ♀ may obtain for which some evidence has been gathered are genetic diversity and viability genes. It is finally suggested that odon. can become excellent subjects

of study for testing current ideas related to sexual conflict and speciation processes through sexual selection.

- (15112) COSTA, J.M. & B.B. OLDRINI, 2003. Descrição da fêmea de *Argyrothemis argentea* (Odonata, Libellulidae). *Iheringia* (Zool.) 93(3): 271-276. (Port., with Engl. s.). — (Mus. Nac., UFRJ, Quinta da Boa Vista, BR-20940-040, Rio de Janeiro, RJ).
The ♀ is described for the first time. New records are expanding the range of the sp. to the Central West region of Brazil.
- (15113) DE ARAÚJO-COUTINHO, C.J.P.C., A.B.P. VIVIANI-CUNHA, N.M. SERRA-FREIRE & R.P. DE MELLO, 2003. Evaluation of the impact of *Bacillus thuringiensis* serovar israelensis and temephos, used for the control of *Simulium* (*Chirostilbia*) *pertinax* Kollar, 1832 (Diptera, Simuliidae) on the associated entomofauna, Paraty, state of Rio de Janeiro, Brazil. *Mems Inst. Oswaldo Cruz* 98(5): 697-702. — (First Author: Lab. Simuliideos e Oncocercose, Depto Ent., Inst. Oswaldo Cruz, Av. Brasil 4365, BR-21045-900 Rio de Janeiro, RJ).
The study was set up to evaluate the impact of 2 commercial larvicides, *B. t. israelensis* and temephos, used for *S. pertinax* control, on the associated non-target insect fauna. The odon. were represented by a single Megapodagrionidae individual, therefore the impact on them could not be ascertained. With reference to the paper by L.S. Gorayeb & R.R. Pinger (1978, *Acta amazon.* 8: 629-637), where the megapodagrionid predation on *Simulium* is reported, and to that by J.B. de Moore & S.G. Breeland (1967, *Mosc. News* 27: 105-111), recording the odon. susceptibility to temephos, further research on the Megapodagrionidae is recommended.
- (15114) DE SILVA WIJEYERATHE, G., 2003. Dragonflies of Sri Lanka. *Serendipity*, Colombo 19: 8. — (Jetwing House, 46/26 Navam Mowatha, Colombo-2, Sri Lanka).
Field portraits of 6 spp., with Engl. and taxonomic names, and statements on their respective status in Sri Lanka. — The Author is a noted odon. populariser in Sri Lanka. For his booklet on the Odon. of Sri Lanka, see OA 15005.
- (15115) DONATH, H., 2003. Nowe dane o wa{kach (Odonata) półno-wschodniej Polski. — New data on the dragonflies (Odonata) of northeastern Poland. *Wiad. ent.* 22(3): 188-189. (Pol., with Engl. title). — (Luckauer Str. 1, D-03246 Fürstlich Drehna).
35 spp. are listed from 15 localities in Masurian (Poland,
- 31 spp.) and from 4 localities in Lithuanian Lakeland (20 spp.). *Aeshna isosceles*, *Anax parthenope* and *Somatochlora arctica* were not previously recorded for the Masurian Lake District.
- (15116) DRAGONFLY NEWS. The newsletter of the British Dragonfly Society (ISSN none), No. 43 (spring 2003), No. 44 (autumn 2003). — (c/o D. Hepper, 31 High Park Rd, Farnham, Surrey, GU9 7JJ, UK).
[Some selected titles]: [No. 43:] *Beynon, T.*: From the President's pool (pp. 1-3); — *Nicolet, P.*: The importance of temporary ponds for aquatic biodiversity (pp. 16-17); — *Parr, A.*: Migrant & vagrants 2002 (pp. 22-23); — First & last dates 2002 (pp. 24-25); — *Taylor, P.*: Criteria for proof of breeding in dragonflies (pp. 26-27); — *Smith, J. & T. Day*: Greenwich Peninsula Ecology Park, London (pp. 28-29); with species list; — *Sadler, D.*: Water Rail predated dragonflies (p. 33); — *Cross, I.*: Tiger Beetle predation on adult Common Hawker (p. 33); — *Dana, D.*: Quite a few Southern Hawkers from a garden pond (p. 33; Isle of Wight); — *Wallace, I.*: Late winter nymph of *Sympetrum fonscolombei* from N. Wales (p. 34); — *Tagg, D.*: Raising *Brachytron* larvae (p. 34); — *Layton*: Page for the young (2 pp.). — [No. 44:] *Perrin, V.*: Highlights of the 2003 early season (pp. 12-13); — *Parr, A.*: Migrant news for early 2003 (p. 13); — First and last dates 2003 (pp. 14-15); — *Clarke, D.*: Variable Damselfly, opportunist egg-layer? (p. 21); — *Coppock, C.*: Small pond productivity (pp. 21-22); — *Taylor, P.*: "Hunting aliens" and "The aliens take flight": feedback (pp. 22-23; results of a garden & school pond survey).
- (15117) ELLIS, J., 2003. Damselfly identification. *J. Derbys. Notts. ent. Soc.* 150: 18-19. — (Author's address not stated).
The features separating *Erythromma najas* and *E. viridulum* are outlined.
- (15118) EYRE, M.D., M.L. LUFF & J.C. WOODWARD, 2003. Habitat creation favouring invertebrates: an example from Allerton Bywater, urban West Yorkshire. *Br. J. Ent. nat. Hist.* 16(4): 209-219. — (First Author: Ent. Monit. Serv., 13 Manor Grove, Benton, Newcastle-upon-Tyne, NE7 7XQ, UK).
The terrestrial and aquatic invertebrates on an old colliery site at Allerton Bywater were surveyed. 19 nationally scarce spp. were recorded. Although no nationally rare or scarce odon. were found, some of the ponds provided good habitat for 12 spp. These are listed and brief annotations are provided.

