ODONATOLOGICAL ABSTRACTS

1977

(13177) DZENDZELIVS'KIY, I.O., 1977. Iz sposterezhen' nad slov'yans'koyu narodnoyu entomologichnoyu leksikoyu, 2: Nazvi babki (Libellula) v govorah slov'yans'kih mov. – [Considerations on Slavic entomological folk vocabulary, 2: Appellations for dragonfly (Libellula) in Slavic dialects]. In: F. Jakopin, [Ed.], *Nahtigalov Zbornik*, pp. 67-108, Univ. Ljubljana. (Ukrainian, with Engl. & Slovene s's). – (Author's address not stated).
A linguo-geographical and lexico-etymological analysis is presented of the expressions for "dragonfly" in Slavic languages and dialects. It is based on the work presented in *OA* 10771 (where the Russian spelling of Author's name is apparently different from its Ukrainian spelling). The collected material, covering derivations from over 150 roots, shows a complex linguo-geographical picture. The majority of the expressions are metaphoric, metonymic and similar formations.

1988

(13178) SEDLAG, U., 1988. Ganz Auge und Flügel. *Tier* 88(9): 62-65. – (Author's current address unknown).
General, on dragonfly biology and behaviour.

1989

(13179) LI. J., 1989. A list of entomic [sic!] specimens in Dinghu Shan, 4. Odonata. *Trop. subtrop. Forest Ecosyst.* 5: 103-104. (Chin., with Engl. title & taxon. nomenclature). – (Guangdong Inst. Ent., Guangdong, P.R. China).
A checklist of 27 spp., without comments and annotations.

1992

(13180) NOVOKSHONOV, V.G., 1992. Novyy vid strekozy iz permskih otlozheniy Srednego Urala – [A new dragonfly species from the Perm deposits of Central Ural]. In: Nasekomye v estestvennyh i antropogennyh biogeocenozah Urala. *Soveshch. Ent. Urala* 4: 107-109. (Russ.). – (Author's address unknown).
[Not available for abstracting; reference listed in the paper described in *OA* 13203] – The description of Ditaxineurella pritykinae sp. n. (Ditaxineuridae) from Chekarda.

1994

(13181) MARSCHINKE, A., B. WESTERMANN, H. JAUKER, H.-U. JAHN & F. FURIGO, 1994. Eine Bestandaufnahme von Vögeln, Fröschen und Libellen an den Launsbacher Seen. *Oberhess. naturw. Z.* 56: 11-24. – (First Author: Inst. Allg. u. Spez. Zool., Justus-Liebig Univ., Stephanstr. 24, D-35390 Giessen).
A commented list of 10 odon. spp., evidenced during 1992-1993 at Launsbach lakes, Co. Wettenberg, Hessen, Germany. The occurrence of Calopteryx splendens and Gomphus pulchellus is considered of particular local interest.

(13182) MIYANO, S., 1994. Insects of the northern Mariana Islands, Micronesia, collected during the Expedition. *Nat. Hist. Res., Chiba* (Special Issue) 1: 199-215. – (Nat. Hist. Mus. & Inst., 955-2 Aoba-cho, Chuo-ku, Chiba, 260, JA).
The expedition was conducted in 1992 by the Nat. Hist. Mus. & Inst., Chiba. 5 odon. spp., identified by Dr S. Asahina, are listed from 4 islands in the Izu-Mariana Archipelago.

(13183) RUTTEN, M., 1994. Der Einfluss der Schiffahrt auf das Makrozoobenthos: vergleichende Betrachtung der Uferbiozönosen des Dortmund-Ems-Kanals in Abschnitten mit und ohne Schiffahrt. *Wiss. Mitt. niederösterr. Landesmus.* 8: 243-255. (With Engl. s.). – (Amphi-Bios, Schöneckerstr. 31, D-56283 Gondershausen).
Platycnemis pennipes is the sole odon. sp. considered. It does not occur in the actual Dortmund-Ems Channel (Germany), but its populations in the Alte Fahrten are under severe impact of navigation.

(13184) SACHER, P., 1994. [Der Nationalpark Hochharz:] Insekten. *NatSchutz Sachsen-Anhalt* 31 (Sonderh.): 37--39. – (Nationalparkverwaltung, Lindenallee 35, D--38855 Wernigerode).
Includes annotations on the status of some of the noteworthy odon. spp. in the Hochharz National Park, Sachsen-Anhalt, Germany.

1995

(13185) BÖCKER, L., 1995. *Analyse der Biotopansprüche der Larven von Cordulegaster boltoni (Donovan) und Cordulegaster bidentatus (Selys) im Giessener Raum als Grundlage für die Bioindikation für quellnahe Fliessgewässer.* Inaug.-Diss., Fachbereich Geowiss., Wilhelm-Univ., Münster. xvi+163 pp., App. excl. – (Author's address not stated).
The main subjects dealt with are: "Duration of larval development" (pp. 16-26; in the Giessen area, W Germany: 6 yr in both spp.), – "Age structure of the larvae along the stream" (pp. 26-37), – "Ecological habitat requirements: seasonal variability" (pp. 38-113), – and "Threat and conservation" (pp. 142-146). – The sympatric occurrence of the 2 spp. in the smallest niches is for the first time documented, and the (rather minor) differences in larval habitat choice are pointed out. These mainly concern the tolerance as to the range of water temperature, insolation and bottom structure.

(13186) CARVALHO, A.L., 1995. *Revisão de Coryphaeschna Williamson, 1903 sensu Calvert, 1956 (Odonata, Aeshnidae). – A revisionary study of Coryphaeschna Williamson, 1903 sensu Calvert, 1956 (Odonata, Aeshnidae).* PhD diss., Insto Biociências, Univ. São Paulo, São Paulo. x+191 pp. (Port., with Engl. s.). – (Caixa Postal 68044, Cidade Universitaria, BR--21944-970 Rio de Janeiro, RJ).
The genus, as defined by Calvert, is a paraphyletic assemblage of 2 distinct monophyletic groups, Coryphaeschna Wllmsn and Remartinia Navas. These form a monophyletic group with Castoraeschna Calv. – The objective of the present study is to define the phylogenetic relationships among the spp. of these genera, using cladistic analysis, and to derive a classification from the phylogenetic scheme. Over 100 adult and larval external morphological characters are considered. – Separate cladograms are constructed for adults and larvae, though the latter is incomplete, since the immature stages of several taxa are still unknown. Even so, the 2 cladograms are in mutual agreement. – 23 taxa are considered and described. The taxon diagnoses are based on apomorphies and plesiomorphies, and are hierarchically arranged. The spp. are keyed and a systematic catalogue, descriptions, biological and distributional data are provided for all of them.

(13187) COMPTE, A., 1995. La biodiversidad en el Código de Nomenclatura zoologica. *Actas 9 Bienal Soc. esp. Hist. nat., Jaca [Historia natural '93*; ISBN 84-8127--031-8], pp. 299-308. (Span., with Engl. s.). – (Depto Biodiv., Mus. Nac. Cien. Nat., c/José Gutiérrez Abascal 2, ES-28006 Madrid).
In view of the complex evolutionary diversification and the subsequent methodological difficulties in taxonomy, some modifications of the Code are suggested. Several odon. examples are stated.

