

ODONATOLOGICAL ABSTRACTS

1997

- (14285) ANDREWS, T., 1997. *Luisteren naar dieren: spirituele en magische lessen uit het dierenrijk als sleutel tot zelfkennis en bewustzijnsverruiming*. Altamira-Becht, Haarlem. 326 pp. Paperback (16.5×24.0 cm). ISBN 90-230-0929-0. Price: € 23.82 net (Dutch). — (Publishers: P.O. Box 160, NL-2060 AD Bloemendaal). — Engl. (original edn: 1993, *Animal-speak; the spiritual & magical powers of creatures great & small*, Llewellyn Pubs, St Paul/MN, USA).

Dragonfly “magic powers” are briefly outlined on pp. 283-285. The idea, dragonfly is a symbol of change and illusion is identic to that advocated by I. van Lippe-Biesterfeld (OA 13655) and H. Owusu (OA 14229).

- (14286) DALLMEIER, F. & A. ALONSO, [Eds], 1997. *Biodiversity assessment and long-term monitoring of the Lower Urubamba region, Peru*. Smithsonian Instn, Washington/DC, lxxii+368 pp. [SI/Monitoring & Assessment of Biodiversity Program, Vol. 1]. ISBN 1-893912-00-0. — (Publishers: Smithsonian Instn, Inst. Conserv. Biol., Natn Mus. Nat. Hist., SIMAB Biodiv. Progr., 10th & Constitution Ave NW, Washington, DC 20560-0180, USA). [Odonatol. papers:] Santisteban, J., G. Valencia & A. Alonso: Arthropods: biodiversity assessment in the Lower Urubamba region (pp. 101-113); — Louton, J.A.: Dragonflies and damselflies (Odonata: Anisoptera and Zygoptera): biodiversity assessment in the Lower Urubamba region (pp. 149-153).

1998

- (14287) AMSHEEV, R.M. & A.A. SHODOTOVA,

1998. Entomofauna karaganovyh sarosley Gusinoozerskoy kotloviny. — Entomofauna of Siberian pea-shrub brushwoods of the Gusinoozerskaya Depression. In: A.S. Pleshanov, [Ed.], *Entomological problems of Baikalian Siberia*, pp. 7-9, Nauka, Novosibirsk, ISBN 5-02-031601-6. (Russ., with Engl. s.). — (Inst. Gen. & Exp. Biol., Siber. Br. Russ. Acad. Sci., Ulan-Ude, Russia).

Enallagma cyathigerum is the sole odon. sp. listed from the Transbaikalian pea-shrub brushwoods; — Russia.

- (14288) WOOTTON, R.J., J. KUKALOVÁ-PECK, D.J.S. NEWMAN & J. MUZÓN, 1998. Smart engineering in the mid-Carboniferous: how well could Palaeozoic dragonflies fly? *Science* 282: 749-751. — (First Author: Hatherly Labs, Sch. Biol. Sci., Univ. Exeter, Prince of Wales Rd, Exeter, EX4 4PS, UK). The wings of archaic Odonatoidea from the mid-Carboniferous of Argentina show features analogous to “smart” mechanisms in modern dragonflies that are associated with the agile, versatile flight necessary to catch prey in flight. These mechanisms act automatically in flight to depress the trailing edge and to facilitate wing twisting, in response to aerodynamic loading. The presence of similar features suggests that the earliest known odonotoids were already becoming adapted for high-performance flight in association with a predatory habit.

1999

- (14289) (Anonymous), 1999. The ruddy dragonfly: rare insect scuppers proposed £ 18m leisure complex on meadowland. *Daily Mail*, issue of 6 July, p. 23. — (c/o Dr B. Wain, “The Haywain”, Hollywater Rd, Bordon, Hants, GU35 0AD, UK).

The discovery of *Sympetrum sanguineum* in a pond within a 15-acre site at Horndean nr Portsmouth, UK triggered the East Hampshire Co Council to consider the locality as an "area of importance for nature conservation", meaning the construction of an £ 18 million leisure complex would have to be abandoned

- (14290) ELLINGTON, C.P., 1999. The novel aerodynamics of insect flight: applications to micro-air vehicles. *J. exp. Biol.* 202: 3439-3448. — (Dept Zool., Univ. Cambridge, Downing St., Cambridge, CB2 3EJ, UK).

It deals mainly with Diptera, Hymenoptera and Lepidoptera, and contains only passing references to Protodonata and Odon.

- (14291) [LUCAS, B. & J. LUCAS] PARKIN, J., 1999. Dragonfly species spreads in warmer weather: breeding ground at Fixby. *Huddersfield Examiner*, issue of 14 July, 1 p. — (c/o Mr & Mrs Lucas, Camborne Dr., Fixby, Huddersfield, W Yorks, ED2 2NF, UK).

A local newspaper's interview with Mr & Mrs Lucas, re their discovery of a number of *Anax imperator* exuviae at Huddersfield. The sp. is common in S England; its breeding so far North is tentatively attributed to global warming. A phot. of the exuviae and a portrait of the discoverers are included.

- (14292) [WILSON, K.D.P.] GAGLIARDI, J., 1999. Gossamer fliers net the heart of their hunter. A dragonfly expert risks life and limb to catalogue Hong Kong's diverse species of the fast-flying predators. *Sunday Morning Post*, Hong Kong, issue of 27 June, 1 p. — (c/o K.D.P. WILSON, Ft 20, 6 Mansfield Rd, The Peak, Hong Kong).

An interview during a collecting trip with K.D.P. Wilson, one of the foremost authorities on SE Asian Odon., with some biographic details and a portrait.

2000

- (14293) *AESCHNA*, Osaka (ISSN 1341-1047), No, 37 (31 Oct. 2000). (Jap., with Engl. titles, some papers with Engl. s's). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545-0004, JA).

Sasamoto, A. & K. Ushijima: Records of the Odonata collected at Kathmandu Valley in Nepal (pp. 1-12); — *Yoshida, M.*: Collecting and breeding data of some odonate larvae, 3rd report (pp. 13-21); — *Tabata, O.*: A record of *Lyriothemis elegantissima* Selys from Tokunoshima island (p. 22); — *Yokoyama, T.*: Notes

on the durations of the egg stages in some dragonflies in Hokkaido, 2 (pp. 23-27); — *Yoshida, M.*: Dispersive record of *Boyeria maclachlani* (Selys) at Yahagi river (p. 28); — *Futahashi, R., H. Futahashi & Y. Araki*: Supposed records on migration of *Sympetrum depressiusculum* (Selys) (pp. 29-31); — *Yamamoto, T.*: New record of *Sympetrum fonscolombii* (Selys) from Hyogo prefecture (p. 32); — *Kitagawa, K.*: The Odonata of Thailand taken by Mr Jun Hase (pp. 33-36); — *Karube, H.*: Records of the new Caledonian Odonata (pp. 37-41).

- (14294) EDWARD, D.H.D., A.W. STOREY & M.J.B. SMITH, 2000. Assessing river health in south-western Australia: comparison of macroinvertebrates at family level with Chironomidae at species level. *Verh. int. Ver. Limnol.* 27(4): 2326-2335. — (First Author: Dept Zool., Univ. Western Australia, Nedlands, WA 6907, AU).

Data are presented for the Aeshnidae, Coenagrionidae, Corduliidae, Gomphidae, Lestidae and Megapodagrionidae from 45 reference and 5 impact sites, at 50 rivers or streams across the S coastal/karri forest region of W Australia. Mainly, at family level, the differences in occurrence between reference and impact sites were statistically not significant.

- (14295) HEEFFER, J. & M. SWINKELS, 2000. Libellen in de Kaaistoep in 1999. — [Dragonflies of the Kaaistoep in 1999]. In: T. Peeters & P. van Wielink, [Eds], *Natuurstudie in terreinen van de Tilburgsche Waterleiding-Maatschappij in 1999*, pp. 41-43, KNNV, Tilburg. (Dutch). — (First Author: Kaar 4, NL-5133 AX Riel).

A commented list of 23 spp. from a locality in the Tilburg area, Noord Brabant prov., the Netherlands. The records of *Lestes dryas* and *Aeshna affinis* are of particular interest.

- (14296) KANO, K., 2000. [Legs used in the *Rhinocypha* courtship display]. *Gekkan-Mushi* 357: 47-48. (Jap.). — (No. 601, 19-17, Koishikawa 5-chome, Bunkyo-ku, Tokyo, 112-0002, JA).

The well-known spreading of the white tibiae in front of a ♀ is described and photographically documented in *R. fenestrella*; 24-V-1999, Tamdao National Park, Vietnam.

- (14297) KANO, K., 2000. [Orthetrum triangulare melania ovipositing on wet ground]. *Nature & Insects* 35(14): 47. (Jap.). — (No. 601, 19-17, Koishikawa 5-

- chome, Bunkyo-ku, Tokyo, 112-0002, JA).
A record of oviposition (2 ♀, during 5 min) on a wet metalled road, 15-VIII-1999; Nagao, Okinawa, Japan.
- (14298) KANO, K. & S. KATOH, 2000. [Posture of *Sinictinogomphus clavatus* female during flying copulation]. *Nature & Insects* 35(13): 12. (Jap.). — (First Author: No. 601, 19-17, Koishikawa 5-chome, Bunkyo-ku, Tokyo, 112-0002, JA).
As shown in a phot., the ♀ bends her abdomen in an acute angle, holding the ♂ abdomen by its legs. In this way, her wings are held parallel to the direction of flight (in the other spp. they are held in perpendicular position). This posture enables the copulating pair to fly at high speed.
- (14299) KANO, K. & N. YOKOI, 2000. On the plant worms of Odonata. *Nature & Insects* 35(11): 6-9. (Jap., with Engl. title). — (First Author: No. 601, 19-17, Koishikawa 5-chome, Bunkyo-ku, Tokyo, 112-0002, JA).
The "plant worms" (= ascomycotine fungi) have been reported from *Planaeschna milnei*, *Sympetrum infuscatum*, *S. darwinianum*, *S. frequens* and from a gomphid sp. In the present paper, their occurrence in *Aeshna juncea*, *Sympetrum eroticum* and *S. kunckelyi* is brought on record. The spp. concerned are *Cordyceps odonatae*, *Hymenostible odonatae* and *Hymenostible* sp. The possible modes of infestation are discussed. — See also OA 10634.
- (14300) KISHI, K., 2000. [Tholymis tillarga collected in Fujisawa, Kanagawa prefecture]. *Gekkan-Mushi* 357: 45-46. (Jap.). — (A-101, Mistral Shonan, 488-1, Ishokawa, Fujisawa, Kanagawa, 252-0815, JA).
1 ♂, 2 ♀, Fujisawa City, 12/15-IX-1999.
- (14301) KISS, O. & S. ANDRIKOVICS, 2000. Functional feeding groups along a lowland stream (Eger Stream, Hungary). *Verh. int. Ver. Limnol.* 27(3): 1489-1493. — (Dept Zool., Károly Esterházy Coll. Educ., Leányka u. 6, HU-3300 Eger).
Calopteryx splendens is the sole odon. sp. recorded.
- (14302) KITA, H., 2000. [Water-contact sitting oviposition in *Stylogomphus suzukii*]. *Gekkan-Mushi* 357: 14-15. (Jap.). — (6-2-15-308, Takiyama, Higashi-kurume, Tokyo, 203-0033, JA).
Usually this sp. oviposits in flight. At a stream in Yorii-machi, Saitama pref., Japan, a ♀ appeared in a rapid flight, perched on a stone, swung the dipped tip of abdomen and released eggs into the shallow (< 1 cm), slowly running water. The procedure was repeated twice, and lasted ca 30 s at a time. This type of oviposition has not been reported in this sp. earlier.
- (14303) LOUNACI, A., S. BROUSSE, S. AIT MOULOUD, D. LOUNACI-DAOUDI, N. MEBARKI & A. THOMAS, 2000. Current knowledge of benthic invertebrate diversity in an Algerian stream: a species check-list of the Sébaou river basin (Tizi-Ouzou). *Bull. Soc. Hist. nat. Toulouse* 136: 43-55. (With Fr. s.). — (Last Author: CESAC, UMR 5576 CNRS, Univ. Paul Sabatier, 118 rte de Narbonne, F-31062 Toulouse).
Onychogomphus costae and *O. uncatu* are recorded from the Aissi Wadi (N Algeria). The latter sp. is restricted to the altitudes below 140 m.
- (14304) RABENI, C.F. & S.M. HOEL, 2000. The importance of woody debris to benthic invertebrates in two Missouri prairie streams. *Verh. int. Ver. Limnol.* 27(3): 1499-1502. — (Missouri Coop. Fish & Wildl. Res. Unit, 302 Anheuser-Busch Nat. Resour. Bldg, Univ. Missouri, Columbia, MO 65211-7240, USA).
In the Marmaton and Marais de Cygnes rivers, 3 habitat types were sampled, viz. riffle (swift moving shallow waters, with substrates consisting mainly of gravel and larger sized particles), pool (standing or slow moving waters, with mainly clay and silt substrates), and wood (trees fallen into the pools). The odon. biomass (mg/m²) was by far the largest in the woody habitats. The values are for the Marmaton R.: riffle 1.3, pool 1.3, wood 19.6; and for the Marais des Cygnes: 0.0, 1.1, and 3.3, resp.
- (14305) SMITH, M.E. & S. ANDRIKOVICS, 2000. Benthic invertebrates in blackwaters: a comparison of macro- and mesofaunal assemblages in south-eastern United States and Middle Europe. *Verh. int. Ver. Limnol.* 27(5): 2556-2561. — (First Author: Dept Biol., Valdosta St. Univ., Valdosta, GA 31698, USA).
5 sites in Lowndes Co. (Georgia, USA) and 3 in Mátra Mts (Hungary) were examined. Odon. (primarily Gomphidae and "Agrionidae") were plentiful at sites in both countries: 5 "taxa" in the US, and 3 in Hungary. Neither the taxa level nor the names are stated.
- (14306) TANAKA, T., 2000. [Tholymis tillarga collected in Saga prefecture]. *Gekkan-Mushi* 357: 46-47. (Jap.). — (1427-8, Yae, Nabeshima-machi, Saga, 840-0857, JA).
1 ♂, Nagase Tenmangu Shrine, Saga City; 6-VII-1999.