- (15119) FERREIRA, S. & J.M. GROSSO-SILVA, 2003. Confirmação da presença de *Brachytron pratense* (Müller, 1764) (Odonata, Aeshnidae) em Portugal continental. *Boln Soc. ent. aragon.* 33: 272. (Port., with Span. s.). — (First Author: Rua Rogério Oliveira Monteiro 426, PT-4475-841 Silva Escuro).
The sp. was reported (1937) from Coimbra. Here, several specimens from Aveiro (27-III-2002) and Ovar (9-III-1997) are brought on record.
- (15120) GARRISON, R.W., N. VON ELLENRIEDER & M.F. O'BRIEN, 2003. An annotated list of the name-bearing types of species-group names in Odonata preserved in the University of Michigan Museum of Zoology. *Occ. Pap. Mus. Zool. Univ. Mich.* 736: 1-73. — (Third Author: Mus. Zool., Univ. Michigan, Ann Arbor, MI 48109-1079, USA).
This catalog presents a listing of all species-group names associated with Odon. specimens currently housed in the type collection in the University of Michigan Museum of Zoology (UMMZ), Ann Arbor, MI. The names represent spp. described by P.P. Calvert, L.K. Gloyd, F. Förster, M.A. Lieftinck, C.H. Kennedy, F. Ris, E.B. Williamson and others, and transcription of data labels, reference and current status have been included. A lectotype is designated for *Argia cyathigera* Navás in order to stabilize that name. The following are new synonyms: *Mecistogaster garleppi* Förster, 1903 = *M. buckleyi* McLachlan, 1881; *Argia augustana* Navás, 1934 = *A. medullaris* Hagen in Selys, 1865; *Argia dagnina* Navás, 1914 = *A. indicatrix* Calvert, 1902; *A. machadina* Navás, 1914 = *A. difficilis* Selys, 1865; *A. medinensis* Navás, 1935 = *A. gerhardi* Calvert, 1909. Of 389 names, 85 are considered junior synonyms.
- (15121) GOMPHUS. Mededelingsblad van de belgische libellenonderzoekers — Bulletin de liaison des odonatalogues belges (ISSN 0772-4691), Vol. 19, No. 1 (Dec. 2003). (Dutch & Fr., mostly with Engl. s's). — (c/o G. De Knijf, Matrouwstraat 10, B-9661 Brakel-Parike).
Goffart, P./Taily, M.: Editorial (pp. 1-2); — *Vercoutere, B.*: *Calopteryx splendens* in the valley of the Dyle: a recent expansion? (pp. 3-12); — *Van Elegem, B. & G. De Knijf*: An exceptional dragonfly community in the polder of Kruibeke, Bazel and Rupelmonde (East-Flanders, Belgium) (pp. 13-29); — *Taily, M.*: Univoltine development of *Libellula depressa* in Belgium (pp. 31-32); — *Meuris, L.*: Observations of strange reproduction behaviour in *Sympetrum sanguineum* (pp. 33-35); — *Goffart, P.*: Compte-rendu de l'excursion sur l'Ourthe moyenne, de Noiseux à Durbuy, du 21 juin 2003 (pp. 36-38); — *Fichefet, V. & P. Goffart*: Compte-rendu de l'excursion du 16 juin 2002 à l'Etang de Virelles (pp. 39-40); — *De Knijf, G./Taily, M.*: Recensions (pp. 41-43); — *Vanderhaeghe, F./Anonymous*: Annonces (pp. 44-48).
- (15122) GRONOWSKI, T., 2003. Ważki (Odonata) rezerwatu Jezioro Luknajno. — Dragonflies (Odonata) of the Luknajno Lake Nature Reserve. *Parki nar. Rez. Przyr.* 22(4): 543-548. (Pol., with Engl. s.). — (Inst. Zool., Univ. Warszaw, ul. Banacha 2, PO-02-097 Warszawa).
26 spp. are listed from the small (surface 680 ha), shallow, eutrophic lake (Great Masurian Lakes, NE Poland). *Leucorrhinia pectoralis* is typical for such localities. Also of interest are *Aeshna isosceles* and *Anax parthenope*.
- (15123) HAINES, T.A., T.W. MAY, R.T. FINLAYSON & S.E. MIERZYKOWSKI, 2003. Factors affecting food chain transfer of mercury in the vicinity of the Nyanza Site, Sudbury River, Massachusetts. *Envir. Monit. Assessmt* 86: 211-232. — (First Author: Orono Field Stn, Leetown Sci. Cent., US Geol. Surv., Orono, ME MA, USA).
The influence of the Nyanza Chemical Waste Dump Superfund Site was assessed by analysis of sediment, fish prey organisms, and predator fish from 4 locations on the Sudbury R. system. Anisopt. genera were tested for differences in mercury concentration within each sample location, and some significant differences were found, but the results are presented here family-wise (Aeshnidae, Gomphidae, Corduliidae, Libellulidae). The earlier works on this subject, involving the odon., are briefly reviewed.
- (15124) HÄMÄLÄINEN, M., 2003. Cryptophaea, a new euphaeid genus and three new species of Caloptera damselflies from Thailand (Odonata: Euphaeidae, Chlorocyphidae). *Zool. Meded. Leiden* 77(25): 441-453. — (Sunankallontie 13, FIN-02760 Espoo).
The specimen from Doi Suthep (N Thailand) identified and redescribed by Asahina (1987) as *Schmidtiphaea schmidi* are not conspecific with the holotype of *S. schmidi* Asahina, 1978, but represent a distinct new sp., described here as *Cryptophaea saukra* gen. n., sp. n. *Bayadera vietnamensis* van Tol & Rozendaal, 1995 and *Schmidtiphaea yunnanensis* Davis & Yang, 1996, are transferred to *Cryptophaea* gen. n. *Anisopleura trulla* sp. n. from S Thailand is described and "Caliphaea confusa sensu Asahina, 1985" from Doi Inthanon (N Thailand) is described as *C. angka* sp. n.
- (15125) HÄMÄLÄINEN, M., L. HULDEN & S. KARJALAINEN, 2003. Etelänukonkorenon (Aeshna mixta Latreille, 1805) vaellukset Suomeen 2002-2003 (Odonata,

- Aeshnidae). *Sahlbergia* 8(2): 49-54. Finn., with Engl. s.; title not stated in Engl.). — (Last Author: Tyrskykuja 3 B 15, FIN-02330 Espoo).
- Migrant *A. mixta* individuals were recorded for the first time in Finland in Aug.-Sept. 2002 and again in Aug.-Oct. 2003. Confirmed observations from several sites along the southern coast and from Åland archipelago are listed. Most of these were made in bays by the sea, but a few also at a distance of 4-6 km from the coast. The distribution of *A. mixta* and its migratory tendency are briefly discussed. The nearest autochthonous populations occur in the Riga region (Latvia), and this area may be the source of the migration to Finland. Records made by Doppler weather radar show that very large insects flew from Estonia towards Helsinki on many occasions at the end of July and the beginning of Aug. 2002, in afternoons when SE winds prevailed. Apparently, these insects were migrant *A. mixta*.
- (15126) HARDERSEN, S., 2003. Odonata. In: P. Carretti et al., [Eds], *Arthropods of the beech-wood belt in the northern Apennines: first contribution*, p. 72, DCN, Roma, ISBN 88-88499-11-3. (Bilingual: Ital./Engl.). — (Via Mornaga 60, I-25088 Toscolano Maderno/Cecina). A briefly annotated list of 4 spp.; — Italy.
- (15127) [HEIDEMANN, H. & R. SEIDENBUSCH] GROLL, E.K., 2003. [Buchbesprechung] "Die Libellenlarven Deutschlands". *Beitr. Ent.* 53(1): 122. — (Author: Dt Ent. Inst., Schicklerstr. 5, D-16225 Eberswalde). A descriptive book review of the volume listed in *OA* 14503.
- (15128) HOSPERS, A. & V. KALKMAN, 2003 [Werkgroepen]: Libellen (Odonata). *NieuwsBr. europ. Invert. Surv. Nederland* 37: 3. (Dutch). — (First Author: P.O. Box 1706, NL-9701 BS Groningen). A brief report on the 2003 work of the Odon. Study Group of the Netherlands section of the European Invertebrate Survey. 30.000 records are expected for 2003. Several regional atlases are in preparation, the one for Friesland is scheduled to appear late in 2004. Some species conservation work has been carried out on *Aeshna viridis*, *Cordulegaster boltonii* and *Somatochlora arctica*.
- (15129) JÖDICKE, R. & J. VANTOL, 2003. *Libellula aenea* Linnaeus, 1758 (currently *Cordulia aenea*) and *L. flavomaculata* VanderLinden, 1825 (currently *Somatochlora flavomaculata*) (Insecta, Odonata): proposed conservation of usage of the specific names by the replacement of the lectotype of *L. aenea* with a newly designated lectotype. *Bull. zool. Nomencl.* 60(4): 272-274. — (First Author: Am Liebfrauenbusch 3, D-26655 Westerstede). The purpose of this application is to conserve, under Art. 74.1 of the Code, the current usage of the names of the 2 spp. In 1758, Linnaeus established the name *Libellula aenea* for three specimens. These have subsequently been recognized as belonging to two species: *L. aenea* and *L. flavomaculata* Vander Linden, 1825. In 1956, Fraser designated one of Linnaeus's specimens as the lectotype of *L. aenea*. However, the specimen he designated was the one used by Vander Linden to denote his species *L. flavomaculata*. Fraser's action made *L. aenea* a senior objective synonym of *L. flavomaculata*. It is proposed that one of Linnaeus's specimens other than the one selected by Fraser be designated as the lectotype of *L. aenea*, thus conserving prevailing usage of both names.
- (15130) *JOURNAL OF THE BRITISH DRAGONFLY SOCIETY*. (ISSN none), Vol. 19, No 1/2 (Oct. 2003). — (c/o Dr W.H. Wain, Haywain, Hollywater Rd, Bordon, Hants, GU35 0AD, UK). *Lucas, B.*: Overwintering of larvae of the Common Darter *Sympetrum striolatum* (Charpentier) in the North of England (p. 1); — *Moore, N.W.*: Four long term studies on dragonfly populations (pp. 2-7); — *Parr, A.J.*: Migrant and dispersive dragonflies in Britain during 2002 (pp. 8-14); — *Cham, S.*: Factors influencing the distribution of the Whitelegged Damselfly *Platycnemis pennipes* (Pallas) in Great Britain (pp. 15-23); — *Hubble, D.S. & D. Hurst*: Management of small dug ponds for Odonata conservation and colonization in an area of valley mire and wet heathland (Bourne Valley, Dorset) (pp. 24-34); — *Chelmick, D.*: A significant migration of the Red-veined Darter *Sympetrum fonscolombii* (Sélys) in southern Spain (pp. 35-36); — *Radford, P.*: The Azure Damselfly *Coenagrion puella* (L.) attacking the Common Blue Butterfly *Polyommatus icarus* (Rottenburg) (p. 37); — *Truscott, L.A.C.*: Common Blue Damselfly *Enallagma cyathigerum* (Charpentier) capturing the Rush Veneer *Nomophila noctuella* (Denis & Schiffermuller), a pyralid moth, as a prey item (p. 38); — *Goddard, D.*: Inverted emergence recorded in the Common Darter *Sympetrum striolatum* (Charpentier) (p. 39); — The domestic cat: a new dragonfly predator (p. 39); — *Brook, G.*: Identification of the exuviae of the Small Red-eyed Damselfly *Erythromma viridulum* (Charpentier) (pp. 40-43); — *Gibson, V.*: Communication between the sexes at the end of copulation: a study of three species of Anisoptera (pp. 44-46); — *Sutton, P.G.*: Recent problems regarding the collection of voucher specimens (pp. 47-50); — *Brook, J. & G. Brook*: The Willow Emerald Damselfly *Chalcolestes*