(13188) EVENHUIS, N., D. POLHEMUS, S. SWIFT, K. ARAKAKI & D. PRESTON, 1995. A study on the biology of the Orangeblack Hawaiian Damselfly (Megalagrion xanthomelas), with special reference to conservation of the population at Tripler Army Medical Center, Oahu. *Bishop Mus. tech. Rep.* 8: iv+81 pp. – (Second Author: Dept Ent., Bishop Mus., 1525 Bernice St., Honolulu, HI 96817-2704, USA).
A detailed study of biology, incl. the populations on other Hawaiian islands (Hawaii, Lanai, Molokai), and recommendations for relocation of the sp., its protection and monitoring. It is shown that the sp. occupies a wide range of habitats and has broad ecological tolerances (mostly coastal wetlands, fed by basal springs). It is generally a lowland sp., tolerating saline concentrations of at least 2 ppt, but at places as high as 8 ppt. It was found breeding at water temperatures 20-31°C, with pH ranging from 6.6-9.2. – See also *OA* 11129.

(13189) FLEISCHER, B., J. JEBRAM, A. SCHUMACHER & K. TREMP, 1995. Vegetationskundliche und faunistische Untersuchungen im einstweilig

gesicherten NSG "Harzer Bachtäler". *NatSchutz Sachsen-Anhalt* 32(2): 3-18. – (First Author: Bömelburgstr. 10, D-30165 Hannover).
From the Harzer Bachtäler Nature Reserve, Wernigerode distr., Sachsen-Anhalt, Germany 19 odon. spp. are listed, and their provincial Redlist status is stated.

(13190) KOSTERIN, O.E. & V.V. ZAIKA, 1995. Materialy po strekozam (Odonata, Insecta) k Krasnoy knige respubliki Altay – [Materials on dragonflies (Odonata, Insecta) for the Red Book of the Altai Republic]. In: *Materialy k Krasnoy knige respubliki Altay (Zhivotnye)*, pp. 71-83. Gorno-Altaysk Gos. Univ., Gorno-Altaysk. (Russ.). – (First Author: Inst. Cytol. & Genet., Siber. Br., Russ. Acad. Sci., Lavrentiev Ave 10, RUS-630090 Novosibirsk).
8 spp. are dealt with. The treatment is similar to that in the work described in *OA* 13195, but there are no distribution maps, and Nihonogomphus ruptus, Somatochlora alpestris and S. sahlbergi are included.

(13191) LØFALL, B.P., 1995. Natur i Rakkestad, 2. Øenstikkere – [Nature in Rakkestad, 2. Dragonflies]. *Østfold-Natur* 35: 9-74, 252-270. (Norw.). – (Åsliveien 20 B, N-1890 Rakkestad).
A monograph on the odon. fauna (36 spp.) of Rakkestad, Østfold, Norway, with distribution maps, covering 204 localities.

(13192) TAPIA, G., F. MARTINEZ-LOPEZ & A. PUJANTE, 1995. Macroinvertebrados y calidad del agua del complejo de tres manatiales y sus estanques en el término de Requena (Valencia). *Actas 9 Bienal Soc. esp. Hist. nat.*, Jaca [*Historia natural '93*; ISBN 84-8127-031-8], pp. 479-488. (Span., with Engl. s.). – (Depto Biol. animal, Fac. Cien. biol., Univ. Valencia, Moliner 50, ES-46100 Burjasot/Valencia).
Pyrrhosoma nymphula, Anax imperator, A. parthenope, Cordulegaster boltonii and Orthetrum coerulescens are listed from a number of hardwater, Mg^+ and Ca^+-rich springs (pH 8.04-9.30) in the Requena area, Valencia, Spain.

1996

(13193) ALIEV, S.V. & A.G. KASYMOV, [Eds], 1996. *Zhivotnyy mir Azerbaydzhana*, Tom 2: *Tip chlenistonogie*. – [*Animal world of Azerbaijan*, Vol. 2: *Arthropods*]. Elm, Baku. 410 pp. (Russ.). – (Authors' addresses not stated).
The odon. are dealt with on pp. 107-109. So far 60 spp. are known from Azerbaijan. A comprehensive list is provided.

(13194) HARDERSEN, S. & S.D. WRATTEN, 1996. The sensitivity of the nymphs of two New Zealand damselfly species (Odonata: Zygoptera) to azinphos-methyl and carbaryl. *Australasian J. Ecotoxicol.* – (First Author: Tiergartenstr. 111, D-47533 Kieve; – Second Author: Dept Ent. & Anim. Ecol., Lincoln Univ., P.O. Box 84, Canterbury, NZ).
The nominal 48h LC50 values for azinophos-methyl were in Xanthocnemis zealandica and Austrolestes colensonis 32 and 88 ppb and for carbaryl 600 and 3130 ppb, respectively.

(13195) KOSTERIN, O.E. / ZAIKA, V.V., 1996. [Odonata]. In: *Krasnaya kniga respubliki Altay: Zhivotnye*, pp. 44-49, 1 pl. excl., pp. 65-68 (cumulative references), Siber. Br., Russ. Acad. Sci., Novosibirsk. (Russ.). – (c/o First Author: Inst. Cytol. & Genet., Siber. Br., Russ. Acad. Sci., Lavrentiev Ave 10, RUS-630090 Novosibirsk).
Red Book of the Altai Republic: treatments of Sympetrum croceolum (pp. 44-46, by *O.E. Kosterin*), Anax parthenope (pp. 46-47, by *V.V. Zaika – O.E. Kosterin*), Ischnura pumilio (pp. 47-48, by *O.E. Kosterin*), Nehalenia speciosa (pp. 48-49, by *O.E. Kosterin*) and Macromia sibirica (p. 49, by *V.V. Zaika*). – The treatment of each sp. includes a brief general introduction, a statement on its status, a brief description, and paragraphs on its distribution (with map), habitat, biology, the existing and the recommended conservation measures, etc. – See also *OA* 13190.

(13196) *KURZFASSUNGEN DER VORTRAGE [und] EXKURSIONSFÜHRER: DER LIAS VON DOBBERTIN, 3. Int. Fachgespräch fossile Insekten in Friedrichsmoor*. Jasnitz, 14-16 June 1996. 60 pp. – (c/o Dr W. Zessin, Lange Str. 9, D-19230 Jasnitz).
[Odon. papers:] *Wedmann, S.*: Neue Funde fossiler Insekten aus dem Oberoligozän von Enspel (Westerwald) (p. 19); – *Ansorge, J.*: Die fossilen Insekten aus dem Oberen Lias von Grimmen (Vorpommern/Norddeutschland) (pp. 20-21); – *Zessin, W.*: Der Lias von Dobbertin und seine Bedeutung für die Paläoentomologie (p. 22, with bibliography); – *Peters, G.*: Schwierigkeiten bei der Rekonstruktion der Phylogenese der Aeshniden unter Einschluss ihrer Fossilien (Odonata: Anisoptera) (p. 23); – *Gröning, E. & C. Brauckmann*: Fossile Insekten in der Paläontologischen Sammlung der TU Clausthal (p. 26);

– *Zessin, W.*: Der Lias von Dobbertin (pp. 29-59).

(13197) WILSON, K.D.P., 1996. Three new damselflies for Hong Kong and Macao. *Porcupine* 15: 18. – (6F, 25 Borrett Rd, Mid Levels, Hong Kong).
A concise review of the 1995-1996 literature pertaining to the odon. fauna of Hong Kong is presented, and Cercion sexlineatum is recorded from Macao for the first time (several individuals, 1-IX-1996, attracted to a bright light source).

1998

(13198) BERNABEI, S., I. DI GIROLAMO, I. IAVARONE & L. MANCINI, 1998. Alcune note sul popolamento macrobentonico del fiume Arone (Lazio, Italia). *Riv. Idrobiol.* 37(1/3): 203-209. (With Engl. s.). – (Lab. Igiene Abientale, Inst. Super Sanitá, Viale Regina Elena 299, I-00191 Roma).
11 odon. spp. are listed, recorded in 1991 at 7 sampling stations on the Arone R., Lazio, Italy.