This is the 85th sp. recorded from Saga pref., Japan.

- (14307) TSUBUKI, T., 2000. The approach of the life in the dragonfly *Sympetrum* frequens from the viewpoint of thermoregulation. [sic!]. *Nature & Insects* 35(13): 24-26. (Jap., with Engl. title). — (Author's address not stated).

In the laboratory, the dorsum of perched dragonflies of various ages (89 ♂, 61 ♀) was heated by a lamp. The young immatures and the mature individuals endured the heat readily, but the half-mature dragonflies tended to escape from the lamp. It is suggested that the migration of *S. frequens* after emergence to the cooler places in the hills, and its return to the lowlands after maturation could be related to the change in its heat endurance.

- (14308) UGAI, S., 2000. Hybrid records [sic!] of dragonflies in Japan. *Nature & Insects* 35(11): 14-17. (Jap., with Engl. title, tab. & fig. captions). — (1-5-19-403 Saiwai-cho, Kawaguchi, Saitama, 332-0016, JA). Hybrids, bred from eggs after interspecific copulation, are reported of *Libellula quadrimaculata* asahinai × *L. angelina*, *Sympetrum eroticum* × *S. baccha mutatum*, and *S. pedemontanum elatum* × [?] *S. eroticum*. Six other hybrids are supposed on the basis of their intermediate morphological features.

- (14309) WATANABE, K., 2000. *Coeliccia* of Thailand and Malaysia. *Nature & Insects* 35(11): 2-5. (Jap., with Engl. title). — (145-1, Maezato, Ishigaki, Okinawa, 907-0002, JA).

All the 54 known spp. are listed and their distribution is stated. In Thailand, *C. doisuthepensis* and *C. chromothorax* occur at an alt. of 1200 m, *C. loogali* at 730-1200 m, *C. poungi* at 550-800 m, and *C. d. dydima* at 550 m. More research is required particularly in Laos and Cambodia.

- (14310) WATANABE, Y., 2000. Attachment apparatus of dragonfly eggs. *Nature & Insects* 35(11): 10-13. (Jap., with Engl. title & fig. captions). — (4-14, Nishida-cho, Nishinomiya, Hyogo, 662-0034, JA). Endophytic eggs seem to have no necessity to adhere, but those of *Ischnura asiatica*, *I. senegalensis*, *Ceriagrion melanurum*, *Cercion c. calamorum*, *C. sieboldii*, *C. hieroglyphicum* and *Coenagrion terue* have a small cup-like process on the front pole. The eggs of *Copera annulata* and *C. tokyoensis* have a tuft-like, and those of *Anax* spp. a hood-like process. As to the exophytic eggs, in the Gomphidae the attachment

apparatus structure is peculiar at the generic level. The gelatinous substance forming egg strands is described in *Epitheca* (Corduliidae) and *Hydrobasileus* (Libellulidae).

- (14311) WOOTTON, R.J. & J. KUKALOVA-PECK, 2000. Flight adaptations in Palaeozoic Palaeoptera (Insecta). *Biol. Rev.* 75: 129-167. — (First Author: Hatherly Labs, Sch. Biol. Sci., Univ. Exeter, Prince of Wales Rd, Exeter, EX4 4PS, UK).

The use of available morphological characters in the interpretation of the flight of insects known only as fossils is reviewed, and the principles are then applied to elucidating the flight performance and techniques of Palaeozoic palaeopterous insects. Wing-loadings and pterothorax mass/total mass ratios are estimated and aspect ratios and shape-descriptors are derived for a selection of species, and the functional significance of wing characters discussed. Carboniferous and Permian ephemeropteroids ('mayflies') show major differences from modern forms in morphology and presumed flight ability, whereas Palaeozoic odonotoids show early adaptation to aerial predation on a wide size-range of prey, closely paralleling modern odon. in shape and wing design but lacking some performance-related structural refinements. The extensive adaptive radiation in form and flight technique in the hastellate orders Palaeodictyoptera, Megasecoptera, Diaphanopteroidea and Permothemistida is examined and discussed in the context of Palaeozoic ecology.

2001

- (14312) *ABHANDLUNGEN UND BERICHT DES NATURKUNDE MUSEUMS GÖRLITZ*, Vol. 73, No. 1, (2001). (All papers with Engl. s's).

The entire issue is devoted to the Odon. — *Behrends, T.*: Libellen-Monitoring im Rahmen des E & E Projektes "Halboffene Weidelandchaft Hölzigbaum" von 2000-2004 (pp. 1-2); — *Bender, J., W.E.R. Xyländer & R. Stephan*: Lösungsansätze im Zielkonflikt zwischen Rekultivierung und Naturschutz in der Bergbausanierung: Wiederherstellung eines Libellengewässers auf Halden des Braunkohletagebaus Berzdorf (pp. 3-8); — *Brockhaus, T. & U. Fischer*: Die Verbreitung von *Cordulegaster boltonii* und *Somatochlora arctica* in Sachsen: Ergebnisse aus dem Projekt "Entomofauna saxonica" (p. 9); — *Clausnitzer, H.-J.*: Die Zwerglibelle (*Nehalennia speciosa*) in Niedersachsen (pp. 11-12); — *Conze, K.-J. & C. Göcking*: "FFH-Libellenarten" in Nordrhein-Westfalen

- (NRW) (pp. 13-15); – *Donath, H.*: Sukzessionsverlauf und Libellenzönosen an Tagebauseen im Naturpark Niederlausitzer Landrücken (pp. 17-18); – *Ellwanger, G.*: Verbreitungskarten der Libellenarten der Anhänge II und IV der FFH-Richtlinie in Deutschland auf der Basis des Messtischblattrasters (pp. 19-21); – *Glatzle, B.*: Die Rolle der Libellen im Nahrungsspektrum der Gebirgsstelze *Motacilla cinerea* Tunstall, 1771 an einem Tieflandfluss (pp. 23-24); – *Günther, A.*: Differenzierung von Drohflügen und Balzverhalten verschiedener Rhinocypha-Formen Sulawesi (Indonesien) (pp. 25-26); – *Hardersen, S.*: "Fluctuating Asymmetry" als Instrument für die Bioindikation mit Libellen (pp. 27-28); – *Hartung, M.*: Bestimmung von isolierten Flügeln von Gomphiden am Ufer der Oder (pp. 29-31); – *Hünken, A. & C. Schütte*: Im Trüben fischen: Prädation von Flussbarschen auf Calopteryx-Larven (pp. 33-34); – *Huth, J.*: Libellen (Odonata) der Braunkohlen-Bergbaufolgelandschaft Sachsen-Anhalts (pp. 35-37); – *Jakab, T., Z. Müller & G. Dévai*: Quantitative survey of Gomphus flavipes (Charpentier, 1825) exuviae along river Tisza (p. 39); – *Keil, R.*: Die Rolle von Libellen in der historischen Karpfenteichwirtschaft (pp. 41-43); – *Krüner, U.*: Orthetrum brunneum (Fonscolombe, 1837), ein fester Bestandteil der Libellenfauna in NRW? (pp. 45-46); – *Kuhn, J.*: Prozessschutz versus Nutzung und Pflege: Probleme des Libellenschutz in Mooren des süddeutschen Alpenvorlandes (pp. 47-49); – *Martens, A.*: Experimente zur Sitzplatzwahl von Onychogomphus f. forcipatus (L., 1758) (p. 51); – *Mauersberger, R. & F. Petzold*: Seen als Habitate für Onychogomphus f. forcipatus (L.) im Jungpleistozängebiet Nordost-Deutschlands (pp. 53-55); – *Mikolajewski, D.-J.*: Dornenausbildung bei Larven der Gattung Sympetrum (Odonata: Anisoptera): induzierbarer Schutz gegen Fischprädation (pp. 57-58); – *Müller, J. & R. Steglich*: Zur Indikation der "FFH-Tauglichkeit" der Elbe durch die Flussjungfern (Gomphidae) (pp. 59-61); – *Müller, O. & B. Müller*: Sand oder Algen? Habitatwahlverhalten der Larven von Onychogomphus f. forcipatus (L., 1758) (p. 63); – *Müller, Z., T. Jakab, G. Dévai & N. Szállassy*: The effect of habitat degradation on dragonfly assemblages on the floodplain of the river Tisza (pp. 65-66); – *Ott, J.*: Erfahrungen aus der Planungspraxis bei Monitoringstudien mit Libellen (pp. 67-68); – *Schmidt, E.G.*: Strittige systematische Fragen auf Gattungsniveau bei mitteleuropäischen Libellen (Odonata) (pp. 69-77); – *Schnabel, H.*: Untersuchungen zum Vorkommen larval überwinternder Libellenlarven in Karpfenteichen des Oberlausitzer Heide- und Teichgebietes (pp. 79-83); – *Stephan, R. & W.E.R. Xylander*: Die Libellen der Umgebung von Görlitz, gestern und heute (pp. 85-89); – *Szállassy, N., E. Bárdosi, Z.D. Szabó & G. Dévai*: Fluctuating asymmetry and mating success in males of *Libellula fulva* Müller, 1764 (pp. 91-92).
- (14313) *ACORN, J. & I. SHELDON*, 2001. *Bugs of British Columbia*. Lone Pine Publishing, Edmonton-Vancouver. 160 pp. Softcover (14.4x21.5 cm). ISBN 1-55105-231-8. Price: CAN \$ 14.95 net. – (Publishers: 202A, 1110 Seymour St., Vancouver, BC, V6B 3N3, CA).
The booklet covers 125 spp. of common insects and non-insect arthropods, incl. 10 odon. spp. (pp. 112-121), with notes on their behaviour, habitats and general occurrence in BC, Canada.
- (14314) *ACTES du séminaire INVENTAIRE ET CARTOGRAPHIE DES INVERTÉBRÉS comme contribution à la gestion des milieux naturels français*, Besançon, 8-10 juillet 1999. Edited by J.-C. Robert, R. Guilbot, J.-L. Domaget & H. Maurin. *Patrimoines naturels* 46(2001): 328 pp. ISBN 2-85653-531-3. (Most papers with Engl. s's).
[Odonatol. papers:] *Domaget, J.-L.*: Des inventaires cartographiques INVOD et BINVOD à l'observatoire permanent du patrimoine odonatologique national (pp. 51-56); – *Favet, C.*: Etat des connaissances entomologiques dans le Parc Naturel Régional du Luberon au travers de suivis scientifiques (pp. 57-62); – *Fiers, V.*: La contribution de réserves naturelles de France pour la connaissance et la conservation des invertébrés en France (pp. 63-76); – *Gonseth, Y.*: Inventaires nationaux: nouvelle stratégie adoptée par la Centre suisse de cartographie de la fauna (CSCF) (pp. 77-84; incl. a list of odon. priority spp. in Switzerland); – *Hofmann, C.*: Les éphémères et les libellules de la Basse-Terre (Guadeloupe, Antilles françaises) (pp. 85-89); – *Jacquemin, G.*: Les marais sales de Lorraine; premier bilan entomologique (pp. 91-97); – *Prat, J.M.*: Avant-première sur la cartographie des odonates de Franche-Comté (pp. 153-154); – *Jolivet, S.*: Intérêt de l'échantillonnage des exuvies pour l'étude et la gestion conservatoire des odonates (pp. 217-218); – *Kime, D.*: Inventaire et cartographie des invertébrés dans nouveau Parc Périgord-Limousin (pp. 219-221); – *Mora, F.*: Vers une meilleure connaissance de la répartition des insectes protégés présents en Franche-Comté (pp. 269-275); – *Williamson, T.*: La microgestion odonatologique (pp.

- 309-310); – *Société française d'odonatologie* (pp. 315-316).
- (14315) BASTIN, J.P., 2001. *Les conceptions de Martynov sur la classification des insectes: contribution à l'histoire de la systématique*. Conf. Un. Entomologistes belg., 21 Apr. 2001. 35 pp. [Distributed with *Lambillonea* 102(3); 2001]. – (43 av. de Castel, B-1200 Bruxelles).
A brief outline of A.V. Martynov's insect classification (1938, *Trudy paleont. Inst.* 7[4]: 1-148, fol. tab. excl.), with brief "diagnoses" of most of the orders. The "section" Palaeoptera Martynov (1923, *Trudy 3 S'ezda Zool., Petrograd*, p. 89) includes the order (here called superorder) Odonatoptera, with the suborders (here orders) Meganisoptera (= Protodonata) and Odonata.
- (14316) BEDJANIČ, M., 2001. Raziskave favne ravnokrilcev (Orthopteroidea) in kačjih pastirjev (Odonata) na "MRT Mislinja 001". – [Inquire into the Orthopteroidea and Odonata fauna during the "Youth Field Workshop Mislinja 2001"]. In: S. Štajnbaher, [Ed.], *Mladinski raziskovalni tabor Mislinja 2001*, pp. 95-116, ZTKS, Ljubljana, ISBN 961-6243-30-6. (Slovene). – (Fram 117/A, SI-2313 Fram).
A commented list of 20 odon. spp., from 11 localities in the Mislinja area (Carinthia, Slovenia), the surroundings of Velenje and incl. some records from the Pohorje Mts, evidenced during 22-27 Aug. 2001. It is emphasized, the odon. fauna of the Slovene Carinthia is but poorly known.
- (14317) BUCZYŃSKY, P., S. CZACHOROWSKI & L. LECHOWSKI, 2001. Nektóre grupy owadów wodnych (Odonata, Heteroptera, Coleoptera, Trichoptera) projektowanego rezerwatu "Torfowiska wiszace nad jeziorem Jaczno" i okolic: wyniki wstępnych badań. – Some groups of waterinsects (Odonata, Heteroptera, Coleoptera, Trichoptera) of the projected reserve "Hanging peat bogs by Jaczno Lake" and its surroundings: results of preliminary studies. *Rocz. nauk. pol. Tow. Ochr. Przyr. "Salamandra"* 5: 27-42. (Pol., with Engl. s.). – (First Author: Dept Zool., UMCS, Akademicka 19, PO-20-033 Lublin).
17 odon. spp. are reported from this locality, Suwalskie Lake Distr., NE Poland; July 2000.
- (14318) BUIDIN, C., 2001. Première mention de *Sympetrum (Sympetrum) semicinctum* Say (Odonata: Libellulidae) par la Côte-Nord du Saint-Laurent. *Fabries* 26(2): 82. – (1 ch. du Grand Ruisseau, Rivière-Saint-Jean, QC, G0G 2N0, CA).
1 ♀, Côte-Nord du Saint-Laurent, Quebec, Canada, 9-IX-2000.
- (14319) CHOVANEC, A. & R. RAAB, 2001. Die Libellenfauna (Insecta: Odonata) des Tritonwassers auf der Donauinsel in Wien: Ergebnisse einer Langzeitstudie, Aspekte der Gewässerbewertung und der Bioindikation. *Denisia* 3: 63-79. (With Engl. s.). – (Second Author: Anton-Bruckner-Gasse 2/2, A-2232 Deutsch Wagram).
The results of a long-term study (1990-1998) of the colonisation of a man-made pond on the Danube Island in Vienna (Austria) are outlined, and a new approach for the assessment of the ecological status of water bodies, based on dragonfly surveys, is presented. 29 spp. were recorded, of which 23 are autochthonous or probably so.
- (14320) COSTA, J.M., A. DO NASCIMENTO LOURENCO & L.P. VIEIRA, 2001. Odonatos coletados no Parque Ecológico Municipal Chico Mendes (Unidade de Conservação Ambiental), Rio de Janeiro, Brasil. *Ent. Vect.* 8(4): 431-448. (Port. with Engl. s.). – (First Author: Mus. Nac., UFRJ, Quinta da Boa Vista, BR-20940-040 Rio de Janeiro, RJ).
A commented list is provided of the 64 spp. so far evidenced in the Park (Rio de Janeiro, Brazil). Information on the abundance and status of the spp. is included.
- (14321) COSTA, J.M., L.P. VIEIRA & A. DO NASCIMENTO LOURENCO, 2001. Descrição de três larvas de *Erythrodiplax* Brauer, 1868, e redescricao das larvas de *E. pallida* (Needham, 1904) e *E. umbrata* (Linnaeus, 1758), com chave para identificação das larvas conhecidas das espécies brasileiras (Odonata, Libellulidae). *Bol. Mus. nac. Rio de J. (N.S.) Zool.* 465: 1-16. (Port., with Engl. s.). – (First Author: Mus. Nac., UFRJ, Quinta da Boa Vista, BR-20940-040 Rio de Janeiro, RJ).
The ultimate instar larvae of *E. basalis*, *E. latimaculata*, *E. lygaea*, *E. pallida*, and *E. umbrata* are described or redescribed and illustrated, based on exuviae of reared specimens. A key of the larvae of the known Brazilian *Erythrodiplax* spp. is provided.
- (14322) DIJKSTRA, K.-D., 2001. Libellen in de duinen. – [Dragonflies in the dunes]. *Duin* 24(4): 22-24. (Dutch). – (Gortestraat 11, NL-2311 MS Leiden).
Various types of dune aquatic habitats and their resp.

odon. spp. in the Netherlands are briefly outlined.

- (14323) DOMMANGET, J.-L., 2001. *Etude de Macromia splendens (Pictet, 1843) dans la vallée du Tarn (Tarn, Aveyron) et statut national de l'espèce (Odonata, Anisoptera, Macromiidae)*. Soc. Fr. Odonatol., Bois-d'Arcy. 136 pp. (With Engl. s.). [Report for the Ministère de l'Aménagement du Territoire et de l'Environnement; circulation restricted]. — (Author: 7 rue Lamartine, F-78390 Bois-d'Arcy). Based on a study of the Tarn population, this is actually a monograph on faunistics, ecology, biology and behaviour of *M. splendens* in France. The subjects considered are: distribution, habitat features, embryogenesis, life history, phenology, territorial and reproductive behaviour, anthropogenic impacts and conservation aspects. In France, the sp. mainly occurs in S and SE, from sea level up to an alt. of 620 m. Save for a few local cases, due to anthropogenic influence, the sp. at present does not appear in decline.
- (14324) DOMMANGET, J.-L., 2001. *Expertise odonatalogique et propositions de gestion de cinq réserves biologiques dirigées de la Forêt Domaniale de Fontainebleau (département de Seine-et-Marne). Première année d'étude: 2001*. Soc. Fr. Odonatol., Bois-d'Arcy. 24 pp. — (7 rue Lamartine, F-78390 Bois-d'Arcy). An interim report (availability restricted!), with the descriptions of habitats, lists of their odon. assemblages, and a checklist of the odon. fauna (45 spp.) of the Massif forestier de Fontainebleau, France.
- (14325) DOMMANGET, J.-L., 2001. Les libellules du massif forestier de Rambouillet et de ses prolongements sud-est (départements des Yvelines et de l'Essonne). *Bull. Cent. Etud. Rambouillet* 14/15: 25-28. — (7 rue Lamartine, F-78390 Bois-d'Arcy). A general characterisation of the odon. fauna of the area, with a commented list of 10 local, nationally red-listed spp. — For a checklist of the recorded spp. see OA 14327.
- (14326) DOMMANGET, J.-L., 2001. *Liste des espèces déterminantes d'odonates pour la région Ile-de-France, complétée par la liste des espèces répertoriées à ce jour et par la Liste rouge des espèces menacées pour présentant de faibles effectifs*. Soc. Fr. Odonatol., Bois-d'Arcy & Direct. Reg. Envir. Ile-de-France, Cachan. ISBN none. — (Author: 7 rue Lamartine, F-78390 Bois-d'Arcy).
- A commented review of the odon. fauna of the Ile-de-France, with a regional Red List and bibliography. The work was prepared for the Government; its availability is restricted.
- (14327) DOMMANGET, J.-L. & F. ARNABOLDI, 2001. Les odonates. In: *Réserves biologiques dominales: l'exemple de Rambouillet*, pp. 55-58, Office Natn. Forêts, Division Rambouillet, ISBN 2-84207-238-3. — (First Author: 7 rue Lamartine, F-78390 Bois-d'Arcy). A brief history of exploration, with a commented checklist of 47 spp.; Rambouillet, depts Yvelines and Essonne, France. — See also OA 14325.
- (14328) ENGLUND, R.A. & D.A. POLHEMUS, 2001. Evaluating the effects of introduced rainbow trout (*Oncorhynchus mykiss*) on native stream insects on Kauai Island, Hawaii. *J. Insect Cons.* 5: 265-281. — (First Author: Hawaii Biol. Surv., Bishop Mus., 1525 Bernice St., Honolulu, HA 96817-0916, USA). The impact of rainbow trout on the indigenous insect fauna of upland streams in Kokee State Park was studied with particular emphasis on the potential threat trout pose to populations of endemic Megalagrion. Rainbow trout were introduced in the 1920s, with over 60 yr of subsequent restocking. The study indicates that streams in this area still maintain diverse populations of Megalagrion and other indigenous aquatic insects, both in catchments containing naturally reproducing trout populations and in catchments lacking rainbow trout. The insect communities in the streams studied compare favourably in terms of density and taxonomic richness with other isolated and unimpacted streams elsewhere.
- (14329) FELTWELL, J., 2001. *Field guide to the butterflies and other insects of Britain*. Reader's Digest Nature Lover's Library. London-Montreal-New York-Sydney. 352 pp. Hardcover (20.0×15.5 cm). ISBN 0-276-42505-7. — Price: £ 9.99 net. 35 odon. spp. are illustrated and briefly described on pp. 220-231. — In German edn (1986, *Schmetterlinge und andere Insekten Mitteleuropas*, adapted by E. Möhn and published by Das Beste, Stuttgart, ISBN 3-87070-263-X, the odon. treatment and coverage, pp. 220-231, are identical).
- (14330) FERARD, P. & P. GURLIAT, 2001. Botanique et odonatalogie de "L'étang de la Forge et schistes de Moisdon-la-Rivière". *Bull. Soc. Sci. nat. Ouest Fr.* (N.S.) 23(4): 210-212. — (Second Author: 8 impasse

- des Amandiers, F-44800 Saint-Herblain).
A list of 14 odon. spp.; – Loire-Atlantique[?], France.
- (14331) FÖRSTER, S., 2001. The dragonflies of Central America exclusive of Mexico and the West Indies: a guide to their identification. *Odonatol. Monogr.* 2: x+142 pp. ISBN 3-9804366-1-6. Price: € 52.- net. – (Available from the Author: Kastanienallee 40 a, D-38104 Braunschweig).
The 2nd edn of the work described in OA 13351, with minor improvements and some additional figs.
- (14332) FUKUI, M., 2001. The ecological research of dragonflies in the Okegayanuma, Iwata City. *Nature & Insects* 36(3): 27-29. (Jap., with Engl. title). – (60-1, Kamo, Kikugawa-cho, Ogasa-gun, Shizuoka, 439-0031, JA).
The locality is a well-known habit of the redlisted *Libellula angelina*. The anisopteran population (27 spp.) was studied during 1992-1994. Quantitative data on the occurrence of single spp., and some information on the migrations of various *Sympetrum* spp. are presented.
- (14333) GOMPHUS. Mededelingsblad van de belgische libellenonderzoekers – Bulletin de liaison des odonatologues belges (ISSN 0772-4691), Vol. 17, No. 2 (Dec. 2001). (Dutch & Fr., with Engl. s's). – (c/o G. De Knijf, Matrouwstraat 10, B-9661 Brakel-Parike).
Tailly, M./P. Goffart: Editorial (pp. 73-74); – *De Knijf, G.*: Observations of *Leucorrhinia rubicunda* (Linnaeus, 1758) at the "Kraibos" in Moen-Zwevegem, province of West-Flandres (pp. 75-82); – *Goffart, P., D. Testaert & M. Paquay*: Actualisation du statut de l'Agriion de Mercure (Coenagrion mercuriale) dans la plaine de Focant, Beauraing (pp. 83-94); – *De Knijf, G.*: Revue bibliographique pour la période 1995-2001 (pp. 95-101; 110 titles on Belgian odon. fauna); – *Lambrechts, J. & G. De Knijf*: Compte-rendu de l'excursion au Wik à Bokrijk et à Le Teut à Zonhoven ... (pp. 102-104); – *Recensions* (pp. 106-108), by *M. Tailly*; – *Annonces* (p. 109); – *Excursions calendrier 2002* (pp. 110-112).
- (14334) GORB, S., 2001. *Attachment devices of insect cuticle*. Kluwer, Dordrecht-Boston-London. xv+305 pp. Hardcover (24.0x16.0 cm). ISBN 0-7923-7153-4. – (Publishers: P.O. Box 322, NL- 3300 AH Dordrecht). A splendid work, with a Foreword by Prof. Dr W. Nachtigall. The chapters, "Dragonfly and damselfly head-arresting system" (pp. 89-100) and "The evolution of frictional systems" (pp. 221-234) are devoted to the Odon., but numerous other references to the structures in the Order are made at the other resp. places. For some other publications on this subject, by the same Author, see OA 6936, 6986, 7637, 8108 (Diss. Kand. Biol. Nauk), 8362, 8109, 11705, 12265 etc.).
- (14335) GORŠAK, B., 2001. *Zoološke zanimivosti Kozjanskega parka*. – [Zoological attractions of the Kozjanski (regional) Park], Kozjanski park, Podsreda. Fold. brochure, 8 pp. (Slovene). – (Kozjanski park, Podsreda 45, SI-3257 Podsreda).
Includes a chapter on *Gomphus vulgatissimus*; – E Slovenia.
- (14336) GROENENDIJK, D. & T. WOLTERBEEK, 2001. *Praktisch natuurbeheer: vlinders en libellen*. – [Pragmatical nature management: butterflies and dragonflies]. KNNV Uitgeverij, Utrecht & De Vlinderstichting, Wageningen. 219 pp. Hardcover (25.0x17.5 cm). ISBN 90-5011-149-1. Price: € 27.95 net. (Dutch).
Subsequent to the pioneer volume of H. Wildermuth (1978, *Natur als Aufgabe: Leitfaden für die Naturschutzpraxis in der Gemeinde*, Schweiz. Bund NatSchutz, Basel, ISBN 3-85587-003-9), this is one of the very few commercially available books presenting practical hints for butterfly and dragonfly conservation, making habitat more suitable, carrying out research projects, monitoring schemes, educational programs, etc. The Odon. section (pp. 142-169) was prepared in collaboration with R. Ketelaar. The book deals with the situation in the Netherlands, but most of the ideas and hints will be applicable anywhere in the Temperate Zone. A brief (Engl.) book review, by E.J. Van Nieukerken, was published (2002) in *Tijdschr. Ent.* 145(1): 18
- (14337) HANCOCK, E.G., 2001. Alien insects in Scotland. *Glasgow Naturalist* 23(Suppl.): 57-65. – (Hunterian Mus./Zool., Graham Kerr Bldg, Univ. Glasgow, Glasgow, G12 8QQ, UK).
As "alien" are defined those spp. that arrive solely by human agency; the migrants reaching Britain every yr do not fall under this definition. In a checklist of British orders, no alien odon. are stated and in the References, no titles relative to the latter are listed. – (*Abstractor's note*: Aside of e.g. *Pantala flavescens*, arriving occasionally with vessels, there are records of several tropical, "involuntarily imported" odon. spp., found breeding in aquatic nurseries in Britain; e.g. OA 3830).

- (14338) HLAD, B. & P. SKOBERNE, [Eds], 2001. *Pregled stanja biotske raznovrstnosti in krajinske pestrosti v Sloveniji*. – [A review of the status of biotic and landscape diversity in Slovenia]. Ministry of Environment [etc.], Ljubljana. xvi+224 pp. ISBN 961-6324-14-4. (Slovene). – (Available from: Agencija Rep. Slovenije za okolje, Vojkova 1/B, SI-1000 Ljubljana).
A splendid, richly illustrated and well-documented work. The odon. are dealt with on p. 77. Their research in Slovenia commenced in the 17th century. 73 spp. were so far evidenced, and additional spp. can hardly be expected. The anthropogenic threats menacing their existence are outlined.
- (14339) ITO, J., 2001. Dragonflies and fishes of the Tamagawa river system. *Nature & Insects* 36(4): 33-35. (Jap., with Engl. title). – (Author's address not stated).
In the upper reaches, Epiophlebia superstes, Davidius fujitama, D. nanus, Lanthus fujiacus, Sinogomphus flavolimbatus and Stylogomphus suzukii occur. In the middle section of the polluted Asa R. a few Anisogomphus maacki, Onychogomphus viridicostus and Sieboldius albardae were sighted. In the middle reaches of the unpolluted Aki and Hirai rivers, Calopteryx japonica, Asiagomphus melaenops, Gomphus postocularis, Nihonogomphus viridis, O. viridicostus and S. albardae were evidenced. The results of the survey are discussed.
- (14340) JOURNAL OF THE BRITISH DRAGONFLY SOCIETY (ISSN none), Vol. 17, No. 2 (dated Oct. 2001, mailed 20 Apr. 2002). – (c/o Dr W.H. Wain, Haywain, Hollywater Rd., Bordon, Hants, GU35 0AD, UK).
Showers, J. & P. Horsnail: Damselfly exuviae found in a UV light moth trap (pp. 33-34); – *Andrews, S.J.*: Some observations on the identification of the exuviae of the final-instar larvae of the Common Blue Damselfly Enallagma cyathigerum (Charpentier) (pp. 35-44); – *Kerry, L.*: Habitat management for the Southern Damselfly Coenagrion mercuriale (Charpentier) on Aylesbeare Common, Devon (pp. 45-48); – *Parr, A.J.*: Migrant and dispersive dragonflies in Britain during 2000 (pp. 49-54); – *Jeffries, M.*: The Northumbrian frontier of the Banded Demoiselle Calopteryx splendens (Harris) (pp. 55-58); – *Radford, A.P.*: Repeated interception of wind blown flowers of Common Cotongrass by the Emperor Dragonfly Anax imperator Leach (p. 59); – *Allen, P.*: [Book review] Dragonflies of North America, by M.J. Westfall & M.L. May (pp. 60-61).
- (14341) KANO, K., 2001. [Dragonflies predating on the cicada Moganmia minuta]. *Nature & Insects* 36(1): 35. (Jap.). – (No. 601, 19-17, Koishikawa 5-chome, Bunkyo-ku, Tokyo, 112-0002, JA).
A record of predation by Asiagomphus yayeyamensis, Leptogomphus yateyamensis, Orthetrum pruinosum neglectum and O. sabina, 2-V-1999; Ishigaki Is., Okinawa, Japan.
- (14342) KANO, K., 2001. Observations of resting behavior of the abdominal tips put in the water and ejaculation of eggs in dragonflies. *Nature & Insects* 36(6): 42-43. (Jap. with Engl. title). – (No. 601, 19-17, Koishikawa 5-chome, Bunkyo-ku, Tokyo, 112-0002, JA).
Leucorrhinia dubia orientalis oviposits by beating the water surface by the tip of the abdomen. At Shoro, Hokkaido, a ♀ disturbed by the ♂, perched with her abdominal tip dipped in water. It is not clear whether eggs were laid, but it seems this could be a distinct oviposition mode, which occurs also in Orthetrum albistylum speciosum, Sympetrum croceolum and S. parvulum.
- (14343) KAPPES, E. & W. KAPPES, 2001. Neusiedler See. Oktober im Seewinkel, [...], 6.-20.10.2001: Reisetagebuch: [...] Libellen [...]. *Naturk. Reiseber.* 18: 1-23. – (Eichenweg 27, D-22395 Hamburg-Bergstedt).
5 odon. spp., with dates localities and information on the abundance..
- (14344) KAPPES, E. & W. KAPPES, 2001. Peru, Ecuador, Galapagos: naturkundliche Reisenotizen 12.10-11.11.2000. Reisetagebuch; Artenlisten: Vögel, Libellen, Pflanzen; Säugetiere; Farbfototeil. *Naturk. Reiseber.* 15: 1-87. – (Eichenweg 27, D-22395 Hamburg-Bergstedt).
14 odon. spp. are listed, along with brief field notes and col. phot. (pp. 68-78).
- (14345) KAPPES, E. & W. KAPPES, 2001. Vereinigte Arabische Emirate und angrenzende Oman Enklaven: naturkundliche Reisenotizen 11.-24.3.2001. Reisetagebuch; Artenlisten: Vögel, Libellen; Farbfototeil. *Naturk. Reiseber.* 16: 1-46. – (Eichenweg 27, D-22395 Hamburg-Bergstedt).
The odon. are dealt with on pp. 32-45. Species assemblages are listed from 9 localities (17 spp.).

- habitats are described, and brief field notes are provided. Col. phot. of most spp. and of some of the habitats are included.
- (14346) KARUBE, H., 2001. On a critical situation of the endemic dragonflies from the Ogasawara Islands. *Gekkan-Mushi* 369: 22-32. (Jap., with Engl. title). – (Kanagawa Prefect. Mus. Nat. Hist., 499 Iryuda, Odawara, 250-0031, JA).
Deals with *Boninagrion ezoin*, *Indolestes boninensis*, *Rhinocypha ogasawarenis*, *Hemicordulia ogasawarenis* and *Boninthemis insularis*; – abstract not available.
- (14347) KUMASHIRO, B.R., G.M. NISHIDA & J.W. BEARDSLEY, 2001. Listings of new state records of immigrant insects in the Hawaiian Islands for the years 1991-1998. *Proc. Hawaii. ent. Soc.* 35: 157-169. – (First Author: Hawaii Dept Agric., P.O. Box 22159, Honolulu, HA 96823-2159, USA).
Crocothemis servilia is listed for 1994.
- (14348) LEGRAND, J., 2001. Ordre des odonates. In: J.-M. Elouard & F.-M. Gibon, [Eds], *Biodiversité et biotypologie des eaux continentales de Madagascar*, pp. 113-130, Inst. Rech. Dévelop. [etc.], Paris. ISBN none. – (10 rue du Chemin de fer, F-94110 Arcueil).
A comprehensive review of the odon. fauna of Madagascar, incl. concise chapters on morphology and biology, and a substantial regional bibliography. The hitherto known spp. are checklisted, and a general biogeographical analysis is presented. Out of the 60 gen. (18 Zygopt., 42 Anisopt.), 15 are endemic (7 Zygopt., 8 Anisopt.). Out of the 203 spp. (108 Zygopt., 95 Anisopt.), 152 are endemic (102 Zygopt., 50 Anisopt.).
- (14349) NAKANISHI, A. & S. KONDOU, 2001. The extinct insects of Hyogo prefecture. *Nature & Insects* 36(6): 20-23. (Jap., with Engl. title). – (First Author: Mus. Nat. & Human Activities, Hyogo 6-chome, Yahoigaoka, Sanda, Hyogo, 669-1546, JA).
Mortonagrion hirosei, *Macromia daimoji*, *Libellula angelina* and *Sympetrum maculatum* are listed as endangered in the 1995 Hyogo Prefecture Red Data Book.
- (14350) NAWROTH, J., 2001. Libellen an der lykischen Küste (Türkei). *Naturk. Beitr. DJN* 34: 3-4. – (Johann-Fischer-Str. 21, D-69121 Heidelberg).
A few odon. records from along the Lykia Yolu trek, Turkey, August 2001.
- (14351) NEL, A., G. BECHLY, X. MARTINEZ-DELCLÒS & G. FLECK, 2001. A new family of Anisoptera from the Upper Jurassic of Karatau in Kazakhstan (Insecta: Odonata: Juragomphidae n. fam.). *Stuttg. Beitr. Naturk.* (B) 314: 1-9. (With Germ. s.). – (First Author: Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
Juragomphus karatauensis gen. n., sp. n. is described and attributed to Juragomphidae fam. n. Holotype (an almost complete forewing): Upper Jurassic, Chimkent region, S Kazakhstan; deposited at PIN (2997/4431), Moscow. The phylogenetic position and relationships of the new taxon are discussed.
- (14352) NEL, A., O. BETHOUX, G. BECHLY, X. MARTINEZ-DELCLÒS & F. PAPIER, 2001. The Permo-Triassic Odonatoptera of the "protodonate" grade (Insecta: Odonatoptera). *Annls Soc. ent. Fr.* (N.S.) 37(4): 501-525. (With Fr. s.). – (First Author: Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
Permophlebia uralica gen. n., sp. n. is described and attributed to Permophlebiidae fam. n. Holotype (part & counterpart): Early Upper Permian, Vorkuta Basin, N. Ural, Russia; deposited at PIN (4706/1), Moscow. Several taxa are redescribed, viz. those of the Triadotypidae and the genera *Kargalotypus* Rohdendorf, 1962, and *Liadotypus* Martynov, 1937. Their phylogenetic positions are discussed, and some earlier taxonomic decisions re-evaluated. The *Piroutetiidae* Nel, 1989 is transferred in the Triadophlebiomorpha, superfamily undetermined sit. nov. The *Kargalotypidae* Zessin, 1983 is transferred in the Triadophlebiomorpha: *Zygophlebiida* sit. nov. The *Liadotypidae* Grauvogel & Laurentiaux, 1952 (non Martynov, 1937) is transferred in the *Isophlebiida* sit. nov. family incertae sedis stat. nov. The cladistic analysis of the *Zygophlebiida* (new clade) is proposed.
- (14353) NESSIMIAN, J.L., 2001. Seasonal variation in the zoobenthic community of a sand dune marsh in Rio de Janeiro state, Brazil. *Bolm Mus. nac.* (N.S./Zool.) 447: 1-15. (With Port. s.). – (Depto Zool., Inst. Biol., UFRJ, Caixa Postal 68044, BR-21944-970 Rio de Janeiro).
The seasonal variation in the occurrence of 9 identified odon. spp. is considered.
- (14354) NINUMA, K. & T. TANAKA, 2001. *The investigation of dragonfly in the forest called "Ichinoya" (in Nagareyama city of the Northwest*

- Chiba*), 1996-2001. Soc. Dragonfly Study NW Chiba, Matsudo. 8 pp., 16 col. phot. incl. [A Jap. edn is also available]. — (Nakayagiri 500, Matsudo, Chiba, 271-0095, JA).
- The publication is an appeal for preservation of the forest and its odon. habitats. Due to deforestation (commenced in 2001), 3 of the 4 forest ponds have disappeared. The odon. fauna (38 spp.) is briefly reviewed.
- (14355) ROLFF, J., 2001. Effects of age and gender on immune function of dragonflies (Odonata, Lestidae) from a wild population. *Can. J. Zool.* 79(12): 2176-2180. (With Fr. s.). — (Dept Anim. & Plant Sci., Univ. Sheffield, Sheffield, S10 2TN, UK).
- Immunity is a crucial determinant of fitness, but very few studies have addressed the expression of immune function in insect populations in the wild. Here, data are presented on 2 immune parameters, hemocyte load and expression of phenoloxidase, in adult *Lestes viridis* from a wild population. In a comparison of newly emerged adults with those sexually mature, it was found that the latter had higher hemocyte loads but lower phenoloxidase expression. Mature ♀♀ showed significantly higher phenoloxidase expression than mature ♂♂. The sexual differences might be explained by gender differences in life history.
- (14356) SCHLÜPMANN, M., 2001. Die Libellenfauna urbaner Lebensräume am Beispiel der Stadt Hagen. *Dortmund. Beitr. Landesk.* (Naturw.) 35: 191-216. (With Engl. s.). — (Hirseier Weg 18, D-58119 Hagen).
- The odon. occurrence in a particular town is determined by the availability of habitats and by the structure, vegetation and utilization of the nearby areas. Ruderal habitats, gravel pits, but also meadows, pastures and forest allow some spp. to penetrate far into the urban zone. *Calopteryx splendens*, *Coenagrion puella*, *Ischnura elegans*, *Pyrrhosoma nymphula*, *Lestes viridis*, *Aeshna cyanea*, *Libellula depressa* and some *Sympetrum* spp. frequently occur in municipal areas. There are no urbanophilous spp., many are urbanoneutral, and some (e.g. *Calopteryx virgo* and *Cordulegaster* spp.) are urbanophobic. 11 spp. regularly occur in small garden- and city ornamental ponds. 33 spp. were evidenced within the city of Hagen, Germany.
- (14357) ŠEGULA, B., 2001. Zanimivi in koristni: kačji pastirji. — [Interesting and beneficial dragonflies]. *Moj mali Svet* 33(8): 40. (Slovene). — (Lepi pot 4, SI-1000 Ljubljana).
- A description of the dragonfly world in a decorative garden fishpond in Ljubljana, Slovenia, with reference to the occurrence and behaviour of 8 spp.
- (14358) SUGIMURA, M. & M. OKAZAKI, 2001. [Odonate fauna of Tarama Island, Okinawa prefecture]. *Nature & Insects* 36(6): 44. (Jap.). — (First Author: 9-7, Uyama-satsuki-cho, Nakamura, Kochi, 787-0012, JA).
- Anax parthenope julius*, *Orthetrum s. sabina*, *Pantala flavescens*, *Tramea transmarina yaeyamana*, *T. t. propinqua* and *Macrodiplax cora* are the sole odon. spp. known from the island; — recorded 2-X-2000.
- (14359) WEIDMANN, P., 2001 [journal mailed in July 2002]. Naturschutzgebiet Siechenstuden: Artenvielfalt 10 Jahre nach seiner Gestaltung. *Libellen. Jber. naturf. Ges. Graubünden* 110: 71-76. — (Falknisstr. 15, CH-7000 Chur).
- In 1993 and 1998, 29 spp. were evidenced in the Nature Reserve "Siechenstuden", Maienfeld, canton Grisons, Switzerland: alt. 520 m, surface ca 7 ha. Flight periods are stated for all spp., and some annotations are provided on some of them.
- (14360) YAHIRO, K., 2001. Entomological collection of the Lake Biwa Museum. *Nature & Insects* 36(6): 16-19. (Jap., with Engl. title). — (Lake Biwa Mus., 1091, Oroshimo, Kusatsu, Shiga, 525-0001, JA).
- A reference is made to the 1484 odon. specimens, collected by the Osaka Dragonfly Res. Soc. For the catalogue, see OA 13845.
- (14361) ZHOU, W. & H. WU, 2001. Odonata. In: H. Wu & C. Pan, [Eds], *Insects of Tianmushan National Nature Reserve*, pp. 58-69. Science Press, Beijing. ISBN 7-03-009871-4. (Chin., with Engl. s.). — (First Author: Dept Ent., Zhejiang Mus. Nat. Hist., Jiaogonglu 71, Hangzhou-310012, P.R. China).
- An annotated checklist of 103 spp. recorded from the Reserve, Zhejiang prov., China.
- (14362) ZHU, H.-q. & X.-x. ZHANG, 2001. A new species of the genus *Planaeschna* from Shanxi province, China (Odonata: Aeschnidae). *Wuyi Sci. J.* 17: 6-9. (Chin., with Engl. s.). — (Second Author: Shanxi Acad. Agric. Sci., Taiyuan-030006, P.R. China).
- Both sexes of *P. shanxiensis* sp. n. are described and illustrated. Holotype ♀: Xing-he (river), Yangcheng xian, Shanxi, China, 8-IX-2000; allotype ♂: Hou-hui gou, Ling xian, Shanxi, China, 2-VII-1986; paratypes

of both sexes. The new sp. is compared with *P. milnei*, *P. risi* and *P. suichangensis*. It is considered conspecific with the taxon described by J.G. Needham (1930, *Zool. sin.* [A] 11: 84-85) as "*P. milnei* Selys".

- (14363) ŽIVIĆ, I., Z. MARKOVIĆ & M. BRAJKOVIĆ, 2001. Macrozoobenthos in the Pusta Reka river, left tributary of the South Morava river. *Arch. biol. Sci.*, Belgrade 53(3/4): 109-122. — (First Author: Fac. Biol., Univ. Belgrade, YU-1100 Belgrade, Serbia).
During Apr. 1998-Jan. 1999, samples were taken at 11 localities at the Pusta R., SE Serbia. 73 spp. were identified, incl. 5 odon. spp., listed as *Calopteryx splendens*, *Gomphus simillimus*, *Onychogomphus forcipatus*, *Ophiogomphus serpentinus*, and *Cordulegaster annulatus*. — For the odon. paper, see OA 13782.

2002

- (14364) AOHADA. [Periodical of student dragonfly fans of the University of Kyoto, "Kyo-dai Tombo no Kai"], (ISSN none). No. 1 (30 Apr. 2002). (Jap., with Engl. titles). — (c/o A. Sasamoto, 45-301 Yoshida-izumidono-cho, Sakyo-ku, Kyoto, 606-8301, JA).
Hisamatsu, S.: Collection and observation records of the dragonflies of Kyoto city in 2001 (pp. 1-4); — *Sasamoto, A.*: A brief record of Odonata species from Ieshima Is., Hyogo pref. (pp. 5-6); — *Kiyoshi, T.*: A record of Odonata species collected in Yakushima island (pp. 7-8); — Some Odonata collected from Amami island (pp. 8-10); — Odonata taken in Yaeyama islands (pp. 11-15); — *Sasamoto, A.*: An odonate collecting trip to Kitayama district in Kyoto prefecture (pp. 16-17); — *Honda, T.*: An Odonata collecting trip to Shiga prefecture (pp. 18-20); — *Sasamoto, A.*: A specimen of *Onychogomphus viridicostus* lacking its inferior appendage (p. 20); — *Kiyoshi, T.*: A note on intraspecific variations of postclypeus in *Anotogaster sieboldii* (pp. 21-22); — *Hisamatsu, S.*: A record of the larvae of *Tanypteryx pryeri* (Selys) in Kyoto city (pp. 23-25); — *Sasamoto, A.* & *S. Hisamatsu*: Collecting records of living larvae of *Sarasaeschna pryeri* (Martin) (pp. 26-29); — *Sasamoto, A.*: A memory of Post-Symposium Tour of the 2nd WDA Symposium in Sweden (pp. 30-37).
- (14365) ARMSTRONG, A.J., 2002. Insects and the determination of priority areas for biodiversity conservation in KwaZulu-Natal province, South Africa. *Afr. Ent.* 10(1): 11-27. — (Biodiv. Div., KwaZulu-Natal Nat. Cons. Serv., P.O. Box 13053, Cascades-3202, SA). The KwaZulu-Natal Nature Conservation Service is undertaking a long-term project to determine the value of untransformed land for biodiversity conservation. In the initial stage, the goal was to use existing data to define areas of conservation importance. 5 insect orders are here considered, incl. the endemic odon. *Chlorolestes draconicus* and *Urothemis luciana*. The distribution of the endemic spp. and the associated conservation targets form a vital component of the iterative systematic conservation planning project currently underway.
- (14366) The ASHTON SKIMMER, Bulletin of the National Dragonfly Biomuseum. Not numbered; dated June 2002. — (c/o Dr R. Mackenzie Dodds, East Ardrasgair, Fortingall by Aberfeldy, Perthshire, PH15 2LN, UK).
With the recent drastic changes in the fortunes of farming in the UK, the landlord of the Ashton National Dragonfly Biomuseum felt no longer in the position to continue providing low-cost accommodation to the Museum. For the time being, part of the Museum's activities will be continued from Wood Walton Fen National Nature Reserve. In the longer term, a joint venture with the British Dragonfly Society is under consideration. This is the last issue of the bulletin. The 2003 "*Skimmer*" is scheduled to be published on Website only.
- (14367) BEDJANIČ, M., 2002. Raziskave kačjih pastirjev (Odonata) in ravnokrilcev (Orthopteroidea) na "MRT Makole 2001". — [Odonata and Orthopteroidea work during the "Youth Field Workshop Makole 2001"]. In: S. Štajnbaher, [Ed.], *Mladinski raziskovalni tabor Makole 2001*, pp. 83-104, ZTKS, Ljubljana, ISBN 961-6243-31-4. (Slovene). — (Fram 117/A, SI-2313 Fram).
A commented list of 31 odon. spp., from 16 localities in the Makole-Poljčane area, Styria, Slovenia, evidenced during 1-8 July 2001. *Sympetrum depressiusculum* is of particular interest.
- (14368) BUCZYNSKI, P., 2002. Materiały do poznania ważek (Odonata) Lubelszczyzny, 2. Ważki w kolekcji Zakładu Zoologii UMCS w Lublinie. — Materials to the knowledge of dragonflies (Odonata) in the collection of the Department of Zoology of the Maria Curie-Skłodowska University in Lublin. *Wiad. ent.* 21(1): 5-10. (Pol., with Engl. s.). — (Dept Zool., Inst. Biol.,

M. Curie-Skladowska Univ., Akademicka 19, PO-20-033 Poznan).

The 1947-1967 collection of 25 spp., mostly from the Lublin region, SE Poland, is listed and analysed.

- (14369) *BULLETIN OF THE HOKKAIDO ODONATOLOGICAL SOCIETY*, Vol. 12 (Dec. 2000), 13 (March 2001), 14 (March 2002). (Jap.). — (c/o prof. Dr H. Ubukata, Dept Sci. Educ., Hokkaido Univ. Educ., Shiroyama 1-15-55, Kushiro, 085-8580, JA). [Vol. 12]: *Wataji, M., S. Tamura, S. Yamada, K. Ota, Y. Kurauchi & T. Uemura*: The original fauna and its shift in the lower reaches of the Ishikari R. (pp. 1-13, with Engl. s.); — *Yokoyama, T.*: A report on the odonate fauna of the Ono Pond at Hokkaido University (pp. 14-16); — *Yokoyama, T. & S. Fujimoto*: A record of *Oligoaeschna pryleri* from Nishioka Reservoir (p. 17); — *Yokoyama, T. & M. Tsuji*: Investigation into the Aeshna subarctica survival at Kyogoku-cho (pp. 18-20); — *Futahashi, R., H. Futahashi & S. Futahashi*: *Rhyothemis fuliginosa* at Nishinoboru, Ebetsu city (pp. 21-23); — *Hiratsuka, K.*: Dragonfly observations in Onuma Park, Nanae-cho (p. 24); — *Cordulia aenea amurensis* from Soya-shicho (p. 25); — [*Hiratsuka, K.*]: The earliest and the latest Hokkaido Odonata seasonal records from the literature (pp. 26-28); — The earliest and the latest seasonal Odonata records in Hokkaido, 1 (pp. 29-31); — The Hokkaido Odonata regional distribution by shicho (pp. 32-34); — Book review (p. 35); — A report on the Mortonagrion hirosei conservation at Nishioka Reservoir and in Yamaguchi prefecture (pp. 36-37). — [Vol. 13]: *Koyama, T.*: [Editorial] For the new century (p. 1); — *Yokoyama, T., S. Akaishi & Y. Hirose*: A new locality for *Lyrithemis pachygastra* and its life history in southern Hokkaido (pp. 2-4); — *Yokoyama, T.*: Life history of *Planaeschna milnei* in Hokkaido (pp. 5-9); — Larval overwintering of several lotic species in the northern district (p. 10); — *Hori, S. & T. Yokoyama*: Records of two species from Noboru Forest Park (pp. 11-12; *Mnais pruinosa costalis*, *Davidius m. moivanus*); — *Akaishi, S.*: Dragonfly fauna of Matsuyama Marsh, Miyuki-cho (pp. 13-14); — Probable emergence of *Boyeria maclachlani* in Ashikawa city (p. 15); — *Natsume, H.*: *Sympetrum darwinianum* in Nishioka Reservoir (p. 16); — *Naraoka, H.*: A correction on the report on dragonflies of the Kushiro Marsh, Hokkaido (p. 17); — [*Harauchi, Y. et al.*]: The earliest and the latest seasonal records in Hokkaido, 2 (pp. 18-20); — The Hokkaido odonate regional distribution by shicho (pp. 21-23); — The Hokkaido odonate regional distribution

by islands (pp. 24-26). — [Vol. 14]: *Uemura, T.*: A new record of *Anax n. nigrofasciatus* from Hokkaido (pp. 1-3); — *Hori, S. & T. Yokoyama*: *Boyeria maclachlani* from Noboro Forest Park (pp. 4-5); — *Yokoyama, T.*: Life history of *Somatochlora uchidai* (pp. 6-10); — A record of *Aeschnophlebia longistigma* from Tobetsu-cho (p. 11); — *Nakatani, M. & H. Ubukata*: Some dragonflies collected from Kuril Islands and Sakhalin (pp. 12-15; Engl.); — *Ubukata, H.*: Dragonflies collected at Banna-daka on Ishigaki Island in November (p. 16); — A record of *Rhipidolestes aculeatus yakushimaensis* Asahina f. *kyushuensis* from Kogoshima prefecture (pp. 17-18); — *Hiratsuka, K.*: New dragonfly records from Rumoi-shicho (pp. 19-20); — The earliest and the latest seasonal dragonfly records in Hokkaido, 3 (pp. 21-23); — The Hokkaido Odonata regional distribution by shicho (pp. 24-26).

- (14370) CANNINGS, R.A., 2002. *Introducing the dragonflies of British Columbia and the Yukon*. Roy. Brit. Columbia Mus., Victoria. 96 pp. Softcover (21.5x14.0 cm). ISBN 07726.4636.6. — (Available from the Eds of Odonatologica: P.O. Box 256, NL-3720 AG Bilthoven).

The book covers 88 spp. (87 occurring in BC, 33 in the Yukon). The text and figs combined will enable an easy and reliable identification of almost all of them. — The introductory chapters (pp. 5-24) deal with life history, behaviour, morphology and conservation, and include a systematic description of BC habitats and a key to the BC families. Species accounts (pp. 25-89) present concise descriptions, information on biogeography, range, habitats and adult phenology. Excellent close-up photographs and line drawings of structural features (where required for identification) enhance the value of the work. Most of the photographs are from the collection of the late G. Doerksen (1940-1981), now in the RBCM, Victoria), therefore, in a way, the book stands tribute to the memory of this much appreciated and greatly missed BC naturalist and odonatologist. — The Author is the doyen of British Columbia odonatology; this is his second book on the subject (cf. OA 2055). The lucid text and splendid presentation make it more than a mere "introduction". In odonatology literature, it is one of the most attractive presentations of a regional fauna, directed at the motivated naturalist and odon. specialist alike.

- (14371) CHOVANEC, A., F. SCHIEMER, H. WAIDBACHER & R. SPOLWIND, 2002. Rehabilitation of a heavily modified river section of

- the Danube in Vienna (Austria): biological assessment of landscape linkages on different scales. *Int. Revue Hydrobiol.* 87(2/3): 183-195. — (First Author: Abt. Aquat. Okol., Umweltbundesamt, Spittelauer Lände 5, A-1090 Wien).
- The ecological condition of the Danube section in Vienna has been much impaired by urban development, channel straightening and by the construction of a hydro power plant. In 1997, the shoreline of the river in this area was restructured and a monitoring programme established. In 1998 and 1999, the new structures were colonised by 28 odon. spp.; the community is characterised by eurytopic and limnophilous spp.
- (14372) CHOVANEC, A., M. SCHINDLER & J. WARINGER, 2002. Bewertung des ökologischen Zustandes eines Donaualtarmes ("Alte Donau") in Wien aus libellenkundlicher Sicht (Insecta: Odonata). *Lauterbornia* 44: 83-97. (With Engl. s.). — (First Author: Abt. Aquat. Ökol., Umweltbundesamt, Spittelauer Lände 5, A-1090 Wien).
- The ecological status of the Danubian oxbow, "Alte Donau" in Vienna, Austria, is assessed, based on odon. (20 sp., recorded from 8 sites), using the Odonata Habitat Index (OHI), as described in OA 14068. The range of site specific index values was low (2.49-3.05; mean 2.81), indicating a low level of habitat diversity.
- (14373) ERJAVECIA. Bulletin of the Slovene Odonatological Society (ISSN 1408-8185), No. 13 (30 Apr. 2002). (Slovene). — (c/o M. Bedjanič, Fram 117/ A, SI-2313 Fram).
- The feature article, by M. Bedjanič (pp. 1-4), is devoted to Dr L. Poljanec (1872-1944), with emphasis on odon. treatment in his High School textbooks. Aside of the report on the 2002 Plenary Meeting of the Society, and the announcements of various international symposia, Society's field trips and field workshops, the following are some of the noteworthy scientific notes: Bedjanič, M.: Review of the biotic and landscape diversity in Slovenia: dragonflies (pp. 6-11); Šalamun, A.: Some odonatological curiosities from the Prilip in the Sava floodplain (pp. 15-16). — Slovene dragonfly poetry is represented by the reproduction of a text of M. Jezernik (1939), and Nos 413-440 are added to the Slovene odonotol. bibliography (pp. 26-28).
- (14374) GUILLOTON, J.-A., 2002. Odonata 44-85: 5ème rapport (2000-2001). *Lettre Atlas ent. rég. (Nantes)* 15: 12-14. — La Close des Saules, F-44810 Héric).
- The 1960-2001 record are summarized and species-wise reviewed. For the previous report on the Loire-Atlantique and the Vendée odon. mapping project, France, see OA 13284.
- (14375) HAMALAINEN, M., 2002. Alkusanat. In: S. Karjalainen: *Suomen sudenkorennot*, pp. 6-7, Tammi, Helsinki, ISBN 931-31-2212-3. (Finn.). — (Sunankalliontie 13, FIN-02760 Espoo).
- The Preface in the book, described in OA 14380, incl. an outline of the Agrion-Calopteryx nomenclatural confusion.
- (14376) HANAFUSA, H. & H. HANAFUSA, 2001. Records of the Odonata from Guam Island, Marianas, USA. *Futao* 40: 14-15. (Jap., with Engl. title). — (688-2, Tajjima, Tottori-shi, Tottori, 680-0804, JA).
- A list of 9 spp., with precise locality data (in Engl.) and collection dates (March 2001).
- (14377) HECKER, K.R., M.R. FORBES & N.J. LÉONARD, 2002. Parasitism of damselflies (*Enallagma boreale*) by gregarines: sex biases and relations to adult survivorship. *Can. J. Zool.* 80(1): 162-168. (With Fr. s.). — (Dept Biol., 2240 Herzberg Labs, Carleton Univ., 1125 Colonel By Dr., Ottawa, ON, K1S 5B6, CA).
- Host damselflies, *E. boreale*, and their gregarine parasites (Apicomplexa: Eugregarinidae) were studied to elucidate the causes and consequences of any sex biases in parasitism of adult hosts. Larvae of both sexes were highly infected, but there was no difference between ♂ and ♀ larvae in either prevalence or intensity of gregarine infections. Newly emerged adults had few or no parasites, thereby setting the stage for investigating accumulation of parasites by adults. Adult ♀♀ had a higher prevalence and intensity of infection than did ♂♂, but only on 1 (or 2) days when the potential confounding factor of host age was controlled for. Both adult ♂♂ and ♀♀ showed a positive correlation between longevity under conditions of food stress and the number of gregarines they initially carried. This finding may be explained if the food ingested with the infective cysts is more beneficial than the parasites are harmful, and it also has implications for investigating sex biases in numbers of trophically transmitted parasites of such insects.
- (14378) HELLMUND, M. & W. HELLMUND, 2002. Neufunde und Ergänzungen zur Fortpflanzungsbiologie fossiler Kleinlibellen (Insecta, Odonata, Zygoptera).

- Stuttg. Beitr. Naturk.* (B) 319: 1-26. (With Engl. s.). – (First Author: Inst. Geol. Wiss., Domstr. 5, D-06108 Halle/Saale).
- The Lower Miocene zygopteran egg-sets are described and illustrated from 2 localities in Germany. The “lestid type” oviposition is for the first time documented in a monocotyledon leaf. A detailed review of the hitherto known fossil egg-sets is appended.
- (14379) KAPPES, E. & W. KAPPES, 2000. 34 *Libellenarten an einem Wochenende in Lüchow-Dannenberg, 21.+22.7.2001*. Privately circulated, 7 pp. – (Eichenweg 27, D-22395 Hamburg-Bergstedt). A commented list of 34 spp., incl. e.g. *Aeshna affinis*, *A. viridis*, *Leucorrhinia albifrons*, *L. caudalis*, etc.
- (14380) KARJALAINEN, S., 2002. *Suomen sudenkorennot. – The dragonflies of Finland*. Tammit, Helsinki. 222 pp. Hardcover (21.5×26.5 cm). ISBN 931-31-2212-3. Price: € 47.10 net. (Finn., with Engl. s.). – (Author: Tyrskykuja 3 B 15, FIN-02320 Espoo). After the 1922 and 1952 works of K.J. Valle, this is the third book on the dragonflies of Finland; – a splendid volume, prefaced by Dr M. *Hämäläinen*, and covering all 52 spp. so far recorded from Finland. Introductory chapters on dragonfly biology (pp. 16-60), are followed by species accounts (2 pp./sp.), with high quality photographs, Finnish distribution maps and adult phenology graphs for each sp. In the concluding chapter, some hints are presented on dragonfly field work and on specimen preparation. The substantial regional bibliography will be most useful as well. In Finland, *Nehalennia speciosa*, *Aeshna viridis* and *Libellula fulva* are redlisted as “endangered”, and *Coenagrion puella* as “vulnerable”. *Leucorrhinia albifrons*, *L. caudalis* and *L. pectoralis* are also protected, though they are not endangered in Finland, but they are so in most other countries of the European Union. – The book is the result of more than a decade of intense and meticulous work. The Author is to be congratulated on the concise and well-balanced presentation and on the superb photographic documentation. The book does not include keys, but the principal structural features of almost all spp. are shown in the appended line drawings (p. 210-213), which will facilitate a reliable identification.
- (14381) KETELAAR, R., 2002. De status van de speerwaterjuffer *Coenagrion hastulatum* in Nederland, een karakteristieke libel van niet aangetaste vennen (Odonata). – The status of the Northern Damselfly *Coenagrion hastulatum* in the Netherlands, a characteristic dragonfly of non-disturbed shallow lakes (Odonata). *Ned. faun. Meded.* 16: 1-10, col. phot. excl. (Dutch, with Engl. s.). – (Vlinderstichting, P.O. Box 506, NL-6700 AM Wageningen).
- Between 1980-2000, the sp. disappeared from 7 localities, at present 16 populations are known in the southern and eastern Netherlands. These are reviewed, and circumstantial evidence is presented on the wandering of individuals over a distance of at least ca 2 km.
- (14382) KONING, M., F. KONING & A. BOTSCHUYVER, 2002. *KNNV-Libellen-werkgroep Zuid-Kennemerland: waarmeningenoverzicht 2001. – [Report of the 2001 observations by the Zuid-Kennemerland Dragonfly Group of the Royal Netherlands Natural History Society]*. KNNV-LWZK, Heemstede. 41 pp. (Dutch). – (Hobbemastraat 37, NL-2102 BJ Heemstede).
- The report covers the area W of the Amsterdam harbour and N of Hillegom, the Netherlands, recording incidental observations, regional inventories, systematic monitoring, and breeding evidence of spp. of particular interest. 28 spp. are dealt with.
- (14383) KORKEAMÄKI, E. & J. SUHONEN, 2002. Distribution and habitat specialization of species affect local extinction in dragonfly (Odonata) populations. *Ecography* 25(4): 459-465. – (First Author: Kotkantie 23 a 11, FIN-48200 Kotka).
- These effects, related to 20 spp., were studied (1995-1998) at 34 small creeks and brooks in central Finland, and are based on the 1930-1975 records. Out of 219 populations, 98 historical populations have vanished. The extinction risk is inversely related to the width of the regional distribution. The highest extinction risk was found in habitat-specialists associated with peatlands. In widely distributed generalists it was low. Local extinction occurred more frequently in small, dynamic upstream sections. The results are consistent with the meta-populations theory.
- (14384) *LINDENIA*. Notiziario dell'Ufficio nazionale italiano della Società odonologica internazionale, Napoli, No. 36 (21 June 2002). – (c/o Dr C. D'Antonio, Via A. Falcone 386/b, I-80127 Napoli).
- A 2-page issue, informing on the positions of Italian odon. websites, and announcing various regional and international symposia. Also included is a note on B. Kiauta's odonatol. work, by C. Utzeri (p. 152).

- (14385) MACHADO, A.B.M., 2002. *Neuraeschna tapajonica* sp. n. from the Amazonian region of Brazil (Odonata: Aeshnidae). *Lundiana* 3(1): 29-30. — (Depto Zool., Inst. Cien. Biol., UFMG, Caixa Postal 486, BR-31270-901 Belo Horizonte, MG).
The new sp. is described and illustrated from a single ♂ (Brazil, Pará, Itaituba, X-1977; deposited in Author's collection). It belongs to the dentigera-group.
- (14386) MANGER, R., 2002. Kort verslag van drie jaar libellenonderzoek in het Zwanenwater. — [A brief report on a 3-year dragonfly research in Zwanenwater]. *Op de Kop* 7(2): 5-6. (Dutch). — (Stoepveldsingel 55, NL-9403 SM Assen).
An annotated list is presented of the 25 spp. recorded from this locality (Noord Holland prov., the Netherlands) since 1947. During 1999-2001, 19 of these were resighted.
- (14387) MARTIN CASACUBERTA, R., 2002. Nueva cita de *Orthetrum nitidinerve* (Selys, 1841) (Odonata: Libellulidae) para Cataluña. *Boln Soc. ent. aragon.* 30: 180. — (C/ Marti Julia, 19-23, 1r 1a, ES-08911 Badalona).
1 ♂, La Bunyola, 17-VII-1989; 1 ♂, La Marina, same date; both localities in the Barcelona area. Bibliographic references are provided also for all earlier records from Catalonia, Spain.
- (14388) MARTINIA. *Revue scientifique de la Société française d'odonatologie* (ISSN 0297-0902), Vol. 18, No. 2 (dated June 2002, received Oct. 2002). (Mostly with Engl. s's). — (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois-d'Arcy).
Lecomte, M., N. Ilbert, J. Lapalisse & T. Laporte: Le point sur les connaissances relatives aux odonates rares des Pays de l'Adour (Gers, Landes, Pyrénées-Atlantiques, Hautes-Pyrénées) (pp. 39-65); — *Guerbaa, K. & J. Barataud: Découverte de Cordulegaster bidentata* Selys, 1843 dans le département de la Haute-Vienne (Odonata, Anisoptera, Cordulegasteridae) (p. 66); — *Lecomte, T.: Sympetrum danae* (Sulzer, 1776) espèce nouvelle pour le Marais Vernier (département de l'Eure) (pp. 67-68); — *d'Aguilar, J.: Les descriptions originales des odonates d'Europe.* 9. Latreille, Pierre-André (1762-1833) (pp. 69-75).
- (14389) MATERIAŁY 9 OGÓLNOPOLSKICH WARSZTATÓW BENTOLOGICZNYCH. — [Abstracts of the 9th Polish Workshop of Benthology]. Mikołaj Kopernik Univ., Toruń, 2002. (Pol.).
[Odonatol. papers]: *Domek, P. & T. Joniak: Seasonal changes of macrobenthos under physiological and chemical water conditions in humic lakes* (p. 5); — *Mielewczyk, S. & P. Domek: Macrofauna of the shallow littoral of the lobelian lake Jelén, Bytów Lake District* (p. 24); — *Tończyk, G.: Changes of species composition in dragonfly larval communities in the valley of the middle section of the Grabia river, central Poland: an analysis of data collected over 50 years* (p. 30).
- (14390) MATTILA, K., 2002. Hyönteistiedonannot 2001. — [Insect records 2001]. *Diamina* 11: 43-46. (Finn.). — (Lukonmäenkatu 18 B 13, FIN-33710 Tampere).
Includes records of *Libellula depressa* and *Leucorrhinia pectoralis*; — Finland.
- (14391) MERRITT, R.W., K.W. CUMMINS, M.B. BERG, J.A. NOVAK, M.J. HIGGINS, K.J. WESSELL & J.L. LESSARD, 2002. Development and application of a macroinvertebrate functional-group approach in the bioassessment of remnant river oxbows in southwest Florida. *Jl N. Am. benthol. Soc.* 21(2): 290-310. — (First Author: Dept Ent., Fish. & Wildlife, Michigan St. Univ., East Lansing, MI 48824, USA).
Includes information on voltinism and larval habits for *Argia*, *Enallagma*, *Ischnura*, *Aphylla*, *Anax*, *Boyeria*, *Epitheca*, *Brachymesia*, *Erythemis*, *Erythrodiplax*, *Miathyria*, *Pachydiplax* and *Perithemis*; — *Calcosahatchee R.*, SW Florida, USA.
- (14392) MONETTI, L., R.A. SANCHEZ-GUILLEN & A. CORDERO RIVERA, 2002. Hybridization between *Ischnura graellsii* (Vander Linden) and *I. elegans* (Rambur) (Odonata: Coenagrionidae): are they different species? *Biol. J. Linn. Soc. Lond.* 76: 225-235. — (Depto Ecol. & Biol. Anim., Univ. Vigo, EUET Forestal, Campus Universitario, ES-36005 Pontevedra).
The 2 spp. were analysed for morphological differences and reproductive isolation in NW Spain. Animals were compared from sympatric and allopatric populations. A set of morphometric characters were studied by means of multivariate discriminant analysis to determine whether the 2 spp. can be unambiguously distinguished. *I. graellsii* is distinguished from *I. elegans* by its smaller size and by its narrower and shorter wings and shorter tibiae. *I. elegans* also has a narrower space between the branches of each cercus, and greater distance between the branches of each paraproct. Sympatric individuals are morphologically

- intermediate, suggesting hybridization. When the 2 spp. were put together in the laboratory, they showed partial temporal separation in mating behaviour, but elegans ♂♂ readily mated with graellsii ♀♀, and hybrid individuals were obtained. The opposite heterospecific cross was almost impossible, apparently due to mechanical problems with the tandem linkage. Although hybridization between the 2 taxa is common, the specific status of both phenotypes is suggested, since they show incipient reproductive isolation.
- (14393) *NIEUWSBRIEF VAN DE NEDERLANDSE VERENIGING VOOR LIBELLENSTUDIE* (ISSN 1387-4470), Vol. 6, No. 2 (June 2002), (Dutch). — (c/o R. Manger, Stoepveldsingel 55, NL-9403 SM Assen).
[Signed articles:] *Wasscher, M.*: Knighthood bestowed on Bastiaan Kiauta (p. 4; with a portrait and an incomplete list of odon. taxa named after him); — *Ruiter, E.*: *Gomphus vulgatissimus* established throughout the Overijsselse Vecht river (pp. 5-7); — *Ketelaar, R.*: Recent publications on the Netherlands dragonflies, 1994-2001 (pp. 8-16; ca 230 titles). — 7 faunistic notes (pp. 17-18), by *A. Stroo, E. Ruiter, T. Faasen, G. Abbingh, H. Heijligers, R. de Groot & M. Peterse*, and *T. van Trigt*.
- (14394) PAGE, J., 2002. Dragonfly dramas: Desert whitetails and Flame skimmers cavort in the sinkholes of New Mexico's Bitter Lake Refuge. *Smithsonian* 32(10): 20, 22. — (Author's address not stated).
A narrative on a visit to the Bitter Lake National Wildlife Refuge (N of Roswell, NM, USA) with R.R. Larsen.
- (14395) PIVKO-KNEŽEVIČ, A., 2002. *Pojavljanje kačjih pastirjev (Odonata) glede na različne ekološke niše na brežinah Velenjskega in Škalskega jezera. — Occurrence of dragonflies (Odonata) in dependence of different ecological niches on the shores of Velenje Lake and Škale Lake.* Splošna in strokovna gimnazija, Velenje [Raziskovalna naloga]. vi+43 pp. (Slovene, with Engl. s.) — (Vodnikova 3, SI-3320 Velenje). Deals with 10 spp.; Slovenia. See also OA 14031 and 14396.
- (14396) PIVKO-KNEŽEVIČ, A., E. GLASENČNIK & A. MALOVŠEK, 2002. *Velenjska jezera in kačji pastirji. — [The Velenje lakes and dragonflies]*. Bizjak, Velenje. Fan-bound collection of 11 cards. (Slovene). — (Publishers: Štrbenkova 4, SI-3320 Velenje).
- ♂ and ♀ field portraits of 11 spp., with concise morphological descriptions. — (Circulation: 300 copies).
- (14397) PURSE, B.V. & D.J. THOMPSON, 2002. Voltinism and larval growth pattern in *Coenagrion mercuriale* (Odonata: Coenagrionidae) at its northern range margin. *Eur. J. Ent.* 99(1): 11-18. — (Second Author: Pop. & Evol. Res. Gr., Univ. Liverpool, Nicholson Bldg, Sch. Biol. Sci., P.O. Box 147, Liverpool, L69 3GS, UK).
Voltinism and larval growth pattern were investigated in an edge-of-range population of *C. mercuriale*. The sp. is semivoltine in Britain and growth is inhibited in winter. The 2nd yr group overwinters in a range of instars between the antepenultimate and final instar consistent with the early, asynchronous emergence pattern of this sp. A facultative autumnal diapause in the penultimate instar is the most likely mode of seasonal regulation. The broad size distribution of larvae produced by this growth pattern was wider than that found in co-occurring populations of *Pyrrhosoma nymphula*, a "spring" sp. with synchronous emergence. The broad size distributions may lead to considerable intraspecific interference between *C. mercuriale* larvae. Sex ratio in the last 3 larval instars of *C. mercuriale* did not differ significantly from unity. A laboratory investigation of the effect of temperature and photoperiod on growth and diapause in *C. mercuriale* is recommended to determine whether high minimum temperature thresholds for development limit both the width of the temporal niche and microhabitat use by this sp. at its range margin.
- (14398) RASNITSYN, A.P. & L.N. PRITYKINA, 2002. Superorder Libelluloidea Laicharing, 1781. Order Odonata Fabricius, 1792. The dragonflies. In: A.P. Rasnitsyn & D.L.J. Quicke, [Eds], *History of insects*, pp. 97-105. Kluwer, Dordrecht-Boston-London. ISBN 1-4020-0026-X. — (Palaeontol. Inst., Russ. Acad. Sci., RUS-117868 Moscow).
A concise definition, an outline of synapomorphies, and a comprehensive review of systematics and phylogeny.
- (14399) RASNITSYN, A.P. & D.L.J. QUICKE, [Eds], 2002. *History of insects*. Kluwer, Dordrecht-Boston-London. xii+517 pp. Hardcover (22.0x28.0 cm), ISBN 1-4020-0026-X. Price: € 240.- net. — (Publishers: Distrib. Cent., Kluwer Acad. Publishers, P.O. Box 322, NL-3300 AH Dordrecht).

- The fossil history of the class is comprehensively dealt with. The volume embraces the history of insect palaeontology, the methods for studying fossils, the taphonomic processes leading to their formation, the diagnostic features of all orders, both extant and extinct, the major fossils of each order, and the implications that can be drawn from the palaeontological record about past ecology and climates. Basically, it is the product of the largest palaeontological group, in Moscow. It makes full use of the remarkable collection that these workers have developed, and presents many new insights. The book includes a very large number of illustrations, showing both real fossils and reconstructions of extinct taxa. The systematic part is treated in a phylogenetic framework, with information on fossil groups being used to help interpret relationships. An appendix provides information on virtually all sites where fossil insects have been found. — For the Odon. chapters see OA 14398.
- (14400) REN, Dong, 2002. Progress in the study of Mesozoic fossil insects during the last decade in China. *Acta ent. sin.* 45(2): 234-240. (Chin., with Engl. s.). — (Dept Biol., Capital Normal Univ., Beijing-100037, P.R. China).
Lists the localities, geological age and bibliography for 4 odon. spp.
- (14401) RUITER, E., 2002. Een klein drama in een idyllisch oord. — [A small drama in an idyllic place]. *Natura, Utrecht* 99(3): 80-81. (Dutch). — (Author's address not stated).
An anecdotal description of a massive predation on emerging *Aeshna cyanea*, by an unknown predator, at the "De Horte" property, Zwolle-Dalfsen region, Overijssel prov., the Netherlands.
- (14402) SABO, J.L., J.L. BASTOW & M.E. POWER, 2002. Length-mass relationships for adult aquatic and terrestrial invertebrates in a Californian watershed. *Jl N. Am. benthol. Soc.* 21(2): 336-343. — (First Author: Dept Biol., Arizona St. Univ., P.O. Box 871501, Tempo, AZ 85287-1501, USA).
Length-mass regression is the most commonly used technique for estimating biomass from samples when direct measurement is neither possible nor practical. It is assumed, data in this paper represent the first published length-mass relationships for odon. adults (the order as a whole, and for the Coenagrionidae and Gomphidae separately).
- (14403) SALOKANNEL, J., 2002. Iidesjärven hyönteisselvitys. — [Entomological survey of Iidesjärvi Lake]. *Diamina* 11: 11-27. (Finn.). — (Tolkantie 6 B 13, FIN-36240 Kangasala).
11 odon. spp. are listed (2001), among which the larval *Epitheca bimaculata* is of particular interest; — Tampere, Finland.
- (14404) SAMOLAG, J., 2002. Nowe stwierdzenia *Coenagrion armatum* (Charp.) i *Sympetrum fonscolombii* (Selys) (Odonata: Coenagrionidae, Libellulidae) w wielkopolsce. — New records of *Coenagrion armatum* (Charp.) and *Sympetrum fonscolombii* (Selys) (Odonata: Coenagrionidae, Libellulidae) in the Wielkopolska region. *Wiad. ent.* 21(1): 51-52. (Pol., with Engl. title). — (Ul. Poznańska 72, PO-62080 Tarnowo Podgórze).
C. armatum: 2 ♂, SE of Lusówko, 7-V-2000; — *S. fonscolombii*: 1 ♂, SW of Młodasko, 22-X-2000. The accompanying odon. spp. at the 2 localities are listed and the occurrence of the 2 spp. in Poland is briefly outlined.
- (14405) SAMWAYS, M.J., 2002. A strategy for the national red-listing of invertebrates based on experiences with Odonata in South Africa. *Afr. Ent.* 10(1): 43-52. — (Sch. Bot. & Zool., Univ. Natal, P. Bag X01, Scottsville-3209, Pietermaritzburg, SA).
With reference to the paper published in *Odonatologica* 31(2002): 151-170, the importance of overcoming the taxonomic and perception challenges in invertebrate conservation as well as the categorization process are discussed. A simplified strategy is presented, incl. a suggestion for compiling a list of potential focal taxa which in the first instance are not categorized. The spp. in this list then become a core in field searches, both during wide-scale atlasing and during more focussed threat category assessments.
- (14406) SCHLUETER, M. & M. WELT, 2002. *The dragonfly: a more effective genetic biomarker of pollution*. Poster 78-04, presented at the 12th Annual Meeting of the S(ociety of) E(nvironmental) T(oxicology and) C(hemistry) Europe, Vienna (Austria), 12-16 May 2002. — (First Author: Dept Biol., Xavier Univ., 1 Drexel Dr., New Orleans, LA 70125-1098, USA).
[Verbatim:] Population genetic structure (allele frequencies) of several *Erythemis simplicicollis* populations were compared and contrasted. Populations were sampled from "polluted" sites (e.g. heavy metals,

- petroleum) and "clean" sites. Differences in allele frequencies were detected in the populations. These differences may be related to the toxicants present in the environment. DNA fingerprinting (RAPD markers) was able to identify individuals as well as separate populations. Allozyme data show that selection for specific phenotypes are related to environmental pollution. This was illustrated by comparisons of allozyme phenograms to genomic population phenograms. These differences suggest that the phenotypic (allozyme) data from dragonflies may serve as an effective biomarker of environmental health.
- (14407) SEGULA, B., 2002. Najhitrejši letalci med žuželkami. — [The fastest flyers in insects]. *Gea, Ljubljana* 12(6): 44-47. (Slovene). — (Lepi pot 4, SI-1000 Ljubljana).
General on dragonflies, directed at the general reader, with 12 col. phot. of Slovene spp.
- (14408) SIOJA. [Information bulletin of the SIO Japan Branch Office] 2002, No. 1 (15 June). (Jap.). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545-0004, JA).
The 4 pp. issue is largely devoted to the final information on the SIO East Asia Regional Symposium (Seoul, Korea; July 2002), and an SIO Colloquium, to take place on 4 Augt. 2002 in the Osaka Nat. Hist. Mus. (Japan), is announced. An article on the recently bestowed knighthood by the Queen of the Netherlands on the Editor of *Odonatologica* (with a portrait) concludes the issue.
- (14409) S[ociety of] E[nvironmental] T[oxicology and] C[hemistry], EUROPE, 2002. *Abstracts of papers presented at the 12th Annual Meeting, 12-16 May 2002, Vienna, Austria [Challenges in environmental risk assessment and modelling: linking basic and applied research]*. — (Available from: SETAC Europe, av. de la Toison d'Or 67, B-1060 Bruxelles).
[Odonatol. papers:] *Dabrowski, J.M., G. Thiere & R. Schulz*: A combined microcosm and field approach to evaluate the aquatic toxicity of azinphos-methyl to stream communities (p. 26); — *Schulz, R., M.T. Moore, E.R. Bennett, C.D. Milam, J.L. Bouldin, J.L. Ferris, S. Smith & C.M. Cooper*: Methyl-parathion effects on macroinvertebrates in vegetated wetland mesocosms (p. 119); — *Schluster, M.A., E.A. Hellbach, R.M. Carter & M. Welt*: The dragonfly: an effective genetic biomarker of environmental pollution (pp. 245-246); — *Beketov, M.*: Control of ammonia toxicity to odonatan larvae by pH, ionic composition of water and starvation (pp. 249-250).
- (14410) THOMPSON, D.J. & O.M. FINCKE, 2002. Body size and fitness in Odonata, stabilising selection and a meta-analysis too far? *Ecol. Ent.* 27(3): 378-384. — (First Author: Sch. Biol. Sci., Nicholson Bldg, Univ. Liverpool, P.O. Box 147, Liverpool, L69 3BX, UK). In the paper listed in OA 13317, N. Skolovska et al. used 57 weighted correlation coefficients derived from 33 published studies of 20 spp. to produce the first meta-analysis of body size and fitness in odonates. They concluded that "there is a general fitness benefit to large size in odonates". Given the inherent biases of their analyses, such a conclusion is hardly surprising. In this paper, their study was used to illustrate major problems that arise from (1) ignoring the possibility of stabilising selection on body size, (2) using statistics from the literature indiscriminately, when the original studies are inappropriate for comparative analysis, and (3) relying heavily on transformed statistics derived from small samples. Suggestions are made as to how data can be presented and analysed in ways conducive to future comparative analyses on size relations to fitness in odon. and other insects.
- (14411) TYAGI, B.K., 2002. *Malaria in the Thar Desert: facts, figures and future*. Agrobios (India), Jodhpur x+165 pp. Hardcover (14.0x22.5 cm). ISBN 81-7754-136-6. Price: US \$ 33.- net. — (Author: Cent. Res. Med. Ent., 4 Sarojini St., Chinna Chokkikulam, Madurai-625005, TN, India; — Publishers: Agro House, Behind Nasrani Cinema, Chopasani Rd, Jodhpur-342002, India).
On p. 131, *Bradinopyga geminata* and *Crocotthemis servilia* are stated to be effective in biological mosquito control in the Thar Desert, Rajasthan, W India. — On the cover of the book appear Author's portrait and a concise biography, with references to his manifold odonatol. work.
- (14412) VALTONEN, P., 2002. Sundin sudenkorennoista. — [The Sundin parish dragonflies]. *Diamina* 11: 8-10. (Finn.). — Kaukolankuja 2, FIN-33820 Kangasala).
All the hitherto known records (24 spp.) from the parish (Finland) are listed, incl. the rare *Ischnura pumilio* and *Nehalennia speciosa*. The fauna is considered to be still inadequately explored.
- (14413) VAN BUSKIRK, J. & M. ARIOLI, 2002.

Dosage response of an induced defense: how sensitive are tadpoles to predation risk? *Ecology* 83(6): 1580-1585. – (Inst. Zool., Univ. Zürich, Winterthurerstr. 190, CH-8057 Zürich).

Models of behaviour and life history evolution under predation risk often assume that animals can detect and respond to subtle temporal and spatial variation in mortality risk, but there is little evidence supporting this assumption. The present Authors measured phenotypic responses of *Rana lessonae* tadpoles to variation in apparent predation risk signaled by different numbers of *Aeshna cyanea* larvae, consuming different quantities of tadpoles. The experiment took place in 80-L artificial ponds, and the predators were confined within cages so that they could not capture the experimental animals. There was good support for continuous dosage response curves for most behavioural and morphological traits, which indicates sensitivity to graded risk and therefore supports the assumptions of many models. Behavioural traits were most responsive to the number of tadpoles killed by the predators, whereas morphological traits responded to the number of dragonflies independent of the predators' diet. The results imply that behavioural and morphological responses can be triggered by different

cues, and suggest that increasing investment in defensive traits entails increasing fitness costs.

- (14414) WOOTTON, R., 2002. Insect wings: the world's smallest, smartest aerofoils. *Biologist* 49(3): 97-100. – (Hatherly Labs, Sch. Biol. Sci., Univ. Exeter, Prince of Wales Rd, Exeter, EX4 4PS, UK). Insect wings are extraordinary examples of small-scale biological engineering: smart, flexible aerofoils, with virtually no parallels in technology. Dragonfly wings are perhaps the most complex known. Their physical properties are briefly described in *Libellula depressa* as an example.

2003

- (14415) ISHIZAWA, N., 2003. [Calendar] *Dragonflies of Japan, 2003*. Ishizawa, 1644-15 Yamaguchi, Tokorozawa, Saitama 359-1145, JA. An attractive bimonthly wall calendar, with a dragonfly portrait on each page. Taxonomic nomenclature: *Orthetrum j. japonicum*, *Nannophya pygmaea*, *Davidius nanus*, *Calopteryx atrata*, *Ictinogomphus clavatus*, *Sympetrum kunkeli*, *Aeshna nigroflava*.