viridis (Vander Linden) in Kent: a case of mistaken identity (pp. 51-54); – *Vick, G.*: Obituary: David Allen Lewis Davies (pp. 55-56); – *Corbet, P.*: Book review: Oaks, dragonflies and people ..., by N.W. Moore (pp. 57-59). – In *1 a y: British Dragonfly Society: Code of Practice on collecting dragonflies, 2004-2009* (4 pp.).

- (15131) KALIGARIC, M., J. TAJMEL & M. SZATYOR, 2003. Trideželni Park Goričko-Raab-Örség. – [Three-country Park, Goričko-Raab-Örség]. Ministerstvo RS za okolje, Ljubljana. 28 pp. Pamphlet (9.8x21.0 cm). ISBN none. (Slovene). – (Distributor: Goričko Landscape Park, SI-9264 Grad).

A brief review of the various biotope types represented in the Park (NE Slovenia-Austria-Hungary), with a checklist of the hitherto evidenced plant and animal spp., incl. 4 odon. spp.

- (15132) KLAUSNITZER, B., 2003. Gesamtübersicht zur Insektenfauna Deutschlands. *Ent. Nachr. Ber.* 47(2): 57-66. (with Engl. s.). – (Lannerstr. 5, D-01219 Dresden). With reference to the work listed in OA 13972, a review is presented of numbers of odon. spp. known from the federal provinces of Germany as follows: Baden-Württemberg (73 known spp.), Bayern (70), Brandenburg, incl. Berlin (65), Hessen (60), Mecklenburg-Vorpommern (58), Niedersachsen, incl. Bremen (67), Nordrhein-Westfalen (64), Rheinland-Pfalz (63), Saarland (46), Sachsen (62), Sachsen-Anhalt (59), Schleswig-Holstein, incl. Hamburg (49), and Thüringen (55). – 80 spp. are known from the national territory, representing ca 1.4% of the world fauna.

- (15133) (KOTARAC, M., A. ŠALAMUN & S. WELDT, 2003. *Strokovna izhodišča za vzpostavljjanje omrežja NATURA 2000: Kačji pastirji (Odonata). Končno poročilo*. – *Technical groundwork for setting-up the NATURA 2000 network: dragonflies (Odonata). Final report*. CKF-F, Miklavž-na-Dravskem polju. 104 pp. (Slovene, with Engl. s.). – (Distributor: CKFF, Zemljemerska 10, SI-1000 Ljubljana).

The work was prepared for the Government of Slovenia (Agency for Environment) and it is styled in accordance with the European Union (EU) directives. The subject of the study are Coenagrion ornatum, Ophiogomphus cecilia, Cordulegaster heros and Leucorrhinia pectoralis, listed in Annex II of the EU Habitat Directive. Database (appended to the report for the Government, but not intended for public circulation) consists of 847 distribution records from 572 localities and all known references containing information on the occurrence of the 4 spp. in Slovenia.

[For the 73 spp. known to occur in Slovenia, there are to-date in database of the Centre for Cartography of Fauna and Flora (CKFF) 20590 records from 3099 localities.] C. ornatum, O. cecilia and C. heros are distributed in the alpine and continental biogeographic regions (sensu EU) in Slovenia, L. pectoralis is restricted to the latter. Only C. heros occurs commonly throughout the country. Size of species populations in the national territory is given as best expert opinion. Population trends are deduced from estimated development and endangerment of their habitats. 38 Proposed Sights of Community Importance (pSCI) are pointed out for the 4 spp., covering an area of 264 km². The proposals for O. cecilia and L. pectoralis are considered adequate, those for C. heros were proposed only for the W part of the country, and the pSCI's for C. ornatum cover only ca 40% of the known national population, the rest pending the acquisition of reliable population data. For each of the pSCI's a basic description, status of the sp., state of the habitat, possible threats, the required conservation measures and some additional remarks are given. Further research, required for the development of a solid basis for management and population monitoring is proposed, and basic methodological requirements for population and habitat monitoring are described. – The study represents a cornerstone in the odon. conservation endeavour in Slovenia.

- (15134) [KUHNS, K. & K. BURBACH] AMON, F.J., 2003. Buchbesprechung: Libellen in Bayern, bearbeitet von K. Kuhn & K. Burbach. *Galathea* 19(3): 119. – (Author's address not stated).
A brief book review of the volume described in OA 12424.

- (15135) LEGRAND, J., 2003. Les odonates du Nimba et de sa région. *Mém. Mus. nat. Hist. nat.* 190: 231-310. (With Engl. s.). – (Dép. Syst. & Evol., Mus. nat. Hist. nat., 45 rue Buffon, F-75005 Paris).
127 spp. are treated. The (re)descriptions or descriptive notes, and the information on their ecology and distribution are provided. No endemics were encountered in the area (Guinea, Ivory Coast, Liberia).

- (15136) La LETTRE DES SOCIÉTAIRES, Société française d'odonatologie (ISSN 1260-0857), No. 31 (March 2003), No. 32 (Apr. 2003), No. 33 (June 2003), No. 34 (Sept 2003), No. 35 (Dec. 2003). – (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois d'Arcy).
Management notifications, brief reports, and various news items. – [33] includes a report on the 2003 Plenary Business Meeting and the 2002 Balance Account.

- (15137) **LIBELLULA**. Zeitschrift der Gesellschaft deutschsprachiger Odonatologen (GdO) (ISSN 0723-6514), Vol. 22, No. 1/2 (Dec. 2003). (With Engl. s's). — (c/o Ms I. Schrimpf, Heimböhlstr. 32, D-72768 Reutlingen).
Clausen, W.: Die Bestandsentwicklung von *Coenagrion ornatum* in Ostwestfalen, Nordrhein-Westfalen (Odonata: Coenagrionidae) (pp. 1-10); — *Masius, P.*: *Nehalennia speciosa* auf der Insel Usedom (Odonata: Coenagrionidae) (pp. 11-14); — *Maczey, N.*: *Calopteryx splendens* und Strassenverkehr: Beobachtungen an einer Autobahnbrücke (Odonata: Calopterygidae) (pp. 15-18); — *Günther, A.*: Eiablage von *Sympetrum vulgatum* auf ein parkendes Auto (Odonata: Libellulidae) (pp. 19-23); — *von Hagen, H.*: Artspezifische Exuvienhaltungen bei der Emergenz von drei Libelluliden auf Mallorca (Odonata: Libellulidae) (pp. 25-29); — *Böhm, K.*: Erster Fortpflanzungsnachweis von *Anax parthenope* in Nordrhein-Westfalen (Odonata: Aeshnidae) (pp. 31-34); — *Lohr, M.*: *Crocothemis erythraea* auch in Niedersachsen (Odonata: Libellulidae) (pp. 35-39); — *Kühn, J. & D. Gutser*: Beobachtung einer *Boyeria irene* bei Mittenwald, Oberbayern (Odonata: Aeshnidae) (pp. 41-48); — *Petzold, F.*: Nachweise von *Onychogomphus f. forcipatus* an Seen in Schweden (Odonata: Gomphidae) (pp. 49-54); — *Mauersberger, R.*: *Crocothemis erythraea* im Nordosten Deutschlands (Odonata: Libellulidae) (pp. 55-60); — *Hoess, R.*: Ist *Sympetrum meridionale* in der Schweiz heimisch? Funde von 1998-2002 und Anmerkungen zu Habitat, Phänologie, Verhalten und Morphologie (Odonata: Libellulidae) (pp. 61-86).
- (15138) **LIPPICH, F.W.**, 1834 [reprint 2003]. *Topographie der k. k. Provinzialhauptstadt Laibach, in Bezug auf Natur- und Heilkunde, Medicinalordnung und Biostatik*. Fac. Medicine Univ. Ljubljana & Scient. Soc. Hist. Health Cult. Slovenia, Ljubljana. 404 pp., 3 fold. tabs, frontispiece. Hardcover (13.4x21.0 cm). ISBN 961-6264-43-5. Price SIT 17.000.- net; together with the Slovene translation (632 pp., ISBN 961-91101-0-2).
 A classical monograph on the early 19th century city of Ljubljana (Slovenia), incl. detailed considerations on its natural environment, with comprehensive flora and fauna checklists. The latter cover also ca 400 insects spp. of most orders, incl. 9 local odon. spp. It is considered a valuable early document on the odon. fauna of central Slovenia.
- (15139) **MAJER, A.P., F.B. SANTOS, P.A. BASILE & E. TRAJANO**, 2003. Invertebrados aquáticos de cavernas da área cárstica de São Domingos, nordeste de Goiás. *Carste* 15(4): 126-131. (Port., with Engl. s.). — (Dep'to Zool., Inst. Biociênc., Univ. São Paulo, C.P. 11461, BR-05422-970 São Paulo, SP).
 The aquatic invertebrate communities of Angélica and Passa Três caves, in the São Domingos karst region, NE state of Goiás, central Brazil were investigated during the dry season of 2000. Some genera of Gomphidae and Corduliidae, and non-identified Zygoptera are listed.
- (15140) **MALANGPO**. Newsletter of the Thai National Office of SIO, Bangkok (ISSN 1381-5245), No. 20 (Nov. 2003). — (Orders to the Eds of *Odonatologica*, P.O. Box 256, NL-3720 AG Bilthoven).
Pinratana, A.: Editorial (p. 195; report on the 2003 collecting trips); — *Hämäläinen, M.*: The 150 year anniversary of Selys' Synopsis des caloptérygines (pp. 196-200); — *Dow, R.*: A first trip to Thailand (pp. 200-201; records); — *Orr, B.* [A.G.]: Rendezvous Kanchanaburi (pp. 202-205; records); — *Thipaksorn, A., P. Kittayapong, W. Jannongluk, V. Thirakhupt, J.R. Milne, C. Sindhusake & S. Poonchaisri*: Record of *Wolbachia* infection in zygopteran odonates (pp. 206-209).
- (15141) [MANI, M.S.] Anonymous, 2003. In memory of Professor Dr M.S. Mani [...]. *Entomotaxonomia* 25(4): 318.
 A concise appreciation of his work (born: Tanjore, India, 1910; deceased 8 Jan. 2003). Prof. Mani was founder of the prestigious School of Entomology in St John's Coll., Agra Univ. His published opus includes over 35 books and over 250 research papers and monographs. Most outstanding are his works on high altitude entomology. He led several expeditions to the Himalaya, and brought back very appreciable material. Some of his Himalayan odon. material was published by Indian workers; in 2 of these publications he appears as senior joint author, viz. (1955): *Agra Univ. J. Res. (Sci.)* 4(2): 471-512; (Suppl.): 741-766.
- (15142) **MARTINIA**. Revue scientifique de la Société française d'odonatologie (ISSN 0297-0902), Vol. 19, No. 1 (March 2003), No. 2 (June 2003), No. 3 (Sept. 2003), No. 4 (Dec. 2003). (Mostly with Engl. s's). — (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois-d'Arcy). [No. 1 (Numéro thématique "Odonates et bio-indicateurs");] *Dommanget, J.-L.*: Introduction (pp. 3-4); — *Masselot, G.*: Présentation succincte de la thèse "La synécoparcimonie: un outil d'évaluation biologique de la qualité des eaux courantes. Théorie et applications" (pp. 5-6); — *Masselot, G. & A. Nel*: Les odonates sont-ils des taxons bio-indicateurs? (pp. 7-40). — [No. 2:] *D'Amico, F.*: Densités et sex-ratio à l'émergence d'*Aeshna juncea* (L., 1758) dans différentes mares pyrénéennes (pp. 43-

- 49); — *Pianalto, S. & C. Cuenin*: Données nouvelles pour *Sympetrum pedemontanum* (Allioni, 1766): contribution à la faune des odonates du Languedoc-Roussillon (p. 50); — *Villenave, J. & R. Cloupeau*: Première donnée d'*Ophiogomphus cecilia* (Geoffroy in Fourcroy, 1785) sur les berges de la Mayenne dans le département du Maine-et-Loire (pp. 51-55); — *Grand, D. & B. Roché*: Complément à la faune des odonates de Corse et nouvelles observations de *Somatochlora metallica meridionalis* Nielsen, 1935 (pp. 57-60); — *Faton, J.-M.*: Avancement de la prospection dans la Drôme et découverte de trois nouvelles espèces dans le département: [...] (pp. 61-64); — *Vanappelghem, C. & E. Fernandez*: Nouvelle localité pour *Macromia splendens* (Pictet, 1843) au Portugal (pp. 65-67); — *Jacquemin, G. & J.-P. Boudot*: Le deuxième Symposium International d'Odonatologie de W.D.A. en Suède (pp. 68-70); — *Arnaboldi, F.*: Note sur les odonates de Finlande (pp. 71-80). — [No. 3:] *François, R., J.-F. Dellasalle & F. Spinelli*: Observations d'*Ischnura pumilio* (Charpentier, 1825) dans des champs inondés de la Somme et de l'Oise (pp. 83-91); — *Meurgey, F.*: Comptage d'exuvies et observations relatives à l'émergence d'*Aeshna juncea* (L., 1758) en Haute-Savoie (p. 92); — *Ponel, P. & M. Papazian*: Une belle localité à odonates en Sardaigne: le lac Baratz (pp. 93-96); — *Hazet, G.*: Contribution à la connaissance de la faune odonatologique de l'Île-au-Moine (commune de Martot, département de l'Eure) (pp. 97-98); — *Guerbaa, K. & E. Hennequin*: Mise en place d'un suivi des peuplements d'odonates de la torbière de la Ferrière (communes de Davignac et Bonfond, Corrèze) (pp. 99-107); — *Meurgey, F.*: Les odonates dans le régime alimentaire de la cigogne blanche (*Ciconia ciconia*): nouvelle donnée en Loire-Atlantique (p. 108); — *Arnaboldi, F.*: Observation récente de *Nehalennia speciosa* (Charpentier, 1840) en Finlande: note sur son habitat (pp. 109-118); — *Heidemann, H.*: Analyses d'ouvrages (pp. 119-120). — [No. 4:] *Lohr, M.*: Etude faunistique des odonates des plaines alluviales de l'Allier et de quelques affluents au nord-ouest de Moulins (départements de l'Allier, du Cher et de la Nièvre) (pp. 123-148); — *Grand, D.*: Observation tardive de libellules au Maroc (p. 148); — *Moncomble, M.*: Première observation de la reproduction d'*Epithea bimaculata* (Charpentier, 1825) en Poitou-Charentes et mise à jour des départements mentionnant cette espèce (pp. 149-153); — *Leroy, T.*: *Coenagrion lunulatum* (Charpentier, 1840), *C. hastulatum* (Charpentier, 1825): espèces nouvelles pour le département de l'Aveyron (pp. 154-157); — *Grand, D.*: L'africain *Trithemis annulata* (Palisot de Beauvois, 1805) s'installe en Languedoc (pp. 158-160); — *Pont, B.*: Quelques observations de libellules de Guadeloupe (pp. 161-163); — *Dommanget, J.-L.*: Rubrique bibliographique (pp. 164-168).
- (15143) *MERCURIALE*. Zeitschrift der Schutzgemeinschaft Libellen in Baden-Württemberg (ISSN 1618-9124), No. 3 (Dec. 2003). — (c/o U. Stephen, Im Westengarten 12, D-79241 Ihringen).
Kunz, B. & H. Hunger: Editorial (p. 1); — *Sternberg, K.*: Anax ephippiger: das Leben eines Afrikanischen Nomaden in Baden-Württemberg (pp. 2-4); — *Mayer, J.*: Zur Libellenfauna des NSG Schopflocher Moor ("Torfgrube") (pp. 4-5); — *Rackow, H.*: Beobachtungen von *Sympetrum paedisca* an einem ungewöhnlichen Fundort (pp. 6-8); — *Schiel, F.-J. & H. Leinsinger*: Neufunde und Schlupf-beobachtungen von *Gomphus flavipes* an badischen Altrheinen (pp. 8-12); — *Lissak, W.*: Beitrag zur Libellenfauna im nördlichen Vorland der Schwäbischen Alb (pp. 12-19); — *Wildermuth, H.*: Der Schlupf von *Epithea bimaculata* (pp. 20-28); — *Buchwald, R.*: *Cordulegaster bidentata* im südlichen Feldberg-Gebiet (Schwarzwald): Höchstgelegenes Vorkommen in Deutschland ausserhalb der Alpen (pp. 28-30); — *Feldwieser, G.*: Neue Libellendaten aus dem NSG "Listhof" bei Reutlingen (p. 31); — *Koch, H.-M.*: Emergenz mehrerer Arten an einem einjährigen Gewässer (pp. 31-35); — *Schanowski, A.*: Ein Fund von *Sympetrum meridionale* am mittleren Oberrhein (p. 36); — *Kunz, B.*: Mehrere Beobachtungen von *Sympetrum meridionale* in NO-Württemberg (p. 36); — *Wildermuth, H.*: In der Not frisst der Teufel Fliegen ... (p. 37); — Mosaikjungfer auf Fliegenjagd in der Morgendämmerung (p. 38); — *Cuvellier, J.*: Die Falsche geangelt, I (p. 39); — *Kunz, B.*: Die Falsche geangelt, 2 (p. 39); — *Feldwieser, G.*: Das lästige Anhängsel ... (p. 40); — Abdomen-Akrobatik (p. 40); — *Kunz, B. & H. Hunger*: Phänologiedaten 2003 einiger Libellen aus Mitteleuropa (pp. 41-42); — *Schiel, F.-J., W. Röske & H. Hunger*: Mitgliederversammlung am 29. März 2003 in Schopfloch (pp. 43-48).
- (15144) *MICHOŃSKI, G.*, 2003. Pierwsze stwierdzenie *Sympetrum depressiusculum* (Sélys, 1841) (Odonata: Libellulidae) na Pojezierzu Zachodniopomorskim. — The first record of *Sympetrum depressiusculum* (Sélys, 1841) (Odonata: Libellulidae) in the Western Pomeranian Lakeland. *Wiad. ent.* 22(3): 187-188. (Pol., with Engl. title). — (Author's address not stated).
 1 ♂, Lutkowo nr Dobrzany, 14-X-2001. This is only the third record from Pomerania, Poland. The locality is described, and the trends in the range expansion are discussed.

- (15145) MIELEWCZYK, S., 2003. Entomofauna (Odonata, Heteroptera, Coleoptera) torfowiska sfagnowego jako końcowego stadium ładowienia zbiornika dystroficznego na przykładzie Niknacej Łaki (Park narodowy Gór Stolowych). — [Insect fauna (Odonata, Heteroptera, Coleoptera) of a Sphagnum bog as the ultimate succession stage of a dystrophic water body, exemplified at the Niknaca Lake. *Idee ekol.* (Szkice) 15(8): 73-76. (Pol.). — (Os. Wichrowe Wzgórza 35/28, PO-61-699 Poznan). The lake is situated in the E part of the W Sudetes (alt. 716 m, surface 0.71 ha). Only *Aeshna cyanea* and *Somatochlora alpestris* occur there. The latter is rare in Poland. The pronounced differences in the faunal assemblages among various bogs are discussed in terms of the variation in bog structure.
- (15146) MITRA, T.R., 2003. Fauna of Sikkim: Insecta, Odonata. *St. Fauna Ser. zool. Surv. India* 9 (Sikkim, 2): 125-164. — (208/k/8 Raja Rammohan Roy Rd, Netaji Sarak, Calcutta-700008, India). A monograph, covering 65 spp., with synonymy, localities, descriptions and keys.
- (15147) MOISEENKO, T.I., 2003. *Zakislenie vod: faktory, mehanizmy i ekologicheskie posledstviya.* — [Water acidification: factors, mechanisms and ecological consequences]. Nauka, Moscow. 276 pp. ISBN 5-02-002862-2. (Russ.). A general analysis, presenting methods and assessment criteria, mechanisms and features of acidification of lakes, rivers and groundwater. References to the Odon. are on order level only. They are considered rather tolerant, occurring in habitats at pH 4.7. The impact of low pH values on freshwater ecosystem is outlined.
- (15148) MOSS, M.O. & G. GIBBS, 2003. Colour on the wings of Calopteryx damselflies. *Quekett J. microsc.* 39: 491-497. — (First Author: 18 Dagden Rd, Shalford, Surrey, GU4 8DD, UK). The blue wing colour in *C. splendens* and *C. virgo* ♂♂ is associated entirely with the veins and is a structural colour. SEM studies revealed a regular layered vein structure which could account for the blue colour by constructive interference as incident light is reflected by these layers. The dull brown pigment (described as an ommochrome), present in the wing membrane, enhances the perceived intensity of the reflected blue light by absorbing the rest of the incident light.
- (15149) NARAOKA, H. & M. YAMADA, 2003. [First record of *Sympetrum vulgatum imitans* from Aomori prefecture]. *Aomori Nature Study* 2003(8): 54. (Jap.). — (First Author: 36-71, Motoizumi, Fukunoda, Itayanagi, Kita-gun, Aomori, 038-3661, JA). As predicted by K. Inoue (1982, *Gracile* 30: 1-9; 1996, *Nature & Insects* 31/8: 9-12), the continental immigrants of this sp. were now sighted in Japan, viz in Oct. 2002 in Toyama pref. (cf. R. Futahashi & H. Futahashi, *OA* 14654), and on 25-IX-2002 in Aomori pref. (the present paper).
- (15150) NIEUWSBRIEF VAN DE NEDERLANDSE VERENIGING VOOR LIBELLENSTUDIE. (ISSN 1387-1470), Vol. 7, No. 2 (June 2003), No. 3 (Sept. 2003), No. 4 (Dec. 2003). (Dutch). — (c/o R. Manger, Stoepveldsingel 55, NL-9403 SM Assen). [Some highlights]: [No. 2:] *Wasscher, M.*: How fast is increasing the number of described species in the current millenium (pp. 5-6); — *Ketelaar, R. & B. Kranenborg*: Bibliography of the reports on dragonflies in the Netherlands: March 2002-April 2003 (pp. 8-11). — [No. 3:] *Goudsmit, K. & M. Wasscher*: *Coenagrion scitulum* new for the Netherlands (p. 3). — [No. 4:] *van der Es, R.*: *Sympetma paedisca* in Drenthe (pp. 4-6); — *de Boer, E.P.*: Dragonfly news from Friesland (pp. 9-11).
- (15151) NIKULA, B., J.L. LOOSE & M.R. BURNE, 2003. *A field guide to the dragonflies and damselflies of Massachusetts.* Massach. Div. Fish. & Wildl., Westborough/MA. vii+197 pp. Softcover (15.5x20.3 cm), spiral binding. ISBN none. Price: US \$ 20.- net, or € 26.70 net. — (Available from: Massachusetts Div. Fish. & Wildl., Nat. Heritage & Endangered Species Progr., Rte 135, Westborough, MA 01581, USA). A nicely produced and useful field guide, covering the 166 spp. known to-date to occur in Massachusetts, USA. Each sp. is allotted a page, presenting a concise but very good description, the information on range/status and habitat, and some field notes. Also provided is a col. field portrait of all spp. (mostly both sexes). The families are keyed, but the spp. are to be identified from descriptions and photographs. Where appropriate, the essential morphological features are separately illustrated.
- (15152) NUNN, M., 2003. Libellen und Wasserkäfer im Nürnberger Reichswald: Untersuchungen der Standortbedingungen von Moosjungfern (Odonata: Leucorrhinia). *Galathea* 19(3): 95-114. (With Engl. s.). — (Eintrachtstr. 50, D-90409 Nürnberg). The habitat requirements of *Leucorrhinia dubia* and *L. pectoralis* were examined in 10 ponds in the Reichswald of Nürnberg, Bavaria, S Germany. In addition to these,

19 other odon. spp. were also recorded. Low pH values (conditioning the growth of the indispensable Sphagnum vegetation) are of principal importance. The role of predators is relatively insignificant, but the temporary drying-out and/or the presence of fish are decisive factors precluding the *Leucorrhinia* breeding.

- (15153) O'GRADY, E.W. & M.L. MAY, 2003. A phylogenetic reassessment of the subfamilies of Coenagrionidae (Odonata: Zygoptera). *J. nat. Hist.* 37(23): 2807-2834. — (Dept Ent., Rutgers Univ., 93 Lipman Dr., New Brunswick, NJ 08901-8524, USA).

The subfamily divisions of Coenagrionidae is phylogenetically reanalyzed, using morphological characters. Characters historically and currently used to divide Coenagrionidae, as well as previously unpublished characters, were carefully defined or redefined and coded. Many characters traditionally used in coenagrionid taxonomy were found to be continuously distributed rather than falling into discrete states. Nevertheless, it is just these characters on which most subfamily distinctions are based. The present authors regarded it as essential to try to assess their effects in phylogenetic analysis. Therefore, characters states for continuously distributed morphometric characters were determined using a clustering algorithm. Trees that exclude these characters, however, are also presented. — Cladistic analysis indicates that, of the existing subfamilies, only the apophyletic Agriocnemidinae is monophyletic. Shortest trees were markedly shorter than ones in which all current subfamilies were constrained to be monophyletic. Cladistic analysis using characters of Davies & Tobin (1984) and Fraser (1957) alone to define subfamilies resulted in poorer resolution and failed to support monophyly of any of the current subfamilies, as did alternative character weightings. Even a phenetic comparison using discriminant analysis failed to support the existing taxonomy. — The phylogeny suggests the existence of several possible clades within Coenagrionidae, but none are strongly supported by bootstrap analysis or decay index values. Coenagrionidae as a whole is polyphyletic in our shortest trees, although trees supporting a monophyletic Coenagrionidae are only slightly longer. It is concluded that subfamilies should not be recognized within Coenagrionidae until well-supported subdivisions are demonstrated.

- (15154) ODONATOLOGICAL ABSTRACT SERVICE. (ISSN 1438-0269), No. 12 (July 2003). Compiled by M. Lindeboom (Landhausstr. 10, D-72074 Tübingen) & M. Schorr (Schulstr. 7B, D-54314 Zerf). Abstracts Nos 3093-3486, on 44 pp., of the works pub-

lished in 1997-2003.

- (15155) PETRULEVIČIUS, J.F. & A. NEL, 2003. Frenquelliidae, a new family of dragonflies from the earliest Eocene of Argentina (Insecta: Odonata): phylogenetic relationships within Odonata. *J. nat. Hist.* 37(24): 2909-2917. — (Second Author: Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).

The new fam., based on *Frenquellia patagonica* gen. n., sp. n. from earliest Eocene of Patagonia, is erected. Its phylogenetic relationships within the Zygoptera and Epiproctophora (sensu Bechly) are discussed. The new fam. seems to be related to Sieblosiidae from the Oligo-Miocene of Eurasia, and both could pertain to the basal lineage of Epiproctophora. These attributions are not supported by the known stratigraphic data and could be explained by the incompleteness of the odon. fossil record, mainly in the Triassic.

- (15156) REINHARDT, K. & J. SAMIETZ, 2003. Libellenfunde in Ostkasachstan (Odonata). *Ent. Nachr. Ber.* 47(2): 71-76. (With Engl. s.). — (First Author: Dept Anim. & Plant Sci., Univ. Sheffield, Sheffield, S10 2TN, UK).

25 spp. from 21 locations in E Kazakhstan are recorded and commented. A *Macromia* sp. exuviae, resembling those of *M. bartenevi*, represents the first *Macromia* record for Kazakhstan. It is here illustrated and described, and differs from *M. amphigena fraenata*, rising doubts as to the recently suggested synonymy of the 2 spp. 6 spp. are recorded for the first time from the surroundings of Ust-Kamenogorsk.

- (15157) REN, D., J.-Y. LIU & X.-D. CHENG, 2003. A new hemeroscopid dragonfly from the Lower Cretaceous of Northeast China (Odonata: Heteroscorpidae). *Acta ent. sin.* 46(5): 622-628. (With Chin. s.). — (First Author: Dept Biol., Capital Normal Univ., Beijing-100037, P.R. China).

Abrohemeroscopus mengi gen. n., sp. n. is described and illustrated from the Jiufotang Formation of Liaoning prov., NE China. The new gen. is similar to *Hemeroscopus Prietykina*; the distinguishing features are stated. This is the oldest fam. member in China.

- (15158) REZBANYAI-RESER, L., 2003. Vorwort und Rückblick zur 50. Nummer der Entomologischen Berichte Luzern. *Ent. Ber. Luzern* 50: 1-18. — (Natur-Mus. Luzern, Kasernenplatz 8, CH-6003 Luzern).

50 issues (over 6100 pp.) of *Ent. Ber. Luzern* were published since 1979. These contain ca 460 minor notes and

original research papers; 6 of the latter are of odonatol. contents.

- (15159) RHEIMS, C.A. & F. PELLEGATTI-FRANCO, 2003. Invertebrados terrestres de cavernas da área cárstica de São Domingos, nordeste de Goiás. *Carste* 15(4): 132-137. (Port., with Engl. s.). — (Lab. Artróp., Inst. Butantan, Av. Vital Brasil 1500, BR-05503-900 São Paulo, SP). A reference is made to the work of E.M.B. Dessen et al., 1980 (*Ciência e Cultura* 32[6]: 712-725), where information on the odon. occurrence in Lapa do São Mateus cave in the São Domingos karst region (NE Goiás, Brazil) is presented.
- (15160) SAMWAYS, M., 2003. Southern African Invertebrate linking to other [IUCN SSC] Specialist Groups and beyond. *Species* 40: 18. — (Dept Conserv. Ecol. & Ent., Fac. Agric., Univ. Stellenbosch, Private Bag X1, Matieland-7602, SA). The Southern African Invertebrate Specialist Group acts as a Red Listing Authority for all invertebrates in the S Afr. region and the Indian Ocean islands. It is an umbrella group for invertebrates in the broad sense, yet links with the taxonomic Specialist Groups, incl. that of Odon. Among the current collaborative activities are the recent compilations on the globally red-listed Odon. of Africa and the national Red List of Odon. of S Africa. Threats to the globally-threatened S Afr. Odon. spp. have been identified, with invasive alien trees being the major overall threat. This problem is being addressed through the Working for Water Programme, which is removing invasive alien trees, particularly in the W Cape, where most endemic spp. occur. The Group's newsletter is *Colophon*, and it is also involved in a mapping process.
- (15161) SAUSENG, M., M.-A. PABST & K. KRAL, 2003. The dragonfly *Libellula quadrimaculata* (Odonata: Libellulidae) makes optimal use of the dorsal fovea of the compound eyes during perching. *Eur. J. Ent.* 100(4): 475-479. — (First Author: Inst. Zool., Univ. Graz, A-8010 Graz). During sunny, cloudless conditions, ♂♂ were observed during 3-4 weeks (May-July) at a pond in S Styria, Austria. Dragonfly's horizontal orientation relative to the solar azimuth, and vertical orientation relative to the solar altitude were measured. The measurements indicated that the ♂♂ had a favourable view of the sky during perching. In addition, the relative amounts of ultraviolet (UV) and blue-violet radiation in scattered light (not direct sunlight) were calculated for the whole sky and for the section of the sky viewed by the fovea. The results show that the dorsal fovea is directed preferentially toward a section of the sky away from the sun, with less radiation but a higher UV and blue-violet saturation. This is in agreement with the hypothesis, based on optical and physiological data, that the fovea, which is sensitive only to blue and UV radiation, is optimally suited for the detection of small, rapidly flying insects against the blue sky.
- (15162) SCHLUTER, T., R. KOHRING & H.-J. GREGOR, 2003. Dragonflies preserved in transparent gypsum crystals from the Messinian (Upper Miocene) of Alba, northern Italy. *Acta zool. crakov.* 46(Suppl.): 373-379. — (Second Author: Inst. Geowiss., FU-Berlin, Malteserstr. 74-10, Haus D, D-12249 Berlin). Dragonflies (mainly larvae), preserved in transparent gypsum crystals from the Messinian of the Alba area (Piedmont, N Italy) are described. All specimens are probably referable to *Oryctodiplax gypсорum*, and are represented by various immature stages. This individual-rich but species-poor fauna appears to be autochthonous and may have developed under hypersaline conditions in a lagoonal environment.
- (15163) SHARMA, R.M. & S.S. TALMALE, 2003. Predation on dragonfly *Ictinogomphus rapax* (Rambur) (Odonata: Anisoptera) by robberfly *Stenopogon pradhani* Joseph & Parui (Diptera: Asilidae). *J. Bombay nat. Hist. Soc.* 100(2/3): 632. — (First Author: High Alt. Zool.Fld Stn, Zool. Surv. India, Opp. Saproon Gurudwara, Solan-173211, HP, India). A detailed description of the observation on 20-III-2001, in the Sanjay Gandhi Natn. Park, Mumbai, India.
- (15164) SINITSHENKOVA, N.D., 2003. Main ecological events in aquatic insect history. *Acta zool. crakov.* 46(Suppl.): 381-392. — (Palaeontol. Inst., Russ. Acad. Sci., ul. Prosoyuznaya 123, RUS-117997 Moscow GSP-7). The history of the adaptations to the aquatic life is traced from the Carboniferous to the Cretaceous. There are no Carboniferous insects with any obvious adaptations to aquatic life. The meganeurids could be proposed, but since their larvae are completely unknown, a terrestrial mode of life was suggested. In the Permian the aquatic insects became diverse and probably colonized lotic and lentic habitats. Wootton's suggestion that the insects inhabited first the running waters is questioned.
- (15165) SMOLENAARS, E. & NATURALIS, 2003. *Naturalis museum guide*. Naturalis, Leiden. 48 pp., front + back flap excl. Softcover (20.8×29.5 cm). ISBN none.

- (Publishers: P.O. Box 9517, NL-2300 RA Leiden). The guide shows a number of highlights on display in the National Nat. Hist. Mus. of the Netherlands. Details of each highlight are presented together with some general background information. The article on dragonflies, exemplified by *Tetracanthagyna plagiata*, appears on p. 38.
- (15166) STEENBERGEN, R., 2003. Wetenschappelijke illustratie nog altijd onvervangbaar. — [Scientific illustration still remains irreplaceable]. *NRC Handelsbl.*, Rotterdam 34(46): 37. (Dutch).
A comprehensive daily's article on the retrospective exhibit of biological illustrations (16th cent. to present) in Naturalis (RMNH), Leiden. A reference is made to the German artist, Walther Spies (1896-1947), who produced between the 2 Wars, in Bali (Indonesia), a large number of odon. illustrations and donated the collection to the Leiden Mus. — See also OA 10730.
- (15167) TERZANI, F., 2003. Segnalazioni faunistiche italiane: Calopteryx haemorrhoidalis (Vander Linden, 1825) (Odonata: Calopterygidae). *Boll. Soc. ent. ital.* 135(3): 189. — (Mus. zool. "La Specola", Univ. Firenze, Via Romana 17, I-50125 Firenze).
1 ♂: Val d'Aosta: Gressoney (alt. 1400 m), VII-1970.
- (15168) TERZANI, F., 2003. Segnalazioni faunistiche italiane: Cordulegaster bidentata Selys, 1843 (Odonata: Cordulegastriidae). *Boll. Soc. ent. ital.* 135(3): 189. — (Mus. Zool. "La Specola", Univ. Firenze, Via Romana 17, I-50125 Firenze).
1 ♀: Val d'Aosta: Châillon, torr. Promiod (alt. 1750 m), 7-VIII-2000.
- (15169) THIPAKSORN, A., 2003. *Diversity, distribution and Wolbachia infection of rice field odonate insects in Thailand*. M.Sc. diss., Fac. Graduate Stud., Mahidol Univ., Bangkok. xiii+115 pp. Hardcover (21.4x29.7 cm). ISBN 974-04-3551-3. (With Thai s.). — (Biol. Sect., Mahidol Wittayanusorn Sch., Salaya, Phutthamonthon, Nakhon Pathom-73170, Thailand).
The subjects treated in this well-styled and beautifully produced dissertation were earlier summarized in 3 journal papers, viz. the diversity and distribution in *Malangpo* 18(2001): 171-174, and *Notul. odonatol.* 6(2003): 20-24; and the Wolbachia infection in *Curr. Microbiol.* 47(2003): 314-318. — As to the Thai rice field odon., all spp. are here described and keyed, their distribution is listed per province (along with the quantitative data), and a map is provided. — The distribution and phylogenetic relationships of the reproduction-modifying Wolbachia in *Agriocnemis f. femina*, *Pseudagrion pruinosum*, *Brachythemis contaminata* and *Neurothemis t. tullia* form the main and most important part of this work. All procedures used for phylogenetic reconstruction (maximum parsimony, maximum likelihood, and neighbour-joining methods) place the odon. Wolbachia strains (*wsp* gene sequences) in the *Pip* (A. femina, B. contaminata) and *Con* (P. pruinosum, N. tullia) subgroups within the B group of Wolbachia strains. The low infection frequencies and the identical *wsp* gene sequences in not closely related spp. suggest that Wolbachia might have recently invaded rice field odon. populations through some means of horizontal transmission.
- (15170) TOMBO. *ACTA ODONATOLOGICA JAPONICA*. (ISSN 0495-8314), Vol. 46, No. 1/4 (dated 30 Dec. 2003, mailed 1 Feb. 2004). (Engl. & Jap., with Engl. titles). — (c/o Dr S. Eda, 3-4-25 Sawamura, Matsumoto, Nagano, 390-0877, JA).
Kawashima, I.: Copulation of *Anax n. nigrofasciatus* (cover phot.); — *Hämäläinen, M.*: *Platynemis phasmodans* sp. nov., an extraordinary damselfly from Laos with notes on its East Asian congeners (Odonata: Platynemidae) (pp. 1-7); — *Kano, K.*: *Copera tokyoensis* Asahina bitten by an ant on the mesotibia (p. 8); — *Karube, H.*: Description of a new species of the genus *Cephalaeschna* (Anisoptera: Aeshnidae) from northern Vietnam (pp. 9-12; C. aritai sp. n.); — *Kawashima, I.*: Redescription of the larva of the aeshnid dragonfly, *Sarasaeschna kunigamiensis* (Ishida, 1972) (Aeshnidae) from Okinawa-jima Is., Ryukyu Isls (pp. 13-16); — *Sasamoto, A.*: Description of a new Rhinagrion species from Laos (Megapodagrionidae: Zygoptera) (pp. 17-19; R. yokoi sp. n.); — *Taketo, A.*: Transition of odonate fauna in the artificial ponds in Yuhidera, Kanazawa: situation in the 10th year (pp. 20-21); — Recent information on the odonate fauna of Ishikawa pref. (pp. 21-22); — *Kojo, T.*: *Sympetrum infuscatum* changes posture in the nocturnal roosting (pp. 23-28); — *Fukunaga, K., M. Tomita, W. Sumida & K. Toshiro*: Discovery of *Libellula angelina* Selys at Mishima Island of Hagi City in Yamaguchi pref. (pp. 29-30); — *Watanabe, K.*: A brief observation on the oviposition of *Tetracanthagyna plagiata* in West Malaysia (p. 30); — *Ozono, A.*: A case of oviposition of *Lestes sponsa* (Hansemann) into mud and dead plants (pp. 31-32); — *Eda, S.*: On the black stripes on the lateral sides of thorax appeared in *Sympetrum e. eroticum* (Selys) (p. 33; sic!); — Annual meeting of the Japanese Society for Odonatology in 2003 (pp. 33-34); — *Morine, N.*: Triple connection of *Orthetrum albistylum speciosum* (Uhler) (p. 34).

- (15171) TORRALBA BURRIAL, A. & F.J. OCHARAN, 2003. Emergencia tarda y voltinismo en *Sympetrum fonscolombei* (Odonata: Libellulidae). *Boln. Soc. ent. aragon.* 33: 279-280. (Span., with Engl. s.). — (Depto Biol. Organismos y Sist., Univ. Oviedo, ES-33071 Oviedo). Numerous *S. fonscolombii* individuals were observed emerging at Balsa del Pueblo, Iliche, Huesca, NE Spain, on 2-X-2001. This is interpreted as an evidence the sp. has several generations in the area.
- (15172) VAN DUINEN, G.-J.A., A.M.T. BROCK, J.T. KUPER, R.S.E.W. LEUVEN, T.M.J. PEETERS, J.G.M. ROELOFS, G. VAN DER VELDE, W.C.E.P. VERBERK & H. ESSELINK, 2003. Do restoration measures rehabilitate fauna diversity in raised bogs? A comparative study on aquatic macroinvertebrates. *Wetl. Ecol. Mngmt* 11(6): 447-459. — (First Author: Dept Envir. Stud., Univ. Nijmegen, P.O. Box 9010, NL-6500 GL Nijmegen).
The macroinvertebrate species assemblages of water bodies created by rewetting measures (27 sites) were compared with those of the non-managed remnants of former peat cuttings etc. (20 sites); the Netherlands. Generally, the numbers of spp. were higher in the non-managed peat cuttings, though this does not apply to the 4 odon. spp. studied. The numbers of rewetted/non-managed sites where they were encountered are as follows: *Ceragrion tenellum* (4/4), *Coenagrion lunulatum* (13/1), *Leucorrhinia dubia* (2/2), and *L. rubicunda* (13/5).
- (15173) WÜST-GRAF, R., 2003. Erstmaliger Entwicklungsnachweis einer zweiten Generation der Kleinen Königslibelle, *Anax parthenope* Selys, 1839, in der Schweiz nördlich der Alpen (Odonata: Aeshnidae). *Ent. Nachr. Ber.* 50(1): 19-24. — (Christoph-Schnyderstr. 10, CH-6210 Sursee).
In 2 in Jan. 2003 constructed ponds, Mauensee, canton Luzern, Switzerland, 44 *A. parthenope* exuviae were found in Aug. This is the first evidence of a second generation of this sp. in Switzerland N of the Alps. It is probably due to an early immigration from S Europe and to the exceptionally hot weather during May-Aug. The 2 ponds do not have an identical structure; both of them deviate from the usual *A. parthenope* breeding habitat.
- 2004**
- (15174) ERJAVECIA. Bulletin of the Slovene Odonatological Society (ISSN 1408-8185), No. 17 (30 Apr. 2004). (Slovene). — (c/o M. Bedjanič, Fram 117/A, SI-2313 Fram). In the feature article, by B. Kiauta (pp. 1-7), the odon. inventory, as presented by F.W. Lippich in his *Topographie der k. k. Provinzialhauptstadt Laibach* (Blasnik, Laibach-Ljubljana, 1834), is described. M. Bedjanič (pp. 8-12) and U. Ferlentič (pp. 12-16) are summarizing the results of the Research Workshops "Mislinja 2003" and "Dalmatia Ecosystems Brač 2003", respectively. A note on the "Natura 2000" network was contributed by M. Bedjanič (pp. 16-17). A. Pivko-Knežević (p. 18) is bringing on record *Sympetrum depressiusculum* from Velenje. In acknowledgement of his outstanding literary work, the founder of the Society, I. Geister, has received (2004) the prestigious national Prešeren Award; some highlights of his odonotol. work are briefly touched upon by B. Kiauta (pp. 22-23). Among the other items in the present issue, there are 2 classical Slovenian dragonfly poems (S. Kosovel, M. Jezernik), and additions to the national odonotol. bibliography (Nos 527-547).
- (15175) LIBELLENNACHRICHTEN. Mitteilungsblatt der Gesellschaft deutschsprachiger Odonatologen (GdO) (ISSN 1437-5621), No. 11 (15 Feb. 2004). — (c/o Ms T. Schürmpf, Heimbühlstr. 32, D-72768 Reutlingen). 8 pp., mostly announcements and book reviews. Of general interest is an anonymous note of goose predation on adult *Aeshna juncea* (p. 7; nr Gstaad/BE, Switzerland).
- (15176) NIEUWSBRIEF VAN DE NEDERLANDSE VERENIGING VOOR LIBELLENSTUDIE. (ISSN 1387-4470), Vol. 8, No. 1 (Feb. 2004). (Dutch). — (c/o R. Manger, Stoepveldsingel 55, NL-9403 SM Assen). [Some highlights]: Ruiter, E.: Observation on *Sympetma paedisca* on the 1st of January in the Netherlands (pp. 6-7); — Dragonfly migration in the Netherlands [19-VII-2003; *Lestes barbarus*, *Sympetrum danae*, *S. vulgatum*] (pp. 10-11).
- (15177) ODONATOLOGICAL ABSTRACT SERVICE. (ISSN 1438-0269), No. 13 (Jan. 2004). Compiled by M. Lindeboom (Landhausstr. 10, D-72074 Tübingen) & M. Schorr (Schulstr. 7B, D-54314 Zerf). Abstracts Nos 3487-3803, on 52 pp., of the works published in 1997-2003.
- (15178) SAGA TOMBO KENKYUKAI, [Publisher], 2004. [*Dragonfly calendar* 2004]. Saga Tombo Kenkyukai, Saga. (Jap.) — (c/o Dr K. Higashi, Chifu 3062-1, Kinryu-machi, Saga, 849-0905, JA). A beautiful monthly wall calendar, with a dragonfly field portrait for each month, accompanied by concise captions, stating the vernacular name, date of the phot., etc. 16 extra phot. are added.