(13199) FINCKE, O.M., 1998. The population ecology of Megaloprepus coerulatus and its effect on species assemblages in water-filled tree holes. In: J.P. Dempster & I.F.G. McLean, [Eds], *Insect population in theory and practice*, pp. 391-416, cumulative References excl., Kluwer, Dordrecht-Boston-London. ISBN 0-412--83260-7. – (Dept. Zool., Univ. Oklahoma, Norman, OK 73019, USA).
Although its larvae are restricted to tree holes, the influence of M. coerulatus extends beyond that microhabitat via its effects on intraguild predators, such as Dendrobates and Toxorhynchites, that also breed in other phytotelmata. The evidence to date suggests that the abundance of M. coerulatus is primarily affected by biotic factors during the larval stage, specifically obligate siblicide and cannibalism followed by intraguild predation. Within this competitive framework, at a local level, population size should be affected by abiotic factors. The number of generations a tree hole can support annually reflects rainfall patterns as well as nutrient input (e.g. leaf and fruit detritus), which influences growth rate and adult body size via increased prey productivity. Among forests, body size probably reflects evolutionary responses to differences in tree-hole nutrient levels. Finally, changes in forest composition would affect the abundance of Megaloprepus because tree holes are non-randomly distributed with respect to tree species. There is no evidence that adult Megaloprepus are limited by the availability of prey (i.e. spiders) or by predation. Their ability to find tree-hole oviposition sites may be more limiting than their capacity to produce excess eggs. However, in seasonal forests, persistence of Megaloprepus depends on adults surviving the dry season. Adults are also the dispersal stage. Because Megaloprepus avoids large, man-made clearings, it may be particularly vulnerable to habitat fragmentation.

(13200) HAMALAINEN, M., 1998. Sudenkorennot – [Dragonflies]. In: K. Heliövaara, [Ed.], *Suomen Luonto: Selkärangattomat*, pp. 72-75, Weilin & Göös, Porvoo. ISBN 951-35-6373-1. (Finn.). – (Sunankalliontie 13, FIN-02760 Espoo).
A book chapter, presenting general notes on dragonflies and comments on Finnish spp. Cover photograph shows a teneral Sympetrum danae ♀, by S. Karjalainen.

(13201) HUGHES, S.J., M.T. FURSE, J.H. BLACKBURN & P.H. LANGTON, 1998. A checklist of Madeiran freshwater macroinvertebrates. *Bolm Mus. munic. Funchal* 50(284): 5-41. (With Port. s.). – (First Author: Cent. Ciên. Biol., Univ. Madeira, Edificio de Penteada, PT-9000-399 Funchal, Madeira).
Includes an annotated list of 6 odon. spp., with a complete bibliography. – See also *OA* 10777 and 11362.

(13202) LOPEZ-R., D., P. ESPINOZA, M.M. LOPEZ--Q., S. VALLE, P. RIVERA & I. GARCIA, 1998. Las libelulas (Insecta: Odonata) come biorreguladores de larvas de mosquitos en Nicaragua. *Revta nicarag. Ent.* 45: 1-6. (With Engl. s.). – (First Author: Centro Nac. de Diagnóstico y Referencia, Ministerio da Salud, A.P. 2900, Managua, Nicaragua).
During 1996, the mosquito-regulation capacities of larval Ischnura ramburii, Anax amazilii and Pantala flavescens were examined in the laboratory. All 3 spp. can be successfully used in mosquito control, but Anax is the most effective. The numbers of the consumed mosquito larvae per day are stated for habitats with vegetation and for those without it.

(13203) NOVOKSHONOV, V.G., 1998. Iskopaemye nasekomye Chekardy. – The fossil insects of Chekarda. In: G.Yu. Ponomaryova, V.G. Novokshonov & S.V. Naugolnyh, [Eds], *Chekarda: mestonahozhdenie permskih iskopaemyh rasteniy i nasekomyh*, pp. 25-54, Perm Univ., Perm, ISBN 5-8241-0165-5. (Russ., with Engl. title). – (Authors' addresses not stated).
Arctotypus sylvaensis Martynov (Meganeuridae), Ditaxineurella pritykinae Novokshonov and D. stigmalis Martynov (Ditaxineuridae) are listed from the outcrops

nr the village of Chekarda, Perm region, Ural, Russia.

(13204) USUI, T., M. SUZUKI & Y. SAITOU, 1998. [Odonate fauna of Saitama prefecture]. In: *Insects of Saitama, Japan*, Vol. 1, Pt 1, pp. 21-50, Saitama Kontyu Danwakai, Omiya. ISBN 4-916213-01-7. (Jap., with taxonomic nomenclature). – (First Author: 454-3, Itchome, Ageo, Saitama, 362-0046, JA).
A comprehensive treatment of the fauna of Saitama pref., Japan (90 spp.), with an exhaustive regional bibliograhy (567 numbered titles).

(13205) ZESSIN, W., 1998. Beobachtungen an Baumfalken und Vierflecklibellen im Donau-Delta, Rumänien. *Virgo* 2(1): 36-38. – (Lange Str. 9, D--19230 Jasnitz).
Casual observations on hobbies, Falco subbuteo, predation on Libellula quadrimaculata, in the Danube Delta, Romania (May 1979).

(13206) ZESSIN, W., 1998. Gartenteiche und Libellen. *Virgo* 2(1): 43-49. – (Lange Str. 9, D-19230 Jasnitz).
A description and comparison of odon. assemblages and their succession in 3 garden ponds in Jasnitz (Mecklenburg-Vorpommern), Germany with those described in the papers listed in *OA* 5501 (Luckau) and 7684 (Bonn). It is of particular interest that in Jasnitz, Chalcolestes viridis and Sympecma fusca (both regionally potentially endangered spp.) have oviposited in man-made ponds.

1999

(13207) BAE, Y.J., J.H. YUM, J.Y. CHA & I.B. YOON, 1999. Morphology, habitat and distributional records of Nannophya pygmaea Rambur (Libellulidae, Odonata). *Korean J. Ent.* 29(4): 287-290. (Korean, with Engl. s.). – (First Author: Dept Biol., Seoul Women's Univ., Seoul 139-774, Korea).
The ♂ and ♀ adults and larva from SW Korea are described. The information on habitat, ecology, distribution and conservation requirements of the sp. in Korea are provided.

(13208) BOLZERN-TONZ, H. & P. WIPRACHTIGER, 1999. Zur Libellenfauna in der Wauwiler Ebene. *Mitt. naturf. Ges. Luzern* 36: 139-144. (With Fr. & Engl. s.'s). – (Second Author: Schützenweg 8, CH-6247 Schötz).
A commented review of 36 spp., recorded 1986-1998 in the Wauwil Plain, canton Luzern, Switzerland. Anaciaeschna isosceles, Libellula fulva and Sympetrum flaveolum are among the locally interesting spp. The communities of different habitat types are assessed, and the conservation of these is advocated.

(13209) *BRACHYTRON*, Vol. 3, No. 2. (dated Dec. 1999, mailed 27 Apr. 2000). ISSN none. (Dutch, larger papers with Engl. s's). – (c/o W.J.A. Hoeffnagel, Krekelmeent 72, NL-1218 ED Hilversum).
Witte, R.H. & D. Groenendijk: The occurrence of dragonfly larvae in the Dutch Delta in relation to salinity (pp. 3-10); – *de Jong, T.H.*: Aeshna viridis in the province of Utrecht (NL) (pp. 11-17); – *de Groot, T. & M. Wasscher*: Has Leucorrhinia pectoralis shifted its habitat in the Netherlands? (pp. 18-25); – *de Jong, T.H.*: Variation in the number of cells behind the pterostigma in Lestes viridis (pp. 26-27); – *Eigenhuis, K.J. & D. Groenendijk*: The meaning of the Dutch insect appellation "Rombout" (pp. 28-30); – *Kalkman, V.*, [book review of the volume described in *OA* 12296] (p. 30; author's name not stated).

(13210) BROCKHAUS, T., 1999. *Populationsökologische Untersuchungen an der Federlibelle Platycnemis pennipes (Pallas, 1771) an einer regionalen Verbreitungsgrenze (Odonata: Platycnemididae)*. Diss. Dr. rer. nat., Fak. Biowiss., Univ. Leipzig. xvi+134 pp. ISBN 3-00--004013-7. – Price: DEM 30.- net. – (Author: An der Morgensonne 5, D-09387 Jahnsdorf/Erzgebirge).
The field work was carried out at the Zschopau R., Saxonia, Germany. Depending on the oviposition time and site, the sp. is either univoltine or semivoltine. The semivoltine individuals emerge synchronously, late in May, the emergence of the univoltine larvae occurs during several weeks, commencing in June. At emergence, sex ratio is 1:1, during adult life the number of ♀♀ decreases significantly. For maturation, the ♂♂ require 8.9 d, and the ♀♀ 5.0 d. In 1994 and 1995, mean longevity amounted to 15.7-5.8 d in ♂♂, and 10.9-11.4 d in ♀♀. Population density varies during the season; survival rate decreases from the second emergence onwards, it is stable during the non-reproduction periods. The individuals that emerge later in the season and those from the upper section of the river are smaller. The mobility is low, only few ♂♂ cover a distance of max. 1000 m from the emergence site. The adult distribution is conditioned by terrain configuration rather than by the presence of a stream.

(13211) CALIL, E.R. & A. do L. CARVALHO, 1999. Descrições da larva de último estádio e do adulto de Triacanthagyna septima (Selys, 1857) (Odonata,

Aeshnidae), com notas sobre a biologia da espécie. *Revta brasil. Ent.* 43(1/2): 73-83. (Port., with Engl. s.). – (Second Author: Caixa Postal 68044, Cidade Universitaria, BR-21944-970, Rio de Janeiro, RJ).
Last instar larva and the adult are described and illustrated. The larvae breed in temporary and unstable ponds and marshes. The 4 hitherto described Triacanthagyna larvae are keyed. The adults T. septima are crepuscular, in SE Brazil they are on the wing throughout the yr, but are more common in the winter. Occasionally they aggregate and are migratory.

(13212) CARVALHO, A.L., 1999. Ordem Odonata. In: D. Ismael et al., [Eds], *Invertebrados de áqua doce*, Vol. 4: *Biodiversidade do Estado de São Paulo, Brasil: sintese do conhecimento ao final do seculo XX*, pp. 149-155. FAPESP, São Paulo. (Port.). – (Caixa Postal 68044, Cidade Universitaria, BR-21944-970 Rio de Janeiro, RJ).
A brief general outline of odon. morphology and biology, and a brief review of exploration history and of the present state of knowledge on the odon. fauna of São Paulo, Brazil, with a comprehensive bibliography. – See also *OA* 12807.

(13213) CHAO, H.-f. 1999. A study of Chinese dragonflies of the family Chlorogomphidae, with descriptions of two new species and first description of the male sex of a known species (Anisoptera: Chlorogomphidae). *Wuyi Sci. J.* 15: 1-11. (Chin., with Engl. s.). – (Biol. Control Res. Inst., Fujian Agric. Univ., Fuzhou-350002, Fujian, P.R. China).
A checklist (with bibliographic annotations) of the Chinese spp. is provided. Sinurogomphus montanus sp. n., Chloropetalia usignata sp. n., and ♂ allotype of Sinurogomphus urolobatus Chen are described and illustrated. The data on type material are not stated in the Engl. text.

(13214) CHAO, H.-f., 1999. New or little-known gomphid dragonflies from China, 1 [*recte*: 2] (Odonata: Gomphidae). *Wuyi Sci. J.* 15: 12-16. (With Chin. s.). – (Biol. Control Res. Inst., Fujian Agric. Univ., Fuzhou-350002, Fujian, P.R. China).
This is the 2nd paper bringing corrections on, and additions to the work described in *OA* 7911 (for the 1st paper in this series see *OA* 11054). – Here, Paradavidius sgen. n. is proposed in Davidius (type sp.: D. fruhstorferi Martin); the ♀ subgeneric distinctions in Nihonogomphus are stated; and Merogomphus vespertinus sp. n. is described, illustrated and compared with the 2 Chinese congeners. Holotype ♂: Lushan Co., Sichuan prov., mid-V/mid-VIII-1997; deposited at Author's institution.

(13215) CHAO, H.-f. & H. ZHU, 1999. A new species of Nihonogomphus from Guangxi, China (Odonata: Gomphidae). *Wuyi Sci. J.* 15: 17-18. (With Chin. s.). – (First Author: Biol. Control Res. Inst., Fujian Agric. Univ., Fuzhou-350002, Fujian, P.R. China).
N. huangshaensis sp. n. is described, illustrated and compared with N. lieftincki. Holotype ♀: Huangsha, Guangxi prov., no date; deposited at the institution of the first Author.

(13216) CORDOBA-AGUILAR, A., 1999. Male copulatory sensory stimulation induces female ejection of rival sperm in a damselfly. *Proc. R. Soc. Lond.* (B) 266: 779-784. – (Depto Quimica y Biol., Univ. de las Americas, Sta Catarina Martir, Cholula, MX-72820 Puebla).
The Zygopt. ♀♀ mate multiply and store sperm in 2 storage organs, the bursa copulatrix and the spermatheca. During copulation, ♂♂ physically remove the sperm stored in these organs using their genitalia. Here, a novel mechanism is documented, by which ♂♂ gain access to the spermatheca in Calopteryx haemorrhoidalis asturica. The mechanism is based on ♂ stimulation of the ♀ sensory system that controls egg fertilization and laying. During copulation, the aedeagus (a ♂ genitalic structure indirectly involved in sperm transfer) distorts the cuticular plates in the ♀ genital tract that bear mechanoreceptive sensilla. This stimulation results in sperm ejection from the spermatheca. Aedeagus width is positively correlated with the amount of sperm ejected. It is proposed that ♂♂ have exploited a pre-existing ♀ sensory bias to gain access to otherwise physically unreachable sperm. These results shed light on the issue of the origin of ♀ preferences in current models of sexual selection and on the evolution of genitalia via sexual selection. It is postulated that ♀♀ might use this process as a form of post-copulatory sexual selection on the basis of ♂ genitalia.

(13217) CZACHOROWSKI, S. & P. BUCZYNSKI, 1999. Wskaźnik naturalności biocenoz, potencjalne narzedzie w monotirowaniu stanu ekologicznego torfowisk Polski, na przykladzie Odonata i Trichoptera – Biocenosis naturality index, a prospective instrument in the evaluation of the ecological state of Polish peat-bogs, as exemplified by Odonata and Trichoptera. In: S. Radwan & R. Kornijow, [Eds], *Problemy aktiwnej ochrony*

ekosystemów wodnych i torfowiskowych w polskich parkach narodowych, pp. 153-158. Univ. Maria Curie-Skladowska, Lublin. (Polish, with Engl. s.). – Second Author: Dept Zool., Univ. Maria Curie-Skladowska, Akademicka 19, PO-20-033 Lublin).
A modified J. Fischer's Biocenosis Naturality Index (1996, *Crunoecia* 5: 227-240) is proposed for peat-bog biomonitoring. As an example, the Odon. and Trichopt. values are calculated for 26 Polish mountain and lowland peat bogs. The deviations between the 2 insect order values are discussed. – For an advance abstract see *OA* 12935.

(13218) DIJKHUIZEN, J.A., 1999. Platbuik in duinpoel – [Libellula depressa in a dune puddle]. *Zuidhollands Landschap* 1999(3): 18-19. (Dutch). – (Bezoekerscentrum Tenellaplas, Duinstraat 12a, NL-3235 NK Rockanje).
A note on the emergence in the dunes of Oostvoorne, Zuid Holland prov., the Netherlands (2-V-1999), to which the subsequent appearance of hobbies, Falco subbuteo, was possibly related.

(13219) *EXUVIAE.* Journal of the Slovene Odonatological Society, Vol. 5, No. 2 (not published); Vol. 6, issue No. not stated (dated Dec. 1999; published March 2000). ISSN 1218-3664. (Engl. & Germ.). – (Orders outside Slovenia: c/o *Odonatologica*, P.O. Box 256, NL-3720 AG Bilthoven).
Trilar, T. & M. Bedjanič: Contribution to the knowledge of the dragonfly fauna of Lastovo island, Dalmatia, southern Croatia (pp. 1-6); – *Bedjanič, M.*: Aeshna subarctica elisabethae Djakonov, 1922, new for the odonate fauna of Slovenia (Anisoptera: Aeshnidae) (pp. 7-10); – *Brockhaus, T.*: Ein Nachweis von Aeshna subarctica elisabethae Djakonov, 1922 und Somatochlora alpestris (Selys, 1840) im Hochmoor Šijec auf der Pokljuka, NW Slowenien (Anisoptera: Aeshnidae, Corduliidae) (pp. 11-13); – *Bedjanič, M.*: New records of Hemianax ephippiger (Burmeister, 1839) in Slovenia (Anisoptera: Aeshnidae) (pp. 14-18); – *Kotarac, M.*: Additional note about androchrome females in Crocothemis erythraea (Brullé, 1832) (pp. 19-20).

(13220) FENOGLIO, S., 1999. Entomofauna acuatica de ambientes loticos: observaciones ecologicas en el Refugio Bartola y nuevos taxa para Nicaragua. *Revta nicarag. Ent.* 49: 1-7. (With Engl. s.). – (Via Barge 88, I-12031 Bagnolo).
The fauna of 4 lotic localities in the protected area, Refugio Bartola nr the Reserva Indio-Maiz, Rio San Juan distr., Nicaragua, is examined. 8 odon. genera are locality-wise listed.

(13221) GEISTER, I., 1999. *Izbrana življenjska okolja rastlin in živali v Sloveniji – [Selected plant and animal habitats in Slovenia]*. Modrijan, Ljubljana. 286 pp. (hardcover, 20.0x26.5 cm. ISBN 961-6183-95-8. Price: SIT 6000.- net. (Slovene). – (Author: Kocjančiči 18, SI-6276 Pobegi).
Since 1977, this is the 14th Author's major book related to various aspects of natural history and nature conservation in Slovenia. Like his previous works, it is characterised by profound factual knowledge, deep personal involvement, exceptionally rich expression, an elegant and concise style, and by a superb feeling for photographic illustration. Aquatic habitats are thoroughly described and their characteristic odon. spp. are presented. The book is the first of its kind in Slovenia, and it will undoubtedly serve as a "handbook" on the subject for quite some time to come. The Author (born 1945) is a lawyer, a free writer (mostly literary works, poetry, and essays related to nature and its conservation), Director of the (Slovene) Foundation for Faunistic Research, one of the leading ornithologists in Slovenia, the initiator of the Slovene Odonatological Society and its journal, *Exuviae*, etc. He is also the author of the Slovene "common" dragonfly names and of an appreciable number of odonatol. research papers.

(13222) HOCHKIRCH, A., 1999. Die Libellen (Odonata) und Heuschrecken (Orthoptera: Saltatoria) des Tanklagers Bremen-Farge. *Abh. naturw. Ver. Bremen* 44(2/3): 803-818. (With Engl. s.). – (Abt. Evolutionsbiol., Inst. Ökol. & Evolutionsbiol., FB-2, Univ. Bremen, D-28334 Bremen).
30 odon. spp. are listed from the military training area, "Farge", in Bremen, Germany, incl. 10 spp. that are redlisted in Lower Saxony. The habitats are described and the fauna is commented upon.

(13223) [ISSA, K.] MACKENZIE, L., 1999. *Autumn wind haiku: selected poems by Kobayashi Issa.* Kodansha International, Tokyo-New York-London. viii+137 pp. Paperback. ISBN 4-7700-2473-8. Price: US$ 10.- net. – (Kodansha Europe, 95 Aldwych, London, WC2B 4JF, UK).
An anthology of K. Issa's haiku (1763-1827), in Engl. and Jap., with a comprehensive essay on his poetry. It includes 2 dragonfly haiku.

(13224) JOST, W., 1999. Libellenfauna rund um Wiesbaden. *Jb. nassau. Ver. Naturk.* 120: 75-81. – (Dr.-Jakob-Wittemann Str. 20, D-65527 Niedenhausen).
25 spp. are listed from the surroundings of Wiesbaden, Hessen, Germany. Habitat requirements and the local status of some of them are stated and discussed.

(13225) KENNER, R., 1999. The 'real' life of dragonflies. *Brit. Columbia Naturalist* 37(4): 15. – (5560 Linscott Court, Richmond, BC, V7C 2W9, CA).
A brief general outline of dragonfly biology, by the British Columbia (Canada) coordinator of odon. recording network.

(13226) [KENNER, R. & K. NEEDHAM] PYNN, L., 1999. Bog yields rare species. *Vancouver Sun*, issue of 22 Sept., pp. B1 & B6. – (c/o R. Kenner, 5560 Lincott Court, Richmond, BC, V7C 2W9, CA).
Aeshna sitchensis and A. subarctica are brought on record from Burns Bog, in Delta, British Columbia, Canada.

(13227) KOTARAC, M., 1999. *Inventarizacija favne kačjih pastirjev (Odonata) za območje VS 6/1 in VP 6/2 – [Dragonfly (Odonata) inventory of the area of Log nr Ljubljana]*. Cent. Cartogr. Fauna Flora, Miklavž-na-Dravskem-polju. 9 pp. (Slovene). – (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).
7 common spp. are listed from some (man-made) wetland habitats nr the village of Log, at the northern edge of the Ljubljana Moor, Slovenia. Brief annotations are included.

(13228) KOTARAC, M., 1999. Kačji pastirji (Odonata) – [Dragonflies (Odonata)]. In: M. Lovka et al., *Inventarizacija flore in favne mokrotne doline pod Golovcem pri Rakovniku*, pp. 16-19, Nat. Inst. Biol., Ljubljana. (Slovene). – (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).
15 spp. are listed from a pond, 2 fishponds and some forest streams in Rakovnik (Ljubljana), Slovenia. The pond community is poor, but the breeding of Cordulegaster bidentata and C. heros in the streams is of some interest.

(13229) KOTARAC, M., 1999. Kačji pastirji (Odonata) – [Dragonflies (Odonata)]. In: M. Lovka et al., *Inventarizacija flore in favne poplavnih logov ob reki Sori pri Retečah*, pp. 20-23, Nat. Inst. Biol., Ljubljana. (Slovene). – (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).
8 spp. are listed from flood grasslands along the Sora R. in the Reteče area nr Škofja Loka, Slovenia. The fauna is poor and the number of individuals is small. Aeshna cyanea is the sole breeding sp.

(13230) KOTARAC, M., 1999. Kačji pastirji (Odonata) – [Dragonflies (Odonata)]. In: K Poboljšaj et al., *Presoja vplivov na okolje za AC odsek Hrastje-Kronovo za floro in vegetatijo, favno ter biotope*, 5 pp. Mus. Nat. Hist., Ljubljana. (Slovene, with general Engl. s.). – (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).
14 spp. are listed from 7 localities in the area of the highway section, Hrastje-Kronovo, Slovenia, and some protective measures are suggested.

(13231) KOTARAC, M. & A. ŠALAMUN, 1999. *Inventarizacija favne kačjih pastirjev (Odonata) mokrišča V Produ [in ...] na Ljubljanici od Fužin do Kašlja. – [Dragonfly (Odonata) survey of the wetlands "V Produ" and of the Ljubljanica R. between Fužine and Kašelj]*. Cent. Cartogr. Fauna Flora, Miklavž-na-Dravskem-polju. 17 pp. (Slovene). – (First Author: Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).
The wetlands "V Produ" represents a part of the remaining former Ljubljanica R. floodplain, S of Zgornji Kašelj. 17 spp. (incl. 2 redlisted as "vulnerable") were evidenced at 9 localities. – 17 spp. (incl. 1 "endangered" and 1 "vulnerable") were recorded also at 12 localities along the Ljubljanica R. stretch. The fauna is considered poor. – The assemblages in both areas are mainly of interest because of their vicinity to the metropolis. The required protective measures are outlined. – Slovenia.

(13232) KOTARAC, M. & A. ŠALAMUN, 1999. Kačji pastirji (Odonata) – [Dragonflies (Odonata)]. In: K. Poboljšaj, *Inventarizacija flore ter vegetacije in favne načrtovanega Krajinskega parka Šmarna gora*, pp. 21-25, Cent. Cartogr. Fauna Flora, Miklavž-na-Dravskem-polju. (Slovene). – (First Author: Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polu).
11 spp. are listed from 5 localities in the projected Landscape Park "Šmarna gora", N of Ljubljana, Slovenia. The surveyed region is considered fairly intact. Because of the large local Cordulegaster heros population, some kind of legal protection is considered desirable.

(13233) KOTARAC, M. & A. ŠALAMUN, 1999. Kačji pastirji (Odonata) – [Dragonflies (Odonata)]. In: K.

Poboljšaj, *Presoja vplivov na okolje za načrtovano golf igišče Radenci: flora, favna in habitati*, pp. 32-38, Cent. Cartogr. Fauna Flora, Miklavž-na-Dravskem-polju. (Slovene). – (Second Author: Čevljarska 28, SI-6000 Koper).
31 spp. are listed from 18 localities in the area of the projected golf playground in Radenci, Slovenia. 10 of these are redlisted and Sympetrum depressiusculum is critically endangered. By the projected construction, most odon. habitats would be destroyed, therefore the construction is rejected.

(13234) KOTARAC, M. & A. ŠALAMUN, 1999. Kačji pastirji (Odonata) – [Dragonflies (Odonata)]. In: K. Poboljšaj, *Presoja vplivov na okolje za ureditev gramoznice Hrastje-Mota: favna, flora in habitati*, pp. 25-31, Cent. Cartogr. Fauna Flora, Miklavž-na-Dravskem-polju. (Slovene). – (First Author: Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).
18 spp. were evidenced (June-Sept. 1999) in the gravel pit area, N of Hrastje-Mota, Slovenia; 3 of these are redlisted. General protective measures are indicated.

(13235) LANGE, L., 1999. Die Libellen der Wilstermarsch (Kreis Steinburg, Schleswig-Holstein). *Bombus* 3(42/44): 172-176. – (Deichreihe 21, D-25599 Wewelsfleth).
A commented list of 33 spp., evidenced during 1996-1999; Wilstermarsch, Steinburg distr., Schleswig Holstein, Germany.

(13236) LETSCHE, B., 1999. Further records of Migrant Hawker Aeshna mixta Latreille (Odonata: Aeshnidae) north of the Mersey. *J. Lancashire Cheshire ent. Soc.* 121/123: 86-87. – (46 Rossett Rd, Crosby, Liverpool, Merseyside, L23 3AW, UK).
A. mixta is recorded from Kirkby (27-VIII-1998) and Spike Island (3-IX-1998). Its north- and westward expansion in the United Kingdom is briefly outlined, and the earlier Lancashire (Merseyside), Cheshire and the Isle of Man records are mentioned.

(13237) MARTIN, R., 1999. La odonatofauna (Insecta: Odonata) del Parque Natural del Montseny (Cataluña, NE Peninsula Ibérica). *Boln Asoc. esp. Ent.* 23(1/2): 171-193. (With Engl. s.). – (Avda Marti Pujol 250, 3'4a, ES-08911 Badalona).
Based on literature and on the 1993-1998 unpublished records, 42 spp. are listed for the Park (Catalonia, Spain). Collection data, field notes and regional bibliographic references are provided for each sp., and the composition of the fauna is analysed.

(13238) MILLER, M.N. & O.M. FINCKE, 1999. Cues for mate recognition and the effect of prior experience on mate recognition in Enallagma damselflies. *J. Insect Behav.* 12(6): 801-814. – (Second Author: Dept Zool., Univ. Oklahoma, Norman, OK 73019, USA).
In many coenagrionids, sexually mature ♀♀ exhibit colour polymorphism, with some ♀♀ resembling conspecific ♂♂. Although it has been suggested that the latter function as ♂ mimics, this does not seem to be the case for those in the genus Enallagma. The Authors found that sexually dimorphic coloration of the ♀ abdomen and thorax are important cues for sexual recognition by ♂♂. It is demonstrated for the first time in the Odon. that ♂♂ learn to recognize andromorphs as potential mates. After 2 days in an enclosure, sexually mature ♂♂ exposed to only andromorphic ♀♀ initiated more sexual interactions with tethered andromorphs than with heteromorphs, the majority morph in the natural population. Exposure to only heteromorphic ♀♀ tended to decrease ♂♂ sexual responses to andromorphs, but not significantly so. Because the frequency of ♀ morphs often varies within a population, learned mate recognition would be advantageous for ♂♂ that search for mates. The results lead to a novel, frequency-dependent hypothesis for the occurrence and maintenance of ♀-limited colour polymorphisms.

(13239) MULLER, J., 1999. Zur Naturschutz-Bedeutung der Elbe und ihrer Retentionsflächen auf der Grundlage stenöker lebensraumtypischer Libellenarten (Insecta, Odonata). *Abh. Ber. Naturk., Magdeburg* 21: 3-24. (With Engl. s.). – (Frankefelde 3, D-39116 Magdeburg).
The importance of the Elbe R. and its flood plain is addressed with reference to the occurrence of the 52 indigenous odon. spp., 9 of which are particularly emphasized.

(13240) NONVEILLER, G., 1999. *The pioneers of the research of the insects of Dalmatia.* Croatian Nat. Hist. Mus., Zagreb. x+390 pp. ISBN 953-6645-04-1. – (Publishers: Demetrova 1, CRO-10000 Zagreb).
Engl. edn of the work described in *OA* 8474.

(13241) REINHARDT, K., 1999. The reproductive activity of two Pseudagrion species in the same habitat (Odonata: Coenagrionidae). *Afr. Ent.* 7(2): 225-232. – (Inst. Okol., Univ. Jena, Dornburger Str. 159, D-07743 Jena).
P. massaicum and P. salisburyense were studied at the

Bot. Gardens of Pretoria, South Africa. The abundance of the 2 spp. was positively correlated, suggesting a weak interspecific competition. Cloud cover was the most important abiotic factor influencing their activity. ♂♂ of the 2 spp. show a pronounced spatial separation as to the perching position. The proportion of ♂♂ engaged in reproduction activities depends on the time of the day rather than on their density. ♂♂ of the 2 spp. are non-territorial, which is exceptional in the genus. The phenomenon is discussed in terms of high territory retention costs at high damselfly densities.

(13242) REYNOLDS, J., H. TUSHABE & P. KASOMA, 1999. A National Biodiversity Data Bank for Uganda. *Bull. E. Afr. nat. Hist. Soc.* 29(3): 6-9. – (First Author: Univ. Cambridge Programme for Industry, 1 Trumpington St., Cambridge, CB2 1QA, UK; – other Authors: Inst. Envir. & Nat. Resour., Makerere Univ., P.O. Box 7298, Kampala, Uganda).
The NBDB was set up in 1993 at the Makerere Univ., Kampala. Its history, organisation, data collection and coverage are described. The latter includes the odon.

(13243) RÖSKE, W., 1999. *Gräben, ein Lebensraum der Helm-Azurjungfer*. Schutzgemeinschaft Libellen in Baden-Württemberg, Freiburg/Main. 12 pp. [Fold. pamphlet]. – (Kandelstr. 26, D-79106 Freiburg/Main).
An outline of Coenagrion mercuriale biology in Baden-Württemberg, Germany, directed at general readership. For a technical paper see *OA* 10310.

(13244) SCHRACK, M. & S. HEISE, 1999. Zoogeographische und ökologische Analyse der Libellenfauna der Waldmoore in der Radeburger und Laussnitzer Heide bei Grossdittmannsdorf und Medingen. *Veröff. Mus. Westlausitz Kamenz* (TagBd): 5-113. – (First Author: Hauptstr. 48a, D-01471 Radeburg).
33 spp. are listed for the Radeburg and Laussnitz heaths (see also *OA* 12082), Saxony, E Germany, and the biogeographical and ecological composition of the fauna is analysed.

(13245) SIMIĆ, V. & S. SIMIĆ, 1999. Use of the river macrozoobenthos of Serbia to formulate a biotic index. *Hydrobiologia* 416: 51-64. – (Fac. Sci., Univ. Kragujevac, Domanovića 12, P.O. Box 60, YU-34000 Kragujevac, Serbia).
During 1989-1996, 65 southern Danube tributaries were studied, 6 odon. genera were identified, and the respective levels of their dominance are stated. A locality and a spp. list are not provided.

(13246) SMITH, G.R., J.E. RETTIG, G.G. MITTELBACH, J.L. VALIULIS & S.R. SCHAACK, 1999. The effects of fish on assemblages of amphibians in ponds: a field experiment. *Freshw. Biol.* 41: 829-837. – (First Author: Dept Biol., William Jewell Coll., 500 College Hill, Liberti, MO 64068-1896, USA).
As shown experimentally, the presence of Bluegill sunfish (Lepomis macrochirus) has a direct significantly negative effect on the Aeshnidae and Libelulidae larval population.

(13247) SOVINC, A., 1999. Obnovitvena ekologija: primeri nadomestnih habitatov v ljubljanski okolici – Restoration ecology: examples of habitat rehabilitation in the surroundings of Ljubljana. *Proteus, Ljubljana* 62(4): 152-160, 191. (Slovene, with Engl. s.). – (Pod kostanji 44, SI-1000 Ljubljana).
Various terms in the restoration processes, such as habitat rehabilitation, reconstruction, enhancement, recreation, transplantation and creation, mitigation etc., are discussed, and a set of basic considerations in planning and implementation of restoration measures is provided. Examples of the implemented wetland restoration projects in the surroundings of Ljubljana, Slovenia are described. A reference is made to Orthetrum brunneum in gravel pits and to the rich odon. fauna of the Zbilje Reservoir. – A portrait and a note on Author's professional work are appended.

(13248) [SPURIS, Z.] MELECIS, V., 1999. In memoriam [Dr hab. biol. Zandis Spuris]. *Latv. Ent.* 37: 4-5. (Engl.). – (Author's address not stated).
A brief biography and appreciation of work of this notable Latvian aquatic entomologist and odonatologist (born 25 Jan. 1923, Riga; deceased 15 Nov. 1998), with a portrait. In 1971, he also stood at the cradle of the SIO and *Odonatologica*. – For another biography and a complete bibliography see *OA* 9743.

(13249) STOKS, R., 1999. Autotomy shapes the trade-off between seeking cover and foraging in larval damselflies. *Behav. Ecol. Sociobiol.* 47(1/2): 70-75. – (Evol. Biol. Group, Univ. Antwerpen, Groenenborgerlaan 171, B-2020 Antwerpen).
The influence of autotomy on the way Lestes sponsa larvae deal with the trade-off between foraging or seeking cover was studied. Survival of larvae, when confronted with the odon. predator Aeshna cyanea, was higher in a complex than in a simple microhabitat, indicating that

this more complex microhabitat was safer. Within the simple microhabitat, larvae without lamellae had a higher risk for mortality by predation than larvae with lamellae, showing a long-term cost of autotomy. When varying the foraging value (food present or absent) and predation risk (encaged predator or no predator) in the simple microhabitat, larvae with and without lamellae responded differentially to the imposed trade-off. All larvae spent more time in the simple microhabitat when food was present than when food was absent. Larvae without lamellae, however, only sporadically left the safe microhabitat, irrespective of the presence of the predator. In contrast, larvae with lamellae shifted more frequently towards the risky microhabitat than those without lamellae, and more often in the absence than in the presence of the predator. These decisions affected the foraging rates of the animals. It is shown that refuge use is higher after autotomy and that this is associated with the cost of reduced foraging success. The different microhabitat preferences for larvae with and without lamellae are consistent with their different vulnerabilities to predation and demonstrate the importance of intrinsic factors in establishing trade-offs.

(13250) UNRUH, M., 1999. Zum Vorkommen von Anax parthenope (Selys, 1839) im südlichen Sachsen-Anhalt (BRD) und Gedanken zum Schutz der Kleinen Königslibelle (Anisoptera: Aeshnidae). *Ent. Mitt. Sachsen-Anhalt* 7(2): 29-34. (With Engl. s.). – (Schmale Str. 29, D-06712 Grossosida).
The records of Anax parthenope from S Sachsen-Anhalt, E Germany are reviewed, and various habitat protective measures are suggested.

(13251) VAN SWAAY, C., R. KETELAAR & C. PLATE, 1999. Landelijk meetnet dagvlinders en libellen – [National monitoring butterflies and dragonflies in the Netherlands]. *Vakbl. Natuurbeheer* 38(4): 47-50. (Dutch). – (Second Author: De Vlinderstichting, P.O. Box 506, NL-6700 AM Wageningen).
An outline of the setup and objectives of the program; for the first annual report see *OA* 13322.

(13252) VON ELLENRIEDER, N., 1999. Description of the last instar of Aeshna (Hesperaeschna) cornigera planaltica (Odonata: Aeshnidae). *Revta Soc. ent. argent.* 58(3/4): 151-156. (With Span. s.). – (Inst. Limnol. "R.A. Ringuelet", C.C. 712, AR-1900 La Plata).
The larva is described, illustrated, and compared with the Argentine congeners. Its peculiarities are in the prementum ratio (width:length), the shape of prothoracic processes, and in the relative length of the abdominal lateral spines.

(13253) WASSCHER, M., 1999 [received August 2000]. *Bedreigde en kwetsbare libellen in Nederland (Odonata): basisrapport met voorstel voor Rode lijst – Threatened and vulnerable dragonflies in the Netherlands (Odonata): basic report, with a suggested Red List.* Europ. Invert. Surv. Nederland, Leiden. 72 pp. ISBN 90-76261-02-4. – Price: NLG 25.- net. (Dutch). – (Publishers: P.O. Box 9517, NL-2300 RA Leiden).
61 spp. are considered indigenous in the Netherlands, 27 of these are redlisted here, viz. 5 extinct, 5 critical, 8 endangered, 6 vulnerable, and 3 spp. are considered susceptible. For each sp. the general and the Netherlands range, status, habitat and the threats are concisely outlined. – The work has been prepared on orders of the Netherlands Dept of Agriculture, Nature Management and Fisheries.

(13254) WEISSMANN, M.J. & B.C. KONDRATIEFF, 1999. An inventory of arthropod fauna at Great Sand Dunes National Monument, Colorado. *Spec. Publ. Univ. Kansas nat. Hist. Mus.* 24: 69-80. – (Dept Bioagric. Sci. & Pest Manag., Colorado St. Univ., Fort Collins, CO 80523, USA).
Lestes congener, L. dryas, L. unguiculatus, Aeshna constricta, A. palmata, Sympetrum corruptum, and S. occidentale are listed.

(13255) WOLF, F., 1999. Die Tier- und Pflanzenwelt im Hütter Wohld: Kartierungen der Libellen (Odonata), Süsswassermollusken (Gastropoda et Bivalvia) und Laufkäfer (Carabidae) des "Hütter Wohldes". *Arch. Freunde Naturg. Mecklenburg* 38: 309-326. – (Martin-Andersen-Nexó-Ring 7, D-18106 Rostock).
A commented list of 13 odon. spp. ; – distr. Rostock, Mecklenburg-Vorpommern, E Germany.

(13256) XYLANDER, W.E.R. & R. STEPHAN, 1999. Habitatwahl und ökologische Ansprüche ausgewählter Libellenarten im Braunkohletagebaugebiet Berzdorf. *Ber. naturf. Ges. Oberlausitz* 7/8: 95-100. (With Engl. s.). – (Staat. Mus. Naturk., Postfach 300154, D-02806 Görlitz).
In small ponds, left at the site of the former brown coal mine in Berzdorf (Upper Lusatia, Saxonia, E Germany), 48 spp. were documented (May 1996-Oct. 1998). Some of these developed in ponds and in a small river, which significantly deviate from habitat demands reported in the literature. In several pond communities the spp. co-

occur that are actually not supposed to share the same habitat preferences. For a number of selected spp. their local habitats are described and compared with information from the literature.

(13257) ZHOU, W., 1999. A new species of the genus Phaenandrogomphus from Yunnan (Odonata: Gomphidae). *Wuyi Sci. J.* 15: 40-41. (Chin., with Engl. s.). – (Zhejiang Mus. Nat. Hist., Gu-shan, Hanzhou--310012, P.R. China).
P. yunnanensis sp. n. is described, illustrated and compared with P. aureus Laidl. holotype ♂: Simao, Yunnan prov., 20-IV-1996.

(13258) ZHU, H., 1999. A new species of Lamelligomphus Fraser from Yunnan, China (Odonata: Gomphidae). *Wuyi Sci. J.* 15: 36-37. (Chin., with Engl. s.). – (Shanxi Univ., 42-38, Taiyuan-030006, P.R. China).
L. chaoi sp. n. is described and illustrated from a single ♀: Canshan, Dali, Yunnan prov., China, 5-VI-1998; deposited at Dali Teacher Training Coll., Dali, China.

(13259) ZHU, H., 1999. Sympetrum daliensis spec. nov. from Yunnan, China (Anisoptera: Libellulidae). *Wuyi Sci. J.* 15: 27-29. (Chin., with Engl. s.). – (Shanxi Univ., 42-38, Taiyuan-030006, P.R. China).
The new sp. (holotype ♂, allotype ♀) is described and illustrated from Canshan, Yunnan prov., China, 26--VII-1998; the types are deposited at Dali Teacher Training Coll., Dali, China. From S. risi it differs in the pterothoracic markings and the 9th sternum in ♀ is broader.

(13260) ZHU, H. & B. MAO, 1999. The first descriptions of the male Indolestes assamica Fraser, 1930 and the female Gynacantha incisura Fraser, 1935 (Odonata: Lestidae, Aeshnidae). *Wuyi Sci. J.* 15: 30-32. (Chin., with Engl. s.). – (Second Author: Dept Biol., Dali Teacher Training Coll., Dali-671000, Yunnan, P.R. China).
The allotypes are described from Canshan, Dali city, Yunnan prov., China; and are deposited in the institution of the second Author. G. incisura is new for China.

(13261) ZHU, H. & W. ZHOU, 1999. A new species of the genus Anisopleura Selys from Yunnan (Odonata: Euphaeidae). *Wuyi Sci. J.* 15: 33-35. (Chin., with Engl. s.). – (Second Author: Zhejiang Mus. Nat. Hist., Gu-shan, Hanzhou-310012, P.R. China).
A. yunnanensis sp. n. is described and illustrated. Holotype ♂: Canshan, Dali, Yunnan prov., China, 15--V-1987; deposited at Shanxi Univ.; several paratypes of both sexes. The new sp. is related to A. subplatystyla, from which it differs in the colour of prothorax, legs and abdomen, and in the structure of anal appendages.

2000

(13262) ANDRES, J.A. & A. CORDERO RIVERA, 2000. Copulation duration and fertilization succes in a damselfly: an example of cryptic female choice? *Anim. Behav.* 59(4): 695-703. – (First Author: Depto Ecol. & Biol. Animal, Univ. Vigo, E.U.E.T., Campus Universitario, ES-36005 Pontevedra).
In Ceriagrion tenellum copulation duration is highly variable (0.5-3.0 h). Using laboratory experiments, 4 adaptive hypotheses were tested to explain this variation: the effect of time constraints, in-copula mate-guarding, sperm displacement and cryptic ♀ choice. Copulation duration was negatively correlated with time of day, as predicted by the first 2 hypotheses, and positively correlated with ♂ density, as predicted by the mate--guarding hypothesis. ♂♂ prolonged copulation in response to the volume of sperm stored by ♀♀, suggesting they were able to detect and quantify the amount of sperm stored. This behaviour is not explained by mate guarding or time constraints effects. ♂♂ removed all the sperm from the bursa copulatrix in just 10 min. The results also suggest that, because the duct is too narrow to allow ♂ genitalia to enter, ♂♂ do not remove spermathecal sperm. Therefore, direct sperm removal could not explain long copulations. Prolonged copulations could also have evolved as a result of cryptic ♀ choice if they increase ♂ fertilization success by ♀--mediated processes. The results support this idea: ♂ fertilization success was greater after long copulations. Apparently, ♂ copulatory behaviour elicits ♀ responses that increase ♂ fertilization success.

(13263) *ARGIA*. The news journal of the Dragonfly Society of the Americas, Vol. 12, No. 1 (1 Apr. 2000). ISSN 1061-8503. – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA). [Signed articles:] *Hutchings, G.*: Vancouver Island DSA annual meeting, 27-30 July 2000 (pp. 2-3); – *Donnelly, N.*: Northeast DSA meeting in Orange Co., New York, 9-11 June 2000 (pp. 3-4); – *Daigle, J.J.*: The DSA 2000 southeastern regional meeting (p. 4); – *May, M.*: Margaret Westfall: 1921-2000 (pp. 4-5); – *Nikula, B., K. Soltesz, M. Thomas & D. Wagner*: Workshop on dragonflies and damselflies of Lower New England, 26-27 May 2000 (p. 5); – *Donