ODONATOLOGICAL ABSTRACTS

1983

(14678) BARNES, L.E., 1983. The colonization of ball--clay ponds by macroinvertebrates and macrophytes. *Freshw. Biol.* 13: 561-578. – (Author's current address unknown).
The rate and nature of colonization were studied at the Isle of Purbeck, Dorset, UK by comparing communities present in a series of 10 ponds of similar dimensions, but of different ages, ranging from 6 months to 15 yr. Multivariate analyses distinguished between 'neutral' and 'acid' ponds. Low pH affected colonization by preventing the establishment of acid-intolerant immigrant spp., and by retarding succession. Sequence of arrival of 9 odon. spp. in neutral ponds is shown and the odon. occurrence is discussed.

(14679) MRAKIČ, J. & B. VOMER, 1983. *Raziskave Gozdnega rezervata Lovrenška jezera.* – [*Studies in the "Lovrenška jezera" Forest Reserve*]. Graduation thesis, Dept Forestry, Biotech. Fac., Univ. Ljubljana. vii+112 pp., 3 maps excl. (Slovene). – (Authors' current addresses unknown).
On p. 99 appears an Aeshna juncea phot., taken in the Reserve; – Pohorje Mts, Slovenia.

1984

(14680) BRTEK, J., 1984. Odonata. *In*: J. Jasič et al., *Entomologický náučný slovnik* [*Entomology scientific dictionary*], pp. 464-465, 516-519, Priroda, Bratislava. ISBN none. (Slovak, with Czech, Engl., Germ. & Russ. indices).
A well-balanced (though not entirely up-to-date) presentation of the Order, with Slovak vernacular appellations for a number of spp., and with some bibl. references.

1989

(14681) CHOW, C.-C. & C.-L.L. CHOW, 1989. *Chinese painting*, Vol. 2. Walter Foster, Tustin/CA. 32 pp. Softcover (25.8×34.8 cm). ISBN 1-56010-017--6. Price: US $ 5.95 net. – (Publishers: 430 West Sixth St., Tustin, CA 92680-9990, USA).
A textbook, including detailed, step-by-step instructions how to draw Chinese-style gomphid and libellulid dragonflies. The Authors are accomplished and well--known Chinese artists.

(14682) [GUTENBERG, J.], 1989. *Gutenberg-Bibel: geschichtliche Bücher des Alten Testaments.* Mit einem Anhang von Aloys Ruppel und Wieland Schmidt. Herenberg, Dortmund [6th edn]. 322 pp. Softcover (12.0×17.5 cm). ISBN 3-921846-01-3. [Bibliophilen Taschenbücher1].
This is a partial reproduction of the perchament-printed copy (1453) in the Staatsbibliothek Preussischer Kulturbesitz, Berlin (Cat. No.: Inc. 1511), based on the Idion-Verlag facsimile edn (München, 1977). The Editor is not stated, and no technical information on the reproduction is provided. – On p. 57 (*Exodus*; pages not numbered) appears a polychrome floral ornament, with a bird and a zygopteran. It is similar, but not identic, to the reproduction published by R. Rudolph (1991, *Odonatologica* 20: 75-78). – The original Gutenberg Bible was provided to the purchasers unbound and in plain condition, coloured initials and all other decorations could be added by an illuminator in accordance with the purchaser's personal taste. Thus, the illuminations are not printed, their number and style are peculiar to each copy.

(14683) KORNIJÓW, R., 1989. Macrofauna of elodeids

of two lakes of different trophy. 1. Relationships between plants and structure of fauna colonizing them. *Ekol. pol.* 37(1/2): 31-48. (With Pol. s.). – (Dept Zool. & Hydrobiol., Agric. Acad., Akademicka 13, PO-20--934 Lublin).
The macrofauna colonizing Myriophyllum alterni-folium, M. spicatum, Ceratophyllum demersum, Pota-mogeton praelongus, P. lucens, and Elodea canadensis in a mesotrophic and an eutrophic lake in E Poland is analysed. In both lakes, the Zygoptera frequency and abundance were lower on Potamogeton than on other elodeids. The spp. involved are not stated.

(14684) MACKIE, G.L., 1989. Tolerances of five benthic invertebrates to hydrogen ions and metals (Cd, Pb, Al). *Arch. envir. Contam. Toxicol.* 18: 215-223. – (Last known address: Dept Zool., Univ. Guelph, Guelph, ON, N1G 2W1, CA).
96-h LC_{50} static bioassays were carried out to determine if the hydrogen ion content and the levels of Cd, Pb and Al, characteristic of lakes in the Muskoka distr., Ontario, Canada, are lethal to benthic Bivalvia, Gastropoda, Amphipoda and Odon. (Enallagma sp.). The results show that Cd is the most toxic of the 3 metals tested. The most sensitive was Hyalella azteca (Amphipoda). The most tolerant was Enallagma sp. (cf. *OA* 14446).

(14685) PROCTOR, H. & G. PRITCHARD, 1989. Neglected predators: water mites (Acari; Parasitengona: Hydrachnellae) in freshwater communities. *Jl N. Am. benthol. Soc.* 8(1): 100-111. – (Second Author: Dept Biol. Sci., Univ. Calgary, 2500 University Dr. N.W., Calgary, AB, T2N 1N4, CA).
From literature (with bibl. references), the following spp. are listed as predators on odon.: Hydrachna crenulata and H. virella (both on zygopt. eggs), Hydryphantes tenuabilis (libellulid eggs), Hydrodroma despiciens ("dragonfly" eggs), and Limnesia undulata (zygopt. larvae).

(14686) SCHEMBRI, S., 1989. Insects, excluding Coleoptera and Lepidoptera. *In*: P.J. Schembri & J. Sultana, [Eds], *Red Data Book for the Maltese islands*, pp. 90-96, col. pl. 5, fig. a excl. Dept Information, Ministry Educ., Beltissebh, Malta. ISBN none. – (Author's last known address: Biol. Dept, New Lyceum "G.F. Abela", Msida, Malta; – First Ed.: Dept Biol., Univ. Malta, Msida, Malta).
Ischnura genei and Orthetrum brunneum are red-listed as "vulnerable" and "rare", respectively.

1999

(14687) BEICHLE, U., 1999. Moor als Naturraum. *SchrReihe staat. Mus. Naturk. Vorgesch. Oldenburg* (Beih.) 10(1): 20-39. – (Author's address not stated).
General, with references (pp. 33-34) to Aeshna sub-arctica, Leucorrhinia dubia and L. rubicunda.

(14688) HOUPERT, G., 1999. Excursion entomolo-gique au lieu-dit "les Pontances", pelouse calcaire de Jezainville (54) le 6 juin 1998. *Bull. Soc. Lorraine Ent.* 6: 23-25. – (Author's address not stated).
Calopteryx splendens and C. virgo are recorded; – Lorraine, France.

(14689) HUBENOV, Z., 1999. Entomofaunata na Nacionalen park Centralen Balkan. – Entomofauna of the National park Central Balkan. *Acta ent. bulg.* 5(1): 17-22. (Bulg., with Engl. s.). – (Inst. Zool., Bulg. Acad. Sci., Blvd Car Osvoboditel 1, BG-1000 Sofia).
10 odon. spp. are known from the Park (Bulgaria), but a list is not provided.

(14690) HUBENOV, Z., 1999. Entomofaunata na Nacionalen park Rila. – Entomofauna of the National park Rila. *Acta ent. bulg.* 5(1): 23-28. (Bulg., with Engl. s.). – (Inst. Zool., Bulg. Acad. Sci., Blvd Car Osvoboditel 1, BG-1000 Sofia).
15 odon. spp. are known from the Park (Bulgaria), but a list is not provided.

2000

(14691) BOIX, D., J. SALA & R. MORENO-AMICH, 2000. Succession of the macroinvertebrate community in a temporary pond. *Verh. int. Ver. Limnol.* 27(5): 2586-2593. – (Inst. Aquat. Ecol. & Dept Envir. Sci., Univ. Girona, Campus de Montilivi, ES-17071 Girona).
Lestes viridis is mentioned for the pond of Clot d'Espolla, Banyoles karstic area, NE Spain. – Cf. also *OA* 14182.

(14692) FITZSTEPHENS, D.M. & T. GETTY, 2000. Colour, fat and social status in male damselflies Calopteryx maculata. *Anim. Behav.* 60: 851-855. – (Second Author: Kellogg Biol. Stn, Michigan St. Univ., Hickory Corners, MI 49060, USA).
In C. maculata, younger ♂♂ challenge and displace older ♂♂ from mating territories. Fatter ♂♂ tend to win fights. These were initially interpreted as wars of attrition based on fat reserves, but the distributions of

fat at the end of fights suggests at least some assessment of the opponent's condition. Alternatively, new models have been developed that show how the observed pattern could result without assessment. There is a subtle but reliable cue to fat reserves: colour. ♀♀ are a relatively drab brown-black; ♂♂ are a strikingly iridescent blue-green colour, resulting from a multilayer constructive interference reflector system in the epicuticle. In fatter ♂♂ the lamellae are more compressed and the peak reflectance is at shorter wavelengths (blue). Leaner, greener ♂♂ have greater spacing between lamellae and reflect longer wavelengths. The peak reflectance is as predicted from transmission electron micrograph measurements of the lamellar spacing. The rate of change in spacing over time can be manipulated experimentally by manipulating the diet. Individuals on a higher food diet remained blue longer and at the end of the experiment were fatter and bluer. Colour is a better predictor of territorial status than fat. – See also *OA* 10923.

(14693) GODE, L., 2000. A la découverte de "étang de la Comtesse". *Bull. Soc. Lorraine Ent.* 7: 20-22. – (Author's address not stated).
The marsh (alt. 370 m) is situated in the parish of Les Forges, Lorraine, France. 7 odon. spp. are listed.

(14694) IUCN SRI LANKA, 2000. *The 1999 list of threatened fauna and flora of Sri Lanka.* IUCN Sri Lanka, Colombo. viii+114 pp. ISBN 955-8177-01-6. – (Publishers: 48 Vajira Rd, Colombo-05, Sri Lanka).
70 odon. spp. are redlisted in the categories, "threatened' (50 spp.) and "highly threatened" (20 spp.); 49 of these are endemic to the island.

(14695) KETELAAR, R. & K. UILHOORN, 2000. Voorlopig overzicht van de Groene glazenmaker in Fryslân. – [Preliminary review of Aeshna viridis in Friesland]. *Twirre* 11(4): 17-19. (Dutch). – (Second Author: Zwette 66, NL-8446 MK Heerenveen).
A commented review of the 1990-2000 observations, at 11 localities in Friesland, the Netherlands.

(14696) KOZLOV, A.T. et al., [Eds], 2000. *Fauna, problemy ekologii, etologii i fiziologii amfibioticheskih i vodnyh nasekomyh Rossii.* – [*Fauna and problems of ecology, ethology and physiology in semiaquatic and aquatic insects of Russia*]. [Proc. 6th all-Russ. trichopterol. Symp. & 1st all-Russ. Symp. semiaquatic and aquatic Insects, Voronezh]. "Venevitinovo", Voronezh St. Univ., Voronezh, 123 pp., ISBN 5-9273-0099-5. – (Russ.).
[Odonatol. papers:] *Lyutikova, L.I.*: The influence of dimilin on non-target aquatic insects (pp. 33-37); – *Ryazanova, G.I.*: Behavioural aspects in the diet choice in dragonfly larvae (pp. 71-76); – *Ryazanova, G.I. & A.V. Smirnov*: Spatial distribution of Erythromma najas males in reproductive habitats (Odonata: Coenagrionidae) (pp. 76-81); – *Sukacheva, I.D.*: Insects as an element of the Shara-Tag Jurassic aquatic biota (Mongolia) (pp. 96-102); – *Fursov, V.N.*: Parasitic Hymenoptera: egg parasites on aquatic insects of Central Chernozem'e (pp. 109-111).

(14697) MIHUC, T.B., C.F. BRYAN & L.T. BECK, 2000. Long-term comparison of water hyacinth (Eichhornia crassipes) invertebrate assemblages in a sub-tropical river floodplain: 1975-1976 and 1994-1995. *Verh. int. Ver. Limnol.* 27(5): 2535-2539). – (First Author: Champlain Res. Inst., 102 Hudson Hall, Plattsburgh St. Univ., 101 Broad Str., Plattsburgh, NY 12901, USA).
In the Archafalaya R. floodplain, LU, USA, similar bimonthly sampling methods were used in the 2 periods. Erythemis sp. is among the taxa that were both rare in the first study period but increased in abundance in the 1994-1995 sampling. Distinct differences in macroinvertebrate community composition between the 2 periods indicate that hyacinth macroinvertebrate communities were not stable in composition over the 20-yr time period. Ischnura sp. is the sole other odon. taxon mentioned.

(14698) STIENSTRA, D., 2000. De libellen van het Ottema-Wiersmareservaat in 1999. – [Dragonflies of the Ottema-Wiersma Reserve in 1999]. *Twirre* 11(2): 9-10. (Dutch). – (Schoolstraat 2, NL-9105 KP Rinsumageest).
A commented list of 19 spp. from the Reserve (surface 52 ha), situated N of Hurdegaryp, Friesland, the Netherlands.

2001

(14699) BURKS, R.L., E. JEPPESEN & D.M. LODGE, 2001. Pelagic prey and benthic predators: impact of odonate predation on Daphnia. *Jl N. Am. benthol. Soc.* 20(4): 615-628. – (First Author: Dept Biol. Sci., Univ. Notre Dame, Notre Dame, IN 46556, USA).
Interactions between benthic predators and pelagic prey, such as larval odon. and Daphnia, are often used to describe classic predator-prey relationships in

laboratory studies. However, few field studies explore the potential impact of benthic predators on pelagic prey. Recent studies of cladocerans document diel horizontal migration (DHM), where large-bodied zooplankton (i.e., Daphnia) decrease their exposure to pelagic predators by seeking refuge among macrophytes. However, daphnids undergoing DHM may simultaneously increase their likelihood of encountering benthic predators that commonly occur in littoral zones. In laboratory experiments it was shown that larval Epitheca cynosura effectively eliminated all Daphnia within 24 h, regardless of macrophyte presence or architecture. It was also tested whether additions of larval Ischnura elegans, Coenagrion puella, C. pulchellum and Somatochlora flavomaculata (total odon. density of 35-55/m^2) significantly reduced total zooplankton or benthic invertebrate abundance in field enclosures with different macrophyte densities (20, 40, 80% volume infested [PVI]). Odon. significantly reduced Daphnia abundance at 20 PVI. However, the magnitude of the influence of odon. on daphnids, as well as Ceriodaphnia and Polyphemus, decreased with increasing macrophyte density. Odon. predation did not significantly affect benthic taxa abundance. Thus, daphnids undergoing DHM may lower predation from pelagic predators, but the present results suggest that mortality from littoral predators may be significant. The net benefit of DHM may, therefore, differ among lakes as a function of the relative threats posed by pelagic and littoral predators.

(14700) HOOIJMEIJER, J. & T. JAGER, 2001. Libellen van de Lendevallei. – [Dragonflies of the Lendevallei]. *Twirre* 12(1): 6-9. (Dutch). – First Author: Murnserleane 1, NL-8572 WN Rijs).
A commented list of 27 spp. The Reserve (surface ca 700 ha), called also "Lindevallei", is situated nr Wolvega, S Friesland, the Netherlands. – See also *OA* 44 and 182.

(14701) JACQUEMIN, G., 2001. Les marais salés de Lorraine: premier bilan entomologique (Besançon, 1999). *Bull. Soc. Lorraine Ent.* 8: 6-11. – (Biol. Insectes, Univ. H. Poincaré, BP 239, F-54506 Vandoeuvre-les-Nancy Cedex).
26 odon. spp. occur in the brackish water marshes of the Seille R valley, Lorraine, France. Among these, Lestes dryas, Ischnura pumilio, Coenagrion mercuriale, Libellula fulva and Orthetrum coerulescens are considered remarkable. A complete list is not provided.

(14702) KIRKTON, S.D. & T.D. SCHULTZ, 2001. Age-specific behavior and habitat selection of adult male damselflies Calopteryx maculata (Odonata: Calopterygidae). *J. Insect Behav.* 14(4): 545-556. – (Second Author: Dept Biol., Denison Univ., Granville, OH 43023, USA).
The age, movement, and time-activity budgets of ♂♂ occupying off-stream tree-fall gaps were compared with those at stream sites within a 10-ha woodland. All ♂♂ at off-stream sites were younger than those at stream sites, as indicated by their significantly higher wing transmittance. 33% of teneral ♂♂ marked at off-stream gaps moved to stream sites within 4 days (mean distance = 140 m), while mature ♂♂ marked at stream sites never left the stream. In contrast to stream site ♂♂, off-stream ♂♂ spent significantly more time capturing prey and never engaged in aggressive interactions with other ♂♂. Behavioural differences were not due to variations in the operative body temperature. However, malaise trapping revealed a greater frequency of suitable prey in forest light gaps. The findings support the idea that teneral Calopteryx leave their emergence sites along the stream for off-stream light gaps to forage without interference and build the energy reserves necessary to attain and hold streamside territories.

(14703) NELSON, B., R. THOMPSON & D. McFERRAN, 2001. *Guide to the dragonflies of Ireland.* Ulster Mus., Belfast. 10 plastic cards in a plastic envelope, (10×21 cm). ISBN 0-900761-44-X. Price: £ 2.95 net, postage extra. – (Available from: Ulster Mus. Shop, Botanic Gardens, Belfast, BT9 5AB, Northern Ireland, UK; – Second Author: DragonflyIreland, 8 Weaver's Court, Banbridge, Co. Down, BT32 4RP, Northern Ireland, UK).
A handy guide in a novel format, comprises 10 separate plastic cards, designed to help field recorders with the identification of closely related spp. in the field. Adults of the 22 Irish spp. (recorded since 1970) are depicted in both sexes, briefly described, and their phenology is shown in bar diagrams. A brief chapter on dragonfly "Fieldcraft", a diagram showing the main anatomical features, and a glossary are also included. – The Second Author is a professional nat. hist. photographer and co-ordinator of the 4-yr DragonflyIreland Project, to be completed by the end of 2003, and a comprehensive book, *The natural history of Ireland's dragonflies*, is scheduled to appear in early 2004. The present work, therefore, is considered a "provisional guide" only. Nevertheless, it is a useful and valuable addition to the odonatol. literature of the British Isles.

(14704) O'BRIEN, M., 2001. Dragonflies and damselflies. *Ent. Notes Mich. ent. Soc.* 27: 1-2. – (Insect Div., Mus. Zool., Univ. Michigan, Ann Arbor, MI 48109-1079, USA).
General, with notes on observing, collecting and specimen preservation.

(14705) ZIJLSTRA, M., 2001. De Vroege glazenmaker: voorbeeld van nog veel te verrichten veldwerk. – [Brachytron pratense: an example of much work that is still to be done]. *Twirre* 12(5): 181-182. (Dutch). – (Lauermanstrjitte 22, NL-9251 BB Burgum).
A note on B. pratense (Frisian "Klyplakbyter") in Friesland, the Netherlands, with references to the Frisian Dragonfly Work Group. – The Author is a well-known Frisian naturalist and odonatologist. For a biographic article, by S. Rintjema, see *Twirre* 12(4): 137-139 (2001), where some of his odonatol. work is outlined.

2002

(14706) (Anonymous), 2002. *Les libellules*. Soc. Limousine Odonatol., Limoges. 16 pp. Softcover (15.0×15.0 cm). ISBN 2-9518097-00. – (Orders to: Soc. Limousine d'Odonatol., 11 rue Jauvion, F-87000 Limoges).
A thin but attractively produced general introduction to the dragonfly world, based on the Limousine fauna, France.

(14707) *ACTES DES PREMIERES ET SECONDES RENCONTRES ODONATOLOGIQUES DE FRANCE*: Bonneveaux (Doubs) 4-6 août 1990; Oulches (Indre), 16-19 juin 1995. Edited by J.-P. Boudot & J.-L. Dommanget, 2002. SFO, Bois-d'Arcy. 114 pp. Softcover (20.5×29 cm). ISBN 2-9507291-5-0. [*Martinia* hors sér. 4]. Price: 29.- net. – (Orders to: J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois-d'Arcy).
Dommanget, J.-L.: Avant-propos (pp. 5-6); – *Brunel, C.*: Les odonates de Picardie: état d'avancement de l'inventaire (pp. 7-12); – *Coppa, G.*: Gestion et protection des milieux aquatiques (pp. 13-16); – *Grand, D.*: Sur la distribution de Macromia splendens (Pictet, 1843) en région méditerranéenne française: complément et synthèse (pp. 17-22); – La faune odonatologique de la fontaine vauclusienne du Lamalou (dép. de Hérault) (pp. 23-26); – *Jacquemin, G. & J.-P. Boudot*: Les odonates des tourbières et lacs acides du massif vosgien: bilan de dix années de prospection (pp. 27-38); – *Mulnet, D.*: Utilisation pratique des modèles de capture recapture: application à une population de Leucorrhinia dubia: problèmes méthodologiques concrets et perspectives (pp. 39-48); – *Orieux, G. & J.-C. Laleurue*: Les odonates de la Loire et de l'Allier dans le département de la Nièvre (pp. 49-51); – *Schmitt, H.*: Introduction à l'inventaire des odonates des environs de Barbezieux (dép. de la Charente) (p. 52); – *Grand, D.*: La distribution de Coenagrion ornatum (Sélys, 1850) en France centrale (pp. 55-57); – *Greff, N., A. Manach & P. Tillier*: Atlas des odonates de Bretagne: état d'avancement et éléments de réflexion (pp. 59-77); – *Jacquemin, G.*: Les odonates de Lorraine: rôle bio-indicateur, protection (pp. 79-84); – *Mulnet, D.*: Développement larvaire de Leucorrhinia dubia (Vander Linden, 1825) dans deux biotopes de tourbière (pp. 85-90); – Étude comparative de l'émergence de plusieurs espèces d'odonates de tourbière (pp. 91-108); – *Röhn, C.*: Ecologie de Lestes dryas Kirby, 1890 et de Sympetrum flaveolum (L., 1758) dans le sud-ouest de l'Allemagne (pp. 109-114; with Engl. & Germ. s's).

(14708) ANDRÉS, J.A., R.A. SANCHEZ-GUILLÉN & A. CORDERO RIVERA, 2002. Evolution of female colour polymorphism in damselflies: testing the hypotheses. *Anim. Behav.* 63(4): 677-685. – (First Author: Dept Ecol. & Envir. Sci., Umeå Univ., S-90187 Umeå).
The existence of several ♀ colour morphs is a conspicuous characteristic of many Zygoptera that show ♂-like (androchrome) and several non ♀-like (gynochrome) morphs. We tested several adaptive hypotheses and the null model for the maintenance of ♀ polychromatism (1 androchrome and 2 gynochromes) were tested in Ceriagrion tenellum. The results indicate that selection is acting to maintain similar frequencies between populations at the colour locus. Using mark-recapture techniques it was found that mating success is not dependent on ♀ coloration. The mimicry hypothesis was tested by presenting live and dead models to ♂♂. Dead models were highly attractive irrespective of coloration. In contrast, with live models ♂♂ could not distinguish between androchromes and other ♂♂, and were more attracted to gynochrome ♀♀. Despite this, within populations morph frequencies remained constant over time and mating was at random with respect to ♀ coloration. However, there was a positive relationship between ♂ density and androchrome frequency in a comparative study of 8 populations. The results are discussed in the framework of sexual conflict theory and, it is suggested

that andro- and gynochrome ♀♀ are using different strategies to control their number of matings. The different morphs might be maintained in a balanced polymorphism by a combination of density- and frequency-dependent mechanisms.

(14709) BAMBARADENLYA, C.N.B., S.P. EKANAYAKE, L.D.C.B. KEKULANDALA, V.A.P. SAMARAWICKRAMA, N.D. RATNAYAKE & R.H.S.S. FERNANDO, 2002. An assessment of the status of biodiversity in the Muthurajawela Wetland Sanctuary. *Occ. Pap. IUCN Sri Lanka* 3: 1-48. – (Authors' addresses unknown).
21 identified odon. spp. are listed from the Sanctuary, Sri Lanka. Their local abundance is stated.

(14710) BOWLES, B., 2002. The 2002 Carden odonate count. *Ontario Insects* 8(1): 17. – (374 Grenville, Orillia, ON, L3V 7P7, CA).
1884 individuals of 43 spp. were sighted; 6-VII-2002, Ontario, Canada. See also *OA* 14256.

(14711) COSTA, J.M., A. DO NASCIMENTO LOURENÇO & L.P. VIEIRA, 2002. Chave de identificação para imagos dos géneros de Libellulidae citados para o Brasil: comentários sobre os géneros (Odonata: Anisoptera). *Ent. Vect.* 9(4): 477-504. (Port., with Engl. s.). – (Depto Ent., Mus. Nac., UFRJ, Quinta da Boa Vista, São Cristóvão, BR-20940-040 Rio de Janeiro, RJ).
35 Libellulidae genera are known from Brazil. An illustrated and commented key to these is here provided.

(14712) DE BOER, E.P., 2002. Fries libellennieuws uit 2002. – [Frisian dragonfly news for 2002]. *Twirre* 13(4): 119-124. (Dutch). – (It Fryske Gea, afd. Planning & Onderzoek, P.O. Box 3, NL-9244 ZN Beetsterzwaag).
Records of, and/or annotations on 18 spp. in Friesland, the Netherlands.

(14713) DE BOER, E.P., 2002. Terugvangst van een gemerkte Noorse winterjuffer in de Lindevallei. – [Recapture of a marked Sympecma paedisca in the Lindevallei]. *Twirre* 13(4): 136. (Dutch). – (It Fryske Gea, afd. Planning & Onderzoek, P.O. Box 3, NL-9244 ZN Beetsterzwaag).
A ♀, marked 13-IX at Weerribben, was recaptured 30--X in the Driessenpolder, at a distance of ca 10 km; Friesland, the Netherlands.

(14714) DE SOUZA, L.O.I. & J.M. COSTA, 2002. Descrição de três larvas de Micrathyria Kirby, 1889, com chave para identificação das larvas conhecidas das espécies brasileiras (Odonata, Libellulidae). *Arqs Mus. nac. Rio de J.* 60(4): 321-331. (Port., with Engl. s.). – (First Author: Lab. Zool., Depto Biol., Univ. Fed. Mato Grosso do Sul, Caixa Postal 649, BR-79100-000 Campo Grande, MS).
The last instar larvae of M. longifasciata, M. spuria, and M. tibialis from Pantanal of Mato Grosso do Sul, Brazil are described and illustrated, and the larvae of the known Brazilian Micrathyria spp. are keyed. – (*Abstractor's Note*: Due to the fully spelt authors' names and lack of typographic distinction in the journal between surnames and given names, the first Author is occasionally erroneously cited and alphabetized as "Irineu de Souza, L.O.").

(14715) DETZEL, P., H.-J. SCHMIEDER, L. ENGELKING, M. ROHL & K. REIDL, 2002. Die Hülben des Albuch. 2. Untersuchungen zur Amphibien- und Libellenfauna, Bewertung aus tierökologischer Sicht sowie Pflege- und Entwicklungsmassnahmen. *Jh. Ges. Naturk. Württemberg* 158: 223-236. – (First Author: Dreifelderstr. 31, D-70599 Stuttgart--Plieningen).
20 odon. spp. are reported from 10 "hülben" (= local appellation for man-made small bodies of water in Ostalb, Baden-Württemberg, SW Germany), and the ecological significance of the "hülbe" odon. communities is analysed. – For a more exhaustive paper on the same subject, see *OA* 6476.

(14716) GEISTER, I., 2002. Pojavljanje afriškega minljivca Hemianax ephippiger (Burmeister, 1839) na slovenskem morskem obrežju (Insecta: Odonata). – Occurrence of the Vagrant Emperor Dragonfly Hemianax ephippiger (Burmeister, 1839) on the Slovene coast (Insecta: Odonata). *Annales, Koper/ Capodistria* (Hist. nat.) 12(1): 93-96. (Slovene, with Engl. & Ital. s's). – (Kocjančiči 18, Sv. Anton, SI--6279 Pobegi).
At Sečovlje Salina (Sicciole) and Škocjan Inlet (Baia di S. Canziano/Val Stagnon), Istria, Slovenia, several adults of both sexes were seen between 18 Apr. and 2 May 2000. Some of these exhibited reproductive behaviour, but an actual reproduction could not be ascertained.

(14717) GERAEDS, R.P.G. & V.A. VAN SCHAIK, 2002. Het voorkomen van de Beekrombout (Gomphus

vulgatissimus) langs de Roer. – Observations on the distribution and ecology of the Club-tailed dragonfly (Gomphus vulgatissimus) along the river Roer. *Natuurh. Maandbl.* 91 (June): 113-118. (Dutch, with Engl. s.). – (First Author: Julianalaan 46, NL-6042 JH Roermond).
1597 exuviae were found along the Roer R., Limburg, the Netherlands (2000-2001). The ideal conditions are slowly-flowing, muddy sections of the river. Most larvae emerge vertically and close to the water line (0--0.5 m), preferably among vegetation.

(14718) *GOMPHUS.* Mededelingsblad van de belgische libellenonderzoekers – Bulletin de liaison des odonatologues belges (ISSN 0772-4691), Vol. 18, No. 1/2 (dated Dec. 2002; mailed 19 March 2003). (Dutch & Fr., mostly with Engl. s's). – (c/o G. De Knijf, Matrouwstraat 10, B-9661 Brakel-Parike).
Tailly, M.: Editorial (pp. 1-2); – *Versonnen, B., G. De Knijf, W. Vercruysse, W. Verhaeghe & T. van Wichelen*: Four observations and first successful reproduction of Sympetrum meridionale (Sélys, 1841) in Belgium (pp. 3-13); – *Adriaens, T.*: Dragonflies of the northern part of Western Flandres: status, importance and conservation (pp. 15-40); – Compte-rendu de l'excursion à Den Diel et du Buitengoor (Mol) du 19 août 2001 (pp. 41-43); – *De Knijf, G. & J. Lambrechts*: Compte-rendu de l'excursion vers la vallée de Zijpbeek et le Mechelse heide du samedi 30 juin 2001 (pp. 42--46); – *Lambrechts, J. & G. De Knijf*: Compte-rendu de l'excursion vers la Vallée du 'Drie Beken' à Diest du 9 juin 2002 (pp. 46-50); – *Goffart, P.*: Compte--rendu de l'excurion sur l'Ourthe moyenne, de Marcourt à Hotton, du 26 juin 2002 (p. 50-52); – *Tilly, M.*: Récensions (pp. 53-56).

(14719) HAWKING, J.H. & G. THEISCHINGER, 2002. The larva of Orthetrum balteatum Lieftinck (Odonata: Libellulidae). *Linz. biol. Beitr.* 34(2): 1511--1514. – (Second Author: 2A Hammersley Rd, Grays Point, NSW-2232, AU).
The supposed larva of this sp. is described and illustrated from the Northern Territory, Australia, and compared with the Australian congeners.

(14720) HERMANS, J.T., 2002. De libellenfauna van het Weerterbos. – The dragonfly fauna of the Weerterbos. *Natuurh. Maandbl.* 91(Dec.): 270-274. (Dutch, with Engl. s.). – (Hertestraat 21, NL-6067 ER Linne).
37 spp. are listed from this area in Limburg, the Netherlands. Their local occurrence and status are stated.

(14721) IYER, G.K. [perhaps GOPAL, K.I.(?)], 2002. Purple skimmer. *Explore Sri Lanka* 16(3): 37. – (Author's address not stated).
A winning phot. of Tholymis tillarga at the Nature Photographer 2001 contest in Colombo. The locality is not stated, but the same image (erroneously identified as "Orthetrum pruinosum neglectum") has appeared also in *Nature photographer Portfolio 2001*, Colombo, where the locality is stated as Narahenpita, Colombo.

(14722) JANZEN, J.-W., 2002. *Arthropods in Baltic Amber.* Ampyx-Verlag, Halle/Saale. 167 pp., col. figs 77-407 incl. Hardcover (22.4×23.6 cm). ISBN 3--932795-14-8. (Germ.). – (Publishers: Dr A. Stark, Seebener Str. 190, D-06114 Halle/Saale; – Author: Oversand 47, D-21217 Seevetal).
General, with short bibliography and no species lists. Col. figs 147-148 show a fossil "Zygoptera head" and "Zygoptera wings", resp. "Odon. larvae are extremely rare, adults very rare, a single sp. described". – (*Abstractor's Note*: The latter statement probably refers to "Agrion antiquum" Hagen, 1856. For the lists of odon. fossils and bibliography, see *OA* 3980 and 8976.)

(14723) JOHANSSON, F., 2002. Reaction norms and production costs of predator-induced morphological defences in a larval dragonfly (Leucorrhinia dubia: Odonata). *Can. J. Zool.* 80(5): 944-950. (With Fr. s.). – (Anim. Ecol., Dept Envir. Sci., Umeå Univ., S--90187 Umeå).
To understand the evolution and ecology of inducible defence one needs to understand the genetics and costs underlying this phenomenon. It has been suggested that the abdominal spines of odonate larvae work as a defensive trait, and that the presence of fish predators induces the production of longer abdominal spines. This study was designed to answer the following questions: (1) What is the shape of the reaction norms of spine length in L. dubia larvae reared in the presence and absence of fish? (2) Does the production of longer spines imply that production costs are incurred in terms of development time or size? A laboratory experiment was performed, in which 30 families of L. dubia larvae were raised in the presence and absence of fish. In general, the presence of fish induced the production of longer abdominal spines in the larvae, and there was a genotype × environment interaction, suggesting the potential for evolution of plasticity of the traits. No production costs could be found with respect to

development time and size at final instar.

(14724) KALNINŠ, M., 2002. Banded Darner, Sympetrum pedemontanum (Allioni, 1766) (Odonata: Libellulidae), a new dragonfly in the fauna of Latvia. *Latv. Ent.* 39: 44-45. (With Latvian s.). – (Ent. Soc. Latvia, 4 Kronvald Blvd, LV-1586 Riga).
1 adult ♂, gravel pit nr Kangarnieki, Riga distr., 15--VII-2001.

(14725) KARUNARATNA, M.A.S.D., 2002. [Libellago greeni]. *Nature Photographer Portfolio 2002*, Colombo, pp. 16-17. – (Author's address not stated).
A winning phot. at the Nature Photographer 2002 contest, Colombo. Locality: "very small stream at Hantane", Sri Lanka.

(14726) KENNER, R.D., 2002. Stokes Beginner's guide to dragonflies [by B. Nikula et al.], and Introducing the dragonflies of British Columbia and the Yukon [by R.A. Cannings]. *Boreus* 22(2): 34-35. – (Spencer Ent. Mus., Dept Zool., Univ. British Columbia, University Blvd, Vancouver, B.C., V6T 1Z4, CA).
A comprehensive book review of the works described in *OA* 14370 and 14521, combined.

(14727) KLENOVŠEK, D., 2002. Pestrost in ogroženost življenja ob Spodnji Savi. – [The diversity and the manaced existence of the living world along the Lower Sava river]. *Svet Ptic* 8(2): 15-16. (Slovene). – (Author's address not stated).
The occurrence of Coenagrion scitulum is mentioned for clay- and gravel pits in the area of Brežice, Slovenia.

(14728) KOSTERIN, O.E., 2002. Gomphidae: Dedka shiporogiy Ophiogomphus spinicornis Selys, 1878. *In*: N.I. Putincev et al., [Eds], *Krasnaya kniga Respubliki Tyva*, p. 14, "Geo", Siber. Br. Russ. Acad. Sci., Novosibirsk, ISBN 5-7692-0523-7. (Russ.). – (Author: Inst. Cytol. & Genet., Siber. Br., Russ. Acad. Sci., Lavrentiev Ave 10, RUS-630090 Novosibirsk).
A morphological description, and the information on its distribution (with map), biology, ecology, and status are provided, and the requirements for its conservation are stated. – Tyva Republic, Russia.

(14729) MARINOV, M., 2002. Dragonflies (Odonata: Insecta) in the Bulgarian wetlands: current status, distribution and their importance as bio-indicators. *In*: A. Ahyaudin et al., [Eds], *The Asian wetlands: bringing partnerships into good wetland practices*, 10 pp. [provided as an e-mail attached file, without pagination], Penerbit Univ. Sains Malaysia, Pulau Pinang, ISBN 983-8614-230-8. – (Author: P.O. Box 134, BG-1000 Sofia).
The Bulgarian wetland areas and their resp. odon. assemblages are reviewed, and the odon. value in the wetland quality assessment is outlined.

(14730) MATUSHKINA, N. & S. GORB, 2002. Stylus of the odonate endophytic ovipositor: a mechanosensory organ controlling egg positioning. *J. Insect Physiol.* 48(2): 213-219. – (Second Author: Max-Planck Inst. Develop. Biol., Spemannstr. 35, D-72076 Tübingen).
Using light and scanning electron microscopy, a sensory field consisting of 15-20 campaniform sensilae is described on the base of the stylus of the endophytic ovipositor. It is hypothesized that 2 symmetric styli equipped with this number of sensillae can function as a mechanosensory organ responsible for control of precise egg positioning in plant stems during oviposition. In laboratory experiments with ♀♀ Lestes sponsa and L. barbarus it was demonstrated that the distance between laid eggs is not dependent on the presence of styli. Removal of styli from both sides did not influence a shift of oviposition to one side. ♀♀ with one removed stylus shifted the clutch line in the opposite direction toward the removed stylus. Additionally, removal of styli influenced positions of single eggs in egg sets, and disturbed the capacity for complex oviposition. Thus, both morphological and experimental data support the hypothesis that styli participate in the control of egg line and egg patterning in the clutch.

(14731) MAY, M.L. & J.M. BAIRD, 2002. A comparison of foraging behavior in two "percher" dragonflies, Pachydiplax longipennis and Erythemis simplicicollis (Odonata: Libellulidae). *J. Insect Behav.* 15(6): 765-778. – (Dept Ent., Rutgers Univ., New Brunswick, NJ 08903, USA).
Feeding behaviors in adults of the 2 spp. were compared. All results pertain to feeding from natural perches located some distance away from reproductive rendezvous sites. Compared to P. longipennis, E. simplicicollis chose broader and less structurally discrete perches, moved more frequently and over a larger area, and took, on average, much larger prey, although diet overlapped broadly in the 2 spp. Erythemis made more frequent feeding flights but with a much lower success rate than Pachydiplax; consequently the

prey capture rate was similar in the 2 spp. Gut contents of mature, but not of immature, E. simplicicollis comprised a significantly greater proportion of body mass than in P. longipennis, apparently confirming the importance of larger prey in the diet of the former.

(14732) MITRA, T.R., 2002. Endemic Odonata of India. *Rec. zool. Surv. India* 100(3/4): 189-199. – (208 Raja Ram Mohan Roy Rd, Calcutta-700 008, India).
Out of ca 500 spp. & sspp. of the Indian fauna, 201 are endemic. The endemic genera are Caconeura, Esme, Melaneura, Phylloneura, Calocypha, Davidioides and Dubitogomphus.

(14733) MITRA, T.R., 2002. Note on zoogeography of Odonata (Insecta) of Nicobar Islands, Indian Ocean. *Rec. zool. Surv. India* 100(3/4): 183-188. – (208 Raja Ram Mohan Roy Rd, Calcutta-700 008, India).
32 spp. are checklisted and their biogeographic affinities are discussed.

(14734) MURRAY, C., 2002. *A dragonfly's world. The dragonfly slide pack focusing on habitat management.* British Dragonfly Soc., Stoke-on-Trent. 17 pp.+60 col. slides. Softcover (20.7×29.5 cm). ISBN none. – (Available from the President: Mr T. Beynon, 34 Church Lane, Checkley, Stoke-on-Trent, ST10 4NJ, UK).
The subjects covered are the basic dragonfly biology, habitat requirements, conservation and management of various types of habitats, based on British fauna and on the situations in Britain. Even so, the pack will be useful in other parts of the world as well.

(14735) *NATURE AND INSECTS* (ISSN 0023-3218), Vol. 37, No. 9 (20 Aug. 2002), 36 pp.: *Evolutionary ecology of dragonflies: some current topics.* (Jap., larger papers with Engl. titles). – (Publishers: New Science, 108-0074, 8-14, 3-chome, Takanawa, Minato-ku, Tokyo, JA).
Cover phot.: Crocothemis s. servilia; – Larger papers: *Nomakuchi, S.*: Current studies of dragonflies (pp. 2--3); – *Sawada, K.*: Prolonged copulation in Ischnura senegalensis (pp. 4-8); – *Matsubara, K. & M. Hironaka*: Behaviour and physiology in the reproductive strategy of calopterygid damselflies (Zygoptera) (pp. 9-13); – *Higashi, K. & S. Nomakuchi*: Alternative mating tactics and aggressive male interactions in Mnais nawai Yamamoto (Zygoptera: Calopterygidae) (pp. 14-18); – *Kasuya, E.*: Evolution in courtship display (pp. 19-21); – *Kayano, H. & K. Higashi*: Limits of distribution in distinct karyomorphs of Crocothemis servilia (Drury) (pp. 22-25). – For other Odon. topic issues of this periodical, see *OA* 2572, 11011, 11600, 12157, 12988, 13598, and 14451.

(14736) PAVESI, M., C. PESARINI & A. SABBADINI, 2002. Le ricerche entomologiche all'Oasi Zegna. *Natura, Milano* 92(1): 28-32. – (First Author: Viale Beatrice d'Este 18, I-20122 Milano).
Since 1999, the Milano Mus. Nat. Hist. is conducting a systematic biodiversity survey in the Oasis Zegna, Val Sessera, BI, NW Italy. Here, only general outlines of the results are stated. The appropriate odon. habitats are lacking, 15 spp. were recorded, Calopteryx virgo and Cordulegaster bidentata are mentioned.

(14737) PETERLIN, S., 2002. Bodoči Krajinski park Radensko polje. – Future Landscape Park Radensko polje. *Proteus, Ljubljana* 65(3): 124-131, 142. (Slovene, with Engl. s.). – (Valvazorjev dvor 8, SI-1290 Grosuplje).
Out of the 27 hitherto evidenced odon. spp., the occurrence of Coenagrion pulchellum, Brachytron pratense, Somatochlora flavomaculata, Libellula fulva and Sympetrum fonscolombei is emphasized. For a complete review and analysis of the odon. fauna of this locality (Lower Carniola, central Slovenia), see *OA* 14042.

(14738) RINTJEMA, S. & R. UILHOORN, 2002. Bijzondere libellen in Fryslân. – [Frisian dragonflies]. *Twirre* 13(3): 69-77. (Dutch). – (First Author: It Fryske Gea, afd. Planning & Onderzoek, P.O. Box 3, NL-9244 ZN Beetsterzwaag).
A detailed account on the occurrence in Friesland (the Netherlands) of 11 red-listed, and 5 otherwise interesting spp., considerations on Coenagrion armatum, C. hastulatum and Leucorrhinia albifrons, and annotations on the odon. fauna of 3 particularly interesting Frisian regions.

(14739) SCHLUPMANN, M., 2002. Zönosen der Odonaten stehender Kleingewässer im Hagener Raum: Artenzahlen, ihre Ermittlung und die Abgrenzung von Libellengemeinschaften. *Decheniana* 155: 59-76. (With Engl. s.). – Hierseier Weg 18, D-58119 Hagen).
312 ponds were studied in the city area of Hagen, W Germany. In 13% of these no odon. were found, and 34% of ponds were only colonised by Aeshna cyanea, while only 2 spp. occurred in 16% of ponds. The association Aeshna cyanea-Pyrrhosoma nymphula was

dominant. The data are statistically analysed.

(14740) SCHMID-ARAYA, J.M., A.G. HILDREW, A. ROBERTSON, P.E. SCHMID & J. WINTER-BOTTOM, 2002. The importance of meiofauna in food webs: evidence from an acid stream. *Ecology* 83(5): 1271-1285. Appendix, taxa and taxonomic groups, do not appear in the journal; it is downloadable from ESA's Electronic Data Archive: *Ecological Archives* E083--020-A1). – (First Author: Sch. Biol. Sci., Queen Mary, Univ. London, Mile End Rd, London, E1 4NS, UK).
The work is based on the same studies as reported in *OA* 14665 and 14747. No reference to the odon. is given in the text, Cordulegaster boltonii is listed in the App.

(14741) SCHWEIZER, E., 2002. *Unsere guten Nachbarn: Elfen, Gnomen und andere Naturwesen in der Schweiz.* Zytglogge, Bern. ii+126 pp. Hardcover (24.0×21.0 cm). ISBN 3-7296-0645-X. Price: CHF 42.- net. – (Publishers: Eigerweg 16, CH-3073 Gümlingen).
The dragonfly-like spirits are described from Rheinau/ZH, Seeweidbach-Wasserfall at Schwarzsee/FR, and from the Schalbergfels in Klus nr Aesch/BL, Switzerland. – For a comprehensive description of the book (but without references to dragonflies), see J. Tschirky, 2003, *Terra plana* 2003(1): 51-54.

(14742) ŠEGULA, B., 2002. Živali na vrtu; plešoča prosojna krila. – [Animals in the garden: dancing transparent wings]. *Rože Vrt* 1(6): 24, 29. (Slovene). – Lepi pot 4, SI-1000 Ljubljana).
A brief presentation of dragonflies directed at the holders of home gardens (p. 24), with a suggestion for the construction of a dragonfly garden pond (p. 29).

(14743) STEVENS, M. & H.-W. RIEDEL, 2002. Verbreitung der Larven der Quelljungfern (Cordulegaster) (Odonata, Cordulegastridae) im Raum Bergisch Gladbach. *Decheniana* 155: 105-112. (With Engl. s.). – (First Author: Inst. Zoomorphol., Univ Düsseldorf, Universitätsstr. 1, D-40225 Düsseldorf).
Bergisches Land, adjacent to the Rhein-Ruhr district, W Germany has ca 200 km of brooks, but ca 30% of these are channelled or ducted. Since 1989, the Cordulegaster population was sampled at 75 sites. The densities of C. boltonii appear low but stable, those of C. bidentata could not be ascertained.

(14744) TARBOTON, W. & M. TARBOTON, 2002. *A fieldguide to the dragonflies of South Africa.* Warwick, Modimolle, 96 pp. Softcover (16.8×23.8 cm). ISBN 0-620-29887-1. Price: Euro 35.90 net. – (Orders to the Authors: Box 327, Modimolle-0510, SA).
An attractive field guide to the Anisopt. of S Africa, the first of its kind on the market, with 275 col. figs and 90 distribution maps. All regional spp. are adequately described, their general distribution is stated, the known regional occurrence mapped, and high-quality "identification photographs" of all of them are provided. Also included are simple pictorial tree-keys to the families and to the gomphid and libellulid genera. The book is written in an "easy" language, hence it will serve as an indispensable identification tool also to non-professionals.

(14745) TAYLOR, R.T., 2002. Derbyshire Odonata report for 2001. *J. Derbys. Notts. ent. Soc.* 148: 13-23. – (Author's address not stated).
Records for 21 spp.; – UK.

(14746) [VAN DER POORTEN, N.], 2002. A preliminary list of some insects from Tommy Thompson Park (Leslie Street split) [Lake Ontario, Toronto]. *Ontario Insects* 8(1): 18-19. – (164 Morse St., Toronto, ON, M4M 2P8, CA).
A checklist of 17 odon. spp.

(14747) WOODWARD, G. & A.G. HILDREW, 2002. Differential vulnerability of prey to an invading top predator: integrated field surveys and laboratory experiments. *Ecol. Ent.* 27(6): 732-744. – (First Author: Dept Zool. & Anim. Ecol., Univ. Coll. Cork, Cork, Ireland).
A new top predator, Cordulegaster boltonii, invaded Broadstone Stream, SE England in the mid 1990s. This provided a rare opportunity to assess the impact of a new, large carnivore on a community that has been studied since the 1970s and has one of the most detailed food webs yet published. The vulnerability of the resident spp. to the invader is assessed by integrating experiments, which examined discrete stages in the predation sequence with empirical survey data.

(14748) XYLANDER, W.E.R. & M. RICHTER, 2002. Erstnachweis der Pokalazurjungfer Cercion lindenii (Sélys, 1840) (Odonata, Coenagrionidae) für den Freistaat Sachsen. *Abh. Ber. NaturkMus. Görlitz* 74(2): 273-282. (With Engl. s.). – (First Author: Staat. Mus. Naturk., Postfach 300154, D-02806 Görlitz).
A small population (adults only) was discovered at

Knappensee nr Koblenz/Sachsen. A detailed habitat description is provided. In agreement with the material from other E German localities, the individuals are significantly larger than those in the West.

(14749) ZIMMERMANN, W., 2002. Libellen (Odonata). *In*: M. Görner, [Ed.], *Thüringer Tierwelt*, pp. 263-273, ArbeitsGr. Artenschutz Thüringen, Jena, ISBN 3-00-010168-3. – (Thomas-Münzer-Str. 5, D--99423 Weimar).
A general paper on the odon. fauna (61 spp.) of Thuringia, E Germany, including information on the status and on the type of habitat for all spp.

(14750) ZOLDA, P., J. ORTEL & W. WAITZBAUER, 2002. Ecological characterization of a Mediterranean fresh water pool on the Merag peninsula, Cres (Croatia). *Annales, Koper/Capodistria* (Hist. nat.) 12(1): 73-82. (With Ital. & Slovene s's). – (Inst. Ecol. & Conserv. Biol., Univ. Vienna, Althanstr. 14, A-1090 Wien).
Water chemistry, flora and fauna of a pond at Sveti Vid, island of Cres (Cherso), Croatia were investigated during 1997-2001. A list of 9 odon. spp. is presented.

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(14751) *AGRION, PURLEY.* Newsletter of the Worldwide Dragonfly Association (ISSN 1476-2552), Vol. 7, No. 1 (Jan. 2003). – (c/o J. Silsby, 37 Astoria Court, 116 High Street, Purley, Surrey, CR8 2XT, UK). [Selected articles]: *Corbet, P.*: WDA has a Patron (pp. 1-2; Prof. Emer. E.O. Wilson, Harvard Univ.); – *Gennerd, D.*: Supporting conservation: a culture of coordination (pp. 2-3); – *Seidenbusch, R.*: Lorenz'sche Prägung (pp. 4-5; autobiographic note); – *Corbet, P.*: A brief odonatological excursion to Nambia (p. 6); – *Taylor, I.*: Dragonfly dreaming in Western Australia (pp. 6-7); – *Paulson, D.*: Thoughts on odonates in tropical rainforests (pp. 7-8); – *SaintOurs, F. & J. Silsby*: Comparing dragonfly visitors to a Massachusetts back yard with those to a Surrey garden (pp. 8-9); – *Hämäläinen, M.*: The rules work, or a story how Aeshna mixta was found in Finland (p. 9).

(14752) *AOHADA*, Kyoto (ISSN none), No. 2 (1 Apr. 2003). Jap., with Engl. titles). – (c/o A. Sasamoto, 45-301 Yoshida-izumidono-cho, Sakyo-ku, Kyoto, 606--8301, JA).
Sasamoto, A. & T. Honda: Collecting records of Odonata in the Laos in the spring of 2002 (pp. 1-21); – *Hisamatsu, S. & A. Sasamoto*: A record of Odonata collected in Sarawak, Borneo (Kalimanthan) island, Malaysia (pp. 22-26); – *Kiyoshi, T.*: Travelling alone again along the Nansei Archipelago (pp. 27-33; records of 26 spp.); – An Odonata collecting trip to Niigata and Nagano prefectures (pp. 34-36); – Some records of Anisogomphus maacki from the Kamo-gawa river in Kyoto prefecture (p. 37); – *Sasamoto, A.*: Brief notes on some ecology of larvae of Chlorogomphus spp. under breeding (pp. 38-39); – *Honda, T.*: Pantala flavescens coming to a flashlight (p. 40); – *Kiyoshi, T., T. Honda & S. Hisamatsu*: A record of living larvae of Sarasaeschna pryeri (Martin) from a wetland of Kyoto prefecture (pp. 41-42); – *Sasamoto, A.*: Introduction of interesting articles on Odonata, 1 (pp. 43-45); – *Sasamoto, A. / Kioshi, T. / Hisamatsu, S. / Shibata, H. / Honda, T.*: Favorite Odonata best 3 (sic; pp. 46-50).

(14753) *ARGIA*. The news journal of the Dragonfly Society of the Americas (ISSN 1061-8503), Vol. 15, No. 1 (5 Apr. 2003). – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA). [Scientific articles]: *Biggs, K.*: DSA meeting in California, 20-22 June 2003 (pp. 3-5; the announcement includes species lists of 3 localities to be visited); – *Walker, J. & J. Smentowski*: Tachopteryx thoreyi (Hagen), Somatochlora tenebrosa (Say) and S. hineana Williamson: observations from Missouri (pp. 6-11); – *Bocanegra, O.R. & J.M. Lewis*: A preliminary list of the Odonata of Torrell county, Texas (pp. 11-13); – *DuBois, R.B.*: Unreliability of taxonomic keys to larval Leucorrhinia (pp. 13-14); – *Catling, P.M.*: How important are dragonflies to Swallow-tailed kites? (pp. 14-16); – *Allen, P.*: Cuba, 20 March - 5 April 2000 (pp. 16-17; records); – *Montero Moreno, J.R.*: A note of Thaumatoneura inopinata McLachlan, 1897 in Rio Chitaria, Costa Rica, with a lost of Costa Rican Megapodagrionidae (p. 17); – *Donnelly, N.*: Dragonflies as hitchhikers? A puzzling record of Gomphus graslinellus from under the bridge, a threat to dragonfly collections? (p. 18); – *Czaplak, D.*: A Phyllocycla in Texas (pp. 18-19; sp. not identified); – *Smentowski, J. & J. Walker*: A portable pocket-sized, field odonate cage, or after you catch them, then what? (p. 21).

(14754) ASKEW, R.R., 2003. Guide to the dragonflies of Ireland, by B. Nelson et al. *Ent. mon. Mag.* 139 (1664/1666): 29. – (5 Beeston Hall Mews, Beeston, Tarporley, Cheshire, CW6 9TZ, UK).
A comprehensive book review of the work described in *OA* 14703.

(14755) *ATROPOS* (ISSN 1478-8128), No. 19 (May 2003). – (c/o M. Tunmore, 36 Tinker Lane, Meltham, Holmfirth, W Yorks, HD9 4EX, UK).
[Odon. articles]: *Cham, S.*: Small red-eyed damselfly Erythromma viridulum (Charpentier) records in 2002 (p. 19-24); – *Hale, P.*: Letter from Andalucia (pp. 63--64); – *Beynon, T.*: Dragonfly conservation from the BDS (pp. 70-71); – *InsectLine*: Insects reported during the early part of 2003 (pp. 71-72); – *Parr, A.*: Odonata Records Committee update (p. 73); – *Nobes, G.*: Small red damselfly Ceriagrion tenellum in Norfolk (pp. 75--76; pl. 8, fig 18 excl.).

(14756) BAAIJENS, A., 2003. Libellen in 2002. – [Dragonflies in 2002]. *Zeeuwse Prikkebeen* 11(1): 22. (Dutch). – (Grote Abeele 40, NL-4388 VW Oost--Souburg).
Highlights of the 2002 season in Zeeland prov., the Netherlands. Among the noteworthy records are those of Calopteryx splendens, Sympecma fusca, Pyrrhosoma nymphula (expanding!), and Crocothemis erythraea.

(14757) BEKETOV, M.A., 2003. Harakteristika kachestva vod po pokazatelyam makrozoobentosa. – [Characteristics of water quality by benthic invertebrates]. *Ezheg. territ. Centr Monitor. Zagraz. okruzh. Sredy* 2002(1): 44-57. (Russ.). – (P.O. Box 156, RUS--630048 Novosibirsk).
The macroinvertebrate monitoring was conducted on several W Siberian rivers, Russia. Positive correlation was found between water quality and the metrics of macroinvertebrate assemblages (incl. rheophylic odon.) such as Shannon Diversity, Probability of Interspecific Encounters, Diversity Index, EPT and EPTO spp. numbers, and Woodwiss Index of Biotic Integrity (IBI). The non-rheophilic odon. are considered as a possible environmental indicator group. 34 odon. spp. are listed from 10 localities.

(14758) BOUWMAN, J., 2003. [Book review]. De Nederlandse libellen, edited by K.-D.B. Dijkstra, V.J. Kalkman & M.J.T. van der Weide. *Vlinders* 18(1): 29. (Dutch). – (Author's address not stated).
Re the volume described in *OA* 14600

(14759) BOWLER, J., 2003. The Odonata of Aride Island Nature Reserve, Seychelles: patterns in seasonal abundance and breeding activity. *Opusc. zool. flumin.* 210: 1-22. – (Shepherd's Cottage, Heylipol, Isle of Tiree, Argyll, PA77 6TY, UK).
The abundance and breeding activity were recorded over the course of a year. Observational data were collected on repeated weekly transects, conducted at 3 times of day, through both wet and dry sections of the low-lying coastal plateau from Feb. 1998 to Jan. 1999. A total of 11 spp. was recorded, including Ceriagrion glabrum which accounted for almost half of all sightings. Numbers were highest in the period Feb.-Apr. at the end of the wetter NW monsoon and declined thereafter during drier conditions, although species diversity remained similar throughout the year. Odon. became more closely tied to remaining patches of open water during the dry season. More of them were encountered at midday than on the morning and evening transects, although individual spp. exhibited a range of diurnal activity patterns. Egg-laying was recorded for 7 spp.

(14760) *BRACHYTRON* (ISSN 1386-3460), Vol. 6, No. 2 (March 2003) (Dutch, with Engl. s's). – (c/o G. Abbingh, Muddegoorn 78, NL-9403 NK Assen).
Mensing, V.: Sympetrum pedemontanum in Overijssel: an up-date to the distribution in the Netherlands (pp. 35-42); – *Kroes, R., D. Groenendijk & H.G. van der Geese*: The influence of food supply and current velocity on microhabitat selection of Calopteryx virgo larvae (pp. 43-46); – *Ruiter, E.J.*: Odonata of Schiermonnikoog: a first impression (pp. 47-55); – *Van der Weide, M.*: 'De Nederlandse libellen', about the results and the future (pp. 56-59); – *Van Velzen, J.-W. / Groenendijk, M.*: book reviews (pp. 60-62).

(14761) BROOKS, S., 2003. *Dragonflies*. Nat. Hist. Mus. Lond. 98 p., 95 col. phot. incl. Softcover (21.0×23.5 cm). ISBN 0-565-09180-8. Price: £ 9.95 net. – (Distributors: Australia: CSIRO Publishing, P.O. Box 1139, Collingwood, Vic. 3066, AU; – New World: Smithsonian Books, 750 Ninth St., NW, Suite 4300, Washington, DC 20560-0950, USA; – Others: Plymbridge Distrib., Plymbridge House, Estover Rd, Plymouth, Devon, PL6 7PY, UK).
A concise, perfectly designed and balanced, very legible and beautifully produced introduction to the order, by the Odon. Curator of the Nat. Hist. Mus., London (BMNH). – Briefly covered are the main subjects of odon. systematics (incl. a survey of 29 extant families), fossil record, immature stages, biology and behaviour, and good space is alloted to the "dragonflies and humans", dealing with dragonflies in folkore, medicine and poetry, with human impact and conservation, odon. recording, construction of a dragonfly pond, etc. The bibliographic list is short, presenting a dozen of recent

commercially available key titles on biology and on all faunal regions. A directory of some odonatol. societies is added. – The book is a perfect "introduction" for a serious beginner, and much more than merely a "refreshing reading" for a seasoned professional.

(14762) BUCZYNSKI, P., 2003. Uwagi i uzupełnienia do pracy W. Bazyluka o ważkach okolic Siemienia. – Remarks on the paper by W. Bazyluk about dragonflies of the vicinities of Siemień. *Nowy Pam. fizjogr.* 1(2): 207-208. (Pol., with Engl. s.). – (Inst. Zool., Univ. Maria Curie-Składowska, Akademicka 19, PO-20-033 Lublin).
A corrective note on the paper listed in *OA* 14472. Sympecma fusca was erroneously identified; the specimen is referable to S. paedisca.

(14763) *BULLETIN OF AMERICAN ODONATOLOGY* (ISSN 1061-2781), Vol. 7, No. 1 (5 Apr. 2003). – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA).
O'Brien, M.F., E. Bright & M.A. Kielb: The Odonata of the Huron Mountains, Marquette Co., Michigan (pp. 1-22 + 1 p. Appendix as lay-in; 79 spp).

(14764) CHAPLINA, I.A., 2003. K faune strekoz Kazahstana. – [On the dragonfly fauna of Kazakhstan]. *In*: A.Yu. Haritonov & L.N. Sivohinova, [Eds], *Biologicheskaya nauka i obrazovanie v pedagogicheskih vuzah*, Vol. 3, pp. 19-23, Novosibirsk St. Pedagog. Univ., Novosibirsk, ISBN 5-85921-293-3. (Russ.). – (Inst. Anim. Syst. & Ecol., Russ. Acad. Sci., ul. Frunze 11, RUS-630091 Novosibirsk).
The history of odonatol. exploration of Kazakhstan since the Selysian times (1872) is briefly reviewed and the bibliography is provided. Aeshna caerulea, A. subarctica, Somatochlora graeseri (all from southern Altai), Anormogomphus kirtschenkoi (Kazalinsk), and Macromia amphigena fraenata (Sibinskie Lakes nr Ust'-Kamenogorsk) are added to the fauna of the state.

(14765) CORBET, P.S., 2003. Foreword. *In*: P. Miller & K. Miller, *East African dragonflies*, pp. vii-viii, Nature Kenya, Nairobi. – Crean Mill, Crean, St Buryan, Cornwall, TR19 6HA, UK).
Forword in the volume described in *OA* 14672. It also includes a brief appreciation of the late P.L. Miller's (1931-1996) work.

(14766) [CORBET, P.S.] ROWE, R., 2003. Dragonflies: Behaviour and ecology of Odonata, by P.S. Corbet. *Aust. J. Ent.* 42(2): 210-211. – (Sch. Trop. Biol., James Cook Univ., Townsville, Qld 4811, AU).
A comprehensive review of the work described in *OA* 12810. A brief comment on Silsby's book (*OA* 14126) is also included.

(14767) *DIGEST OF JAPANESE ODONATOLOGICAL SHORT COMMUNICATIONS*, No. 14 (May 2003). – Translated, edited and produced by N. ISHIZAWA (1644-15, Yamaguchi, Tokorozawa, Saitama, 359-1145, JA).
Kano, K.: Dragonflies reacted to rotating fans (p. 1); – *Kano, K. & H. Karube*: Endophytic oviposition into leaves by Agriomorpha fusca from Vietnam (pp. 1-2); – *Yagi, T.*: Aeshna juncea male copulated with a dead female (p. 2); – *Ozono, A.*: A record of Tholymis tillarga from Nara pref. (p. 2); – *Naraoka, H.*: Establishment of Pseudothemis zonata to central and south of Aomori (p. 3); – Reproductive behavior of Lestes temporalis Hansemann (Odonata, Lestidae) (pp. 3-4).

(14768) EALES, H.T., 2003. An atlas of the dragonflies of Northumberland and Durham: an update. *Vasculum* 88(1): 12-19. – (11 Ennerdale Tce, Low Westwood, Durham, NE 17 7PN, UK).
The earliest known Northumberland odon. records date from 1769, and those from Durham from 1826. The history and the problems of the recording are outlined, the questionable records are addressed and discussed, a map showing all known records by tetrad is provided, and an analysis of the known local odon. records (26 spp.) is presented.

(14769) *ERJAVECIA*. Bulletin of the Slovene Odonatological Society (ISSN 1408-8185), No. 15 (dated 30 Apr., mailed 12 July 2003). (Slovene). – (c/o M. Bedjanič, Fram 117/A, SI-2313 Fram).
In the feature article, by *B. Kiauta* (pp. 1-6), the life and work of Rev. G. Strobl (1846-1925) are briefly outlined with emphasis on his contribution to the knowledge of the odon. fauna of Slovenia. *M. Bedjanič* is presenting the principles of the odon. work in the Natura 2000 project in Slovenia (pp. 8-11), and is bringing on record a case of cat predation on adult Aeshna cyanea (pp. 13-14). *A. Šalamun* is giving some interesting odon. records from Dobrava in the Lower Carniola (pp. 12-13). Also included are a report on the 2003 Plenary Business Meeting of the Society, an outline of the 2003 summer workshops, and additions to the Slovene odonatol. bibliography (Nos 469-496,

by *M. Bedjanič*).

(14770) FLECK, G., 2003. Contribution à la connaissance des odonates de Guyane française: les larves des genres Argyrothemis Ris, 1911 et Oligoclada Karsch, 1889 (Insecta, Odonata, Anisoptera, Libellulidae). *Annln Naturh. Mus. Wien* (B) 104: 341-352. (With Engl. & Germ. s's). – (Zool. Mus. A. König, Adenauerallee 160, D-53115 Bonn).
The larvae of A. argentea, O. abbreviata and O. pachystigma are described and illustrated for the first time. Some taxonomic considerations and notes on ecology are added.

(14771) *FRASERIA* (N.S.). South Asian bulletin of odonatology (ISSN none), Vol. 7, No. 1/2 (dated Dec. 2002, published Apr. 2003). – (Orders outside SE Asia: c/o Odonatologica, P.O. Box 256, NL-3720 AG Bilthoven).
Suri Babu, B.: [Obituary] Dr B.K. Srivastava (pp. 1-2); – *Kirti, J.S. & A. Singh*: Taxonomic significance of hamule in some species of family gomphidae (Odonata) (pp. 3-8); – Studies on the male secondary genitalia of two species of genus Sympetrum Newman (Libellulidae: Anisoptera) (pp. 9-12); – *Walia, G.K. & R. Sandhu*: Cytogenetical data on Neurobasis c. chinensis (Zygoptera: Calopterygidae) (pp. 13-16); – Reduction of chromosome number in five libellulid species (p. 17-20); – *Vashishth, N., P.C. Joshi & A. Singh*: Odonata community dynamics in Rajaji National Park, India (pp. 21-25); – *News* (pp. 26-32).

(14772) FROST, P.C., S.E. TANK, M.A. TURNER & J.J. ELSER, 2003. Elemental composition of littoral invertebrates from oligotrophic and eutrophic Canadian lakes. *Jl N. Am. benthol. Soc.* 22(1): 51-62. (Second Author: Dept Biol. Sci., Univ. Alberta, Edmonton, AB, T6G 2E9, CA).
The P, N, and C content of littoral invertebrates from 8 lakes in Alberta (incl. Jasper Natn Park) and NW Ontario is described. The odon. are listed genus-wise. They had an intermediate P content, and were among the most N-rich organisms sampled. Body C content was generally similar among all invertebrate taxa with the exception of the amphipods, which had a significantly lower C content.

(14773) GEISTER, I., 2003. Naravne znamenitosti Brda pri Kranju. – [Noteworthy nature peculiarities of the Brdo Castle property near Kranj]. *Gea, Ljubljana* 13(4): 8-19. (Slovene). – (Kocjančiči 18, SI-6276 Pobegi).
6 odon. spp. of particular interest are mentioned from the property; – Upper Carniola, Slovenia.

(14774) GORSAK, B. & B. BAKAN, 2003. Krajinski park Mura. – The Mura Landscape Park. *Proteus, Ljubljana* 65(7): 311-322, 334 (Slovene, with Engl. s.). – (Authors' addresses not stated).
The Mura R. (NE Slovenia) is well known for its high biodiversity. On p. 318, 16 odon. sp. are mentioned; vernacular nomenclature only.

(14775) GROENENDIJK, D., 2003. Opmerkelijk. – [Striking]. *Vlinders* 18(1): 32. (Dutch). – (Author's address not stated).
Sympecma paedisca, marked in the Weerribben, was recaptured in the Lindevallei, ca 12 km off. This is the longest distance yet on record in this sp. in the Netherlands. The adults were seen early in Dec. 2002, but it is unclear whether the observation concerns the individuals preparing for hibernation. – See also *OA* 14713.

(14776) GUERBAA, K., [Ed.], 2003. *Atlas des libellules du Limousin*. Soc. Limousine Odonatol., Limoges. 110 pp. Softcover (14.7×20.7 cm). ISBN none. [*Epops*, Hors Sér.; ISSN 1148-4500]. – (Ed. & Publisher: 11 rue Jauvion, F-87000 Limoges).
The occurrence in Limousin (France) of 68 spp. is mapped, and detailed information is presented on their status and habitats. The attractive drawings of the portraits of many spp. are enhancing the value of the book.

(14777) *INTERNATIONAL JOURNAL OF ODONATOLOGY* (ISSN 1388-7890), Vol. 6, No. 1 (1 Apr. 2003). *Clausnitzer, V.*: Rediscovery of Amanipodagrion gilliesi, with notes on habitat, behaviour and conservation (Odonata: Megapodagrionidae) (pp. 1-8); – *Clausnitzer, V. & G. Peters*: Identity and distribution of the little known Aeshna meruensis (Odonata: Aeshnidae) (pp. 9-16); – *Dijkstra, K.-D.B.*: Fooled by the double: Brachythemis liberiensis is Parazyxomma flavicans, with a note on the Zyxommatini (Odonata: Libellulidae) (pp. 17-21); – *Hedström, I. & G. Sahlén*: An extended description of the larva of Megaloprepus caerulatus from Costa Rica (Odonata: Pseudostigmatidae) (pp. 23-31); – *Paulson, D.R.*: Teinobasis budeni sp. nov. from Pohnpei, Eastern Caroline Islands, Micronesia (Odonata: Coenagrionidae) (pp. 33-37); – *Paulson, D.R. & D.W. Buden*: The Odonata of Pohnpei, Eastern Caroline Islands, Micronesia (pp. 39-64); – *Watanabe, M. & Y. Mimura*: Population dynamics of

Mortonagrion hirosei (Odonata: Coenagrionidae) (pp. 65-78); – *Worthen, W.B.*: Nested-subset structure of larval odonate assemblages in the Enoree River basin, USA (pp. 79-90); – *Zhou, W.*: Macromia hamata sp. nov. from Guizhou, China (Odonata: Corduliidae) (pp. 91-94); – *Parr, M.J.*: [Obituary] Evelyn D.V. Prendergast (1918-2001) (pp. 95-98).

(14778) KALIGARIČ, S., A. SENEGAČNIK, M. BEDJANIČ & M. JEŽ, 2003. *Naravovarstvene smernice za območje občine Črenšovci.* – [*Nature conservation directives for the territory of Črenšovci parish*]. ZRSVN, Maribor. 49 pp. (Slovene). – (ZRSVN-OE Maribor, Slomškov trg 6, SI-2000 Maribor).
Coenagrion pulchellum, Anaciaeschna isosceles, Somatochlora flavomaculata and Libellula fulva are among the noteworthy odon. sp. of the Mura oxbows in the Črenšovci area, NE Slovenia. The population of the latter spp. is appreciably large.

(14779) KALKMAN, V., R. KETELAAR & M. VAN DER WEIDE, 2003. Libellen (Odonata) in de periode 1998-2002. – [Dragonflies (Odonata) in the period 1998-2002]. *In*: *Waarnemingenverslag dagvlinders, libellen en sprinkhanen*. EIS-Nederland, Vlinderstichting & Ned. Ver. Libellenstud., Wageningen, pp. 31-53. (Dutch). – (First Author: Naturalis, P.O. Box 9517, NL-2300 RA Leiden).
The Netherlands 1998-2002 records, provided by 272 recorders, are mapped for 64 spp. The highlights are emphasized and the occurrence of the nationally interesting taxa is outlined.

(14780) KIAUTA, M., 2003. Dragonfly in haiku. *Apokalipsa, Ljubljana* 66: 101-107. – (P.O. Box 256, NL-3720 AG Bilthoven).
This is a reprint of the main text of the paper, published originally (1986) in *Odonatologica* 15(1): 91-96, with comprehensive footnotes, based on her 1976 *Odonatologica* 5(2): 143-152 publication. The text was prepared and published by the Eds, without consultation with the Author, and the 2 primary publications are not mentioned.

(14781) KONING, M., F. KONING & A. BOTSCHUYVER, 2003. *KNNV Libellen-werkgroep Zuid-Kennemerland, Haarlem: waarnemingenoverzicht 2002.* – [*Report of the 2002 observations of the Zuid-Kennemerland Dragonfly Group of the Royal Netherlands Natural History Society*]. KNNV-LWZK, Heemstede. 51 pp. (Dutch). – (Hobbemastraat 37, NL-2102 BJ Heemstede).
Covering the area as stated in *OA* 14382, observations are presented on the current status of 27 regional spp. A chapter is devoted to the ecology of Sympetrum flaveolum, and a review on the larvae at a locality in the Amsterdamse Waterleidingduinen was contributed by *W. Kuijper* (pp. 43-45).

(14782) KREKELS, R. & T. DE JONG, 2003. *Krabbescheer en Groene glazenmaker in de provincie Utrecht.* – [*Stratiotes aloides and Aeshna viridis in the province of Utrecht, the Netherlands*]. Prov. Utrecht, Utrecht. 15 pp. ISBN none. (Dutch). – Available from: Ecologisch onderzoek en Groene regelgeving, Provincie Utrecht, P.O. Box 80300, NL-3508 TH Utrecht).
Attractive, richly illustrated booklet, outlining the biology and distribution of the 2 taxa in the province, and presenting detailed suggestions for conservation and management of Stratiotes vegetation, on which the A. viridis population absolutely depend.

(14783) LEGRAND, J., 2003. Sur le genre malgache Isomma: I. hieroglyphicum Sélys, mâle, femelle, larve et description d'une nouvelle expèce (Odonata, Anisoptera, Gomphidae, Phyllogomphinae). *Revue fr. Ent.* (N.S.) 25(1): 43-54. (With Engl. s.). – (Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
The genus and I. hieroglyphicum are redescribed, and I. elouardi sp. n. is described. Holotype ♂ and paratype ♂: "Madagascar", ex coll. R. Martin, in MNHN, Paris. Discriminating features of the 2 spp. are stated.

(14784) *LIBELLENNACHRICHTEN*. Mitteilungsblatt der Gesellschaft deutschsprachiger Odonatologen (GdO (ISSN 1437-5621), No. 8/9 (15 Feb. 2003). – (c/o Ms I. Schrimpf, Heimbühlstr. 32, D-72768 Reutlingen).
24 pp., incl. various announcements, notifications, requests for cooperation, the 2001 GdO balance account, the dragonfly story from A. Flückinger, 1945, *Glück des Daseins: Insektenromane* (Rascher, Zürich), the dragonfly poem from F. Ringseis, 1986, *I sag da Welt an schöna Gruass; ein Strauss bairischer Gedichte* (Ehrenwirth, München), and 2 articles, viz: *Kern, D.*: Libellendarstellungen aus 300 Jahren in mittelalterlichen Handschriften zwischen 1230 und 1530 (pp. 17-21), and – *bk*: Libellen-Abbildungen aus einer Clipart-Sammlung (pp. 22-23). Also included and commented is the dragonfly text from Grandville's (1842) *Das Staats- und Familienleben der Thiere.*

(14785) MACKENZIE DODDS, R., 2003. *Learning about dragonflies. Dragonfly information pack.* British Dragonfly Soc., Stone-on-Trent. vi+26 pp. Softcover, spiral binding (20.8×29.5 cm). ISBN none. – (Available from the BDS President: Mr T. Beynon, 34 Church Lane, Checkley, Stoke-on-Trent, ST10 4NJ, UK).

This is an education pack of the BDS, aimed primarily at children aged 7-11. It is designed to offer information on basic dragonfly anatomy, their fossil history, the threats to their habitats, how they are adapted to their lifestyles and how they see and fly. It is well illustrated and contains also 10 worksheets. The booklet is warmly recommended to everyone involved with education of this age-group.

(14786) MAETO, K., K. KOUGO, E. KOTANI, H. MIYATA & M. SUGIMURA, 2003. Geographical analysis of Odonata habitats in the Shimanto river basin, Shikoku, Japan. *Jap. J. Ent.* (N.S.) 6(1): 27-41. (Jap., with Engl. s.). – (First Author: Lab. Ent., Fac. Agric., Kobe Univ., Rokkodai-cho 1-1, Nada-ku, Kobe, 657--8501, JA).

A correspondence analysis (CA) of 88 spp., observed at 455 grid sites (ca 0.5×0.5 km) in the Basin and adjacent areas in Shikoku, Japan, was conducted. Mutliple regression analyses of the 2 main axes of the CA ordination on the geographical features (altitude, relief) and vegetation of grid sites indicated that the degree of relief and the areal proportion of paddy fields were the main determinants of the species distribution of Odon. The spp. were classified into 5 groups by k--means clustering based on the coordinate axes. Groups I and II mostly consisted of lentic spp. inhabiting ponds, marshes and paddy fields of flat lands. Groups III and IV were composed of lentic spp. mainly inhabiting marshes and paddy fields and lotic spp. in slow streams. Group V consisted of lotic spp. inhabiting mountain streams and spring sources. Habitat requirements for the spp. appearing in the Red List of Kochi pref. are also discussed.

(14787) MANGER, R., 2003. Vuurjuffer profiteert van tuinvijvers. – [Pyrrhosoma nymphula taking advantage of garden ponds]. *Tussen Duin en Dijk* 2(2): 14-16. (Dutch). – (Stoepveldsingel 55, NL-9403 SM Assen).

The recent expansion of P. nymphula in Noord Holland prov., the Netherlands is outlined and discussed (1990--2001). It is particularly pronounced since 1999. Similar expansion was evidenced also in Erythromma viridulum and Anax imperator. – See also *OA* 14214.

(14788) *ODONATOLOGICAL ABSTRACT SERVICE* (ISSN 1438-0269), No. 11 (March 2003). – (c/o Dr M. Lindeboom, Landhausstr. 10, D-72074 Tübingen). Abstracts Nos 2659-3092, on 60 pp., related to the works in 1997-2002.

(14789) The *OHIO DRAGON-FLIER.* Newsletter of the Ohio Dragonfly Society, Vol. 13, No. 2 (May 2003). – (c/o B. Glotzhober, Ohio Hist. Soc., 1982 Velma Ave, Columbus OH 43211-2497, USA).

[Scientific notes]: [*Glotzhober, B.*]: First odonates of the year (p. 2); – *SaintOurs, F / Chordas, S.W. / Tennessen, K. / Restifo, R.A.*: Odonata and Bacillus thuringiensis israelensis (pp. 2-3); – *Glotzhober, B.*: New county records (p. 4); – *Pogacnik, J.*: Survey of Odonata: Mud Lake, July 2002 (p. 6).

(14790) PIVKO KNEZEVIC, A., 2003. Kačji pastirji ob Šaleških jezerih. – Dragonflies on the lakes of Šalek valley. *Proteus, Ljubljana* 65(8): 357-364, 382. (Slovene, with Engl. s.). – (Vodnikova 3, SI-3320 Velenje).

the odon. fauna (30 spp.) of Velenje and Škale lakes and their vicinity, Styria, E Slovenia is described. Of particular interest are the records of Lestes macrostigma and Sympetrum depressiusculum. The paper is largely based on publications listed in *OA* 14031, 14395 and 14396. A biographic note and Author's portrait are also included.

(14791) PURSE, B.V. & D.J. THOMPSON, 2003. Emergence of the damselflies, Coenagrion mercuriale and Ceriagrion tenellum (Odonata: Coenagrionidae), at their northern range margin, in Britain. *Eur. J. Ent.* 100(1): 93-99. – (Pop. & Evol. Res. Gr., Sch. Biol. Sci., Nicholson Bldg, Univ. Liverpool, Liverpool, L69 3GS, UK).

Emergence of the 2 spp. was examined in a mixed population. Mortality at emergence was quantified in C. mercuriale. Consistent with their larval diapause characteristics, both spp. had an asynchronous emergence pattern, typical of "summer" spp. Daily emergence of C. mercuriale was positively correlated with the duration of sunlight on the previous day (controlling for season) and its emergence period was found to be shorter than that observed in its core populations in Central and Mediterranean Europe. No differences were found between the patterns of emergence of the sexes in either sp. Sex ratio at emergence differed significantly from 1:1 (at 1.35:1 - ♂♂:♀♀) in C. mercuriale but not in C. tenellum (at 1.04:1). Body size at emergence

declined more steeply with time in ♀♀ than in ♂♂ of C. mercuriale because large size may confer a greater reproductive advantage in ♀♀ (larger ♀♀ may be more fecund) than ♂♂ in non-territorial odon. Percentage mortality of C. mercuriale at emergence was low (4.9% including deformed individuals), the main cause of mortality being deformity.

(14792) REHN, A.C., 2003. Phylogenetic analysis of higher-level relationships of Odonata. *Syst. Ent.* 28(1): 181-239. – (2717 G St., apt. 1, Sacramento, CA 95816, USA).

This is the most comprehensive analysis of higher-level relationships in Odon. conducted thus far. The analysis is based on a detailed study of the skeletal morphology and wing venation of adults, complemented with a few larval characters, resulting in 122 phylogenetically informative characters. 85 gen. from 45 currently recognized fam. and sfam. were examined. In most cases, several spp. were chosen to serve as exemplars for a given genus. The seven fossil outgroup taxa included were exemplar genera from 5 successively more distant odonatoid orders and suborders. Tarsophlebiidae (the closest sister group of Odonata, previously placed as a fam. within 'Anisozygoptera'), Archizygoptera, Protanisoptera, Protodonata and Geroptera. Parsimony analysis of the data, in which characters were treated both under equal weights and implied weighting, produced cladograms that were highly congruent, and in spite of considerable homoplasy in the odon. data, many groupings in the most parsimonious cladograms were well supported in all analyses, as indicated by Bremer support. The analyses supported the monophyly of both Anisoptera and Zygoptera, contrary to the well-known hypothesis of zygopteran paraphyly. Within Zygoptera 2 large sister clades were indicated, one comprised of the classical (Selysian) Calopterygoidea, except that Amphipterygidae, which have traditionally been placed as a calopterygoid fam., nested within the other large zygopteran clade comprised of Fraser's 'Lestinoidea' plus 'Coenagrionoidea' (both of which were shown to be paraphyletic as currently defined). Philoganga alone appeared as the sister group to the rest of the Zygoptera in unweighted cladograms, whereas Philoganga + Diphlebia comprised the sister group to the remaining Zygoptera in all weighted cladograms. 'Anisozygoptera' was confirmed as a paraphyletic assemblage that forms a 'grade' towards the true Anisoptera, with Epiophlebia as the most basal taxon. Within Anisoptera, Petaluridae appeared as the sister group to other dragonflies.

(14793) SCHILTHUIZEN, M., 2003. De Nederlandse libellen (Odonata), by the Nederlandse Vereniging voor Libellenstudie. *Tijdschr. Ent.* 146(1): 208. (Engl.). – (Author's address not stated).

A comprehensive review of the monumental work, described in *OA* 14600.

(14794) *SOUVENIR & EXTENDED ABSTRACTS [of the VIth SOUTH ASIAN SYMPOSIUM OF ODONATOLOGY*, April 21-22, 2003. Univ. Dept Zool., T.M. Bhagalpur Univ., Bhagalpur (India). vii+60 pp. Edited by S.P. Roy. – (Dept Zool., Bhagalpur Univ., Bhagalpur-812007, India).

Messages by Prof. Dr *R.A. Yadav* (p. i), Dr *A. Kumar Sinha* (p. ii), Prof. Dr *J.S. Datta Munshi* (p. iii), Prof. Dr *H.R. Singh* (p. iv), Prof. Dr *N.W. Moore* (p. v), Prof. Dr *B. Kiauta* (p. vi), Mr *K. Inoue* (p. vii). – Abstracts of papers: *Roy, S.P.*: Science of odonatology and its future in South Asia (pp. 13-16); – *Lahiri, A.R.*: Review of Ischnura rufostigma group of species (Odonata: Coenagrionidae) (p. 24); – *Lahiri, A.R. & H.S. Mehta*: New records of dragonflies and damselflies (Insecta: Odonata) from Chandigarh (p. 225); – *Joshi, P.C. & V.P. Badoni*: Species composition of Odonata from Nanda Devi Biosphere Reserve in Uttaranchal, India (p. 26); – *Chowdhury, S.H. & M. Mohiuddin*: Bicolorous males in a libellulid dragonfly (p. 27); – *Andrew, R.J., D.D. Barsagade & A.A. Dhamani*: The post-ovarian genital complex in Ictinogomphus rapax (Rambur) (Anisoptera: Gomphidae) (p. 28); – *Andrew, R.J. & S.S. Bakare*: Intra-male sperm translocation in Anisoptera (p. 29); – *Wazalwar, S.M. & D.B. Tembhare*: Histomorphological structure of the rectal branchial chamber in the dragonfly nymph Brachythemis contaminata (Fabr.) (Anisoptera: Libellulidae) (p. 30); – *Patankar, N.V. & D.B. Tembhare*: Immunohistochemical localization of some vertebrate neuropeptide and aminergic neurotransmitter-like substances in the neurosecretory cells in the brain and corpora cardiaca in the dragonfly Tramea virginia (Rambur) (Odonata: Libellulidae) (p. 31); – *Patankar, N.V. & D.B. Tembhare*: Immunohistochemical localization of some vertebrate peptide hormone-like substances in the midgut endocrine cells in the dragonfly Tramea virginia (Rambur) (Odonata: Libellulidae) (p. 32); – *Subramanian, M.A.*: Dragonfly larvae vs industrial effluents (p. 33); – *Muralidharan, S. & M.A. Subramanian*: Paper and pulp mill effluent toxicity on the histology of taste receptors in the larvae of dragonfly Macromia cingulata (Rambur) (Corduliidae: Anisoptera) (p. 34); – *Arunachalam, A., S.*

Muralidharan & M.A. Subramanian: Histological observation on the alimentary canal under the toxicity of paper and pulp mill effluent in the larvae of dragonfly Macromia cingulata (Rambur) (Corduliidae: Anisoptera) (p. 35); – *Uma, M. & M.A. Subramanian*: Alteration in sex specific haemolymph free aminoacids under the toxicity of tannery effluent in the larvae of Pantala flavescens (Fabricius) (Libellulidae: Anisoptera) (p. 36); – *Reni Prabha, A. & M.A. Subramanian*: Impact of paper and pulp mill effluent on the haemopoietic system in the larvae of dragonfly Bradinopyga geminata (Rambur) (Libellulidae: Anisoptera) (p. 37); – *Haldar, D.P., S. Biswas & M. Chatterjee*: On the biodiversity and distribution of septate gregarines (Apicomplexa: Conoidasida) in odonates (p. 38); – *Srivastava, V.S. & B. Suri Babu*: Structure of the secondary copulatory apparatus and the functional role of its components in Ischnura senegalensis Rambur (Zygoptera: Coenagrionidae) (p. 39); – *Suri Babu, B. & V.K. Srivastava*: Description of the larva of Ischnura rufostigma Selys, with notes on biology (Zygoptera: Coenagrionidae) (p. 40); – *Kumar, A.*: Population dynamics and species diversity of odonate larvae in a wetland of Santhal Pargana (Jharkhand), India (p. 41); – *Kumar, A. & P. Kumari*: Energy contents of dragonfly nymphs (Anisoptera: Odonata) of a tropical freshwater ecosystem of Santhal Pargana, Jharkhand, India (p. 42); – *Kumar, A. & C. Bohra*: Analysis of gut contents and dimension of food items of certain dragonfly nymphs of river Mayurakshi of Jharkhand (p. 43); – *Walia, G.K.*: Karyotypic variation in the chromosome number of Lestes dorothea Fraser (Lestidae: Zygoptera: Odonata) (p. 44); – *Sandhu, R. & G.K. Walia*: Variation in size of m-chromosome in 26 libellulid species (Libellulidae: Anisoptera: Odonata) (p. 45); – *Daniel, B.A.*: Odonate research in South Asia and conservation priorities (p. 46); – *Santhasivam, K.*: The Odonata as flagship species in the Indian context: the conservationist's view (p. 47-51); – *Mishra, S.P. & S.P. Roy*: Effect of land use changes on the odonate fauna and their conservation in Indo-Gangetic plain (pp. 52-54); – *Mitra, T.R.*: Diversity and faunal affinities of Indian Odonata (p. 55); – *Mitra, T.R. & S.K. Biswas*: A checklist of Odonata of Orissa, with a note on the taxonomic status of Enallagma insula Fraser (p. 56); – *Roy, S.P. & D.K. Sinha*: Predatory efficiency of Cordulegaster sp. (Cordulegastridae: Anisoptera) on spawn densities of major carps (p. 57); – *Vardan, P., M.A. Ahmad, R. Ramanand, R. Kumar & S.P. Roy*: Comparative morphology of rectal gills of two co-existing dragonfly larvae, Cordulegaster sp. and Zyxomma petiolatum Rambur (Libellulidae: Anisoptera) (p. 58).

(14795) TESTER, U., 2003. Feuchte Wiesen für glänzende Jungfern. *Pro Natura Mag.*, Basel 2003(2): 23. – (c/o Ed.: Pro Natura Magazin, Postfach, CH-4020 Basel).
Due to the drainage of the seasonally flooded areas, Lestes dryas is threatened with extinction in canton Valais, Switzerland. Its biology is here briefly described. At present, the sp. is restricted to the Magady area in the Upper Valais, where Pro Natura was able to purchase (1993) a wetland plot and set it up as a dragonfly sanctuary. It is the objective to purchase 2 more similar plots in the same area and for the same purpose. Financial contributions are requested to the Pro Natura account PK 40-331-0.

(14796) VELING, K. & V. MENSING, 2003. Vlinders en libellen kijken. – Butterfly and dragonfly observations. *Vlinders* 18(1): 8-9. (Dutch, with Engl. s.). – (Authors' addresses not stated).
Instructions for the collecting of reliable distribution data in the Netherlands.

(14797) VON ELLENRIEDER, N., 2003. A synopsis of the neotropical species of 'Aeshna' Fabricius: the genus Rhionaeschna Förster (Odonata: Aeshnidae). *Tijdschr. Ent.* 146(1): 67-207, 468 figs incl. – (1030 Fondale St., Azusa, CA 91702-0821, USA).
This study includes a revisionary, phylogenetic and biogeographical analysis of neotropical components of Aeshna Fabricius characterized by a midventral tubercle on abdominal sternum I. Phylogenetic relationships of the neoptropical Aeshna spp. were inferred based on 39 adult characters. Ingroup taxa included 68 out of the 85 spp. currently assigned to Aeshna, and 2 spp. each of Andaeschna De Marmels and Anaciaeschna Sel. Oreaeschna dictatrix Lieft. was chosen as outgroup. the strict consensus tree obtained after successive weighting revealed that Aeshna is not monophyletic; some of its spp. are more closely related to Anaciaeschna or Andaeschna. The name Aeshna should consequently be restricted to the holarctic group including the type sp. Aeshna grandis Fabr. In the present synopsis the generic name Rhionaeschna Förster is assigned to the New World group characterized by the presence of a conical tubercle on abdominal sternum I, comprising 39 spp. formerly assigned to Aeshna. The synopsis includes keys to adults of both sexes, diagnoses, biological notes,

distribution maps and more than 400 diagnostic illustrations. Rhionaeschna demarmelsi sp. n. is described, R. maita Förster is considered a junior synonym of R. brevifrons (Hag.), R. peralta (Ris) is considered a valid species, not a synonym of R. variegata (Fabr.), R. planaltica (Calv.) is raised to specific rank, 'Aeshna' williamsoniana Calv., formerly included in the subgenus Hesperaeschna Cockerell is excluded from Rhionaeschna, and lectotypes are designated for R. maita, R. intricata (Martin), R. multicolor (Hag.), R. bonariensis (Ramb.), R. diffinis (Ramb.), and R. peralta. ♀♀ of 3 spp. and larvae of 16 spp. are still unknown. Rhionaeschna occurs from southern Argentina to southern Canada, but is primarily neotropical with its highest diversity along the Andean mountain range between Venezuela and Bolivia. It is absent from the Amazon basin, only 3 spp. occur N to the neotropical region. The sister group of Rhionaeschna includes some African spp of 'Aeshna' (A. rileyi Calv., A. subpupillata McL. and A. moori Pinhey). Rhionaeschna plus the African clade constitute the sister group of Andaeschna, Anaciaeschna, Anax Leach, Hemianax Sel. and several spp. of 'Aeshna' of uncertain affinities (i.e. A. affinis Vander L., A. brevistyla Ramb., A. ellioti Kirby, A. mixta Latr., A. isoceles Müll. and A. williamsoniana); the phylogenetic relationships within this complex are not yet known and their resolution is beyond the scope of this study. Rhionaeschna is absent from the Brazilian shield. Its related spp. and genera ('A.' rileyi, 'A.' subpupillata, 'A.' moori in Africa; 'A.' brevistyla in Australia and New Zealand, Andaeschna in the Andes and 'A.' williamsoniana in Central America, 'A.' isoceles and highest species numbers of Anaciaeschna, Hemianax and Anax spp in the Indo-Australian region) display a low diversity in Africa, which suggests a trans-Pacific rather than trans-Atlantic (Gondwanian) track, as has been hypothesized for other groups of similarly distributed odon.

(14798) WASSCHER, M., 2003. Gaffelwaterjuffer vloog voor het eerst in Nederland. – [Coenagrion scitulum discovered in the Netherlands]. *NRC Handelsbl.* 33(227): 37. (Dutch). – (Minstraat 15 bis, NL-3582 CA Utrecht).
A single ♂ of this southern sp. was sighted, photographed and collected at the Wambach pit, S of Tegelen, Midden-Limburg, on 16-VI-2003. The specimen is deposited at RMNH, Leiden. Since 1997, the sp. was sighted in Luxembourg, Belgium, and in the vicinity of Achen (Germany), therefore its discovery in the Netherlands was expected.

(14799) *WILLIAMSONIA*. Newsletter of the Michigan Odonata Survey. (ISSN none) Vol. 7, No. 2 (May 2003). – (c/o Dr M.F. O'Brien, Insect Div., Mus. Zool., Univ. Michigan, Ann Arbor, MI 48109-1079, USA).
Bright, E.: Sympetrum corruptum observed in southern Michigan (p. 1); – *O'Brien, M.F.*: A rare form of Libellula quadrimaculata "praenubila" in Michigan (pp. 1-2); – *Kudell-Ekstrum, J.*: Dragonfly surveys on the Hiawatha National Forest (p. 2); – *O'Brien, M.*: Spring Green darner sightings in the Great Lakes region (p. 3); – *Craves, J.*: More early spring notes (pp. 3-4); – *Swanson, G. / S. Rosa*: Williamsonia lintneri sightings (p. 4); – *O'Brien, M.*: Dragonflies and mosquitoes: what's the real story? (pp. 4-5); – *Recent literature of interest, with abstracts* (pp. 9-10).

ERRATUM

Unfortunately, in the bibliography of D.A.L. DAVIES, *Odonatologica* 32(3): 300, the following title was omitted:

1982 (WINSTANLEY, W.J. & –) Caledopteryx maculata spec. nov. from New Caledonia (Zygoptera: Megapodagrionidae). *Odonatologica* 11(4): 339-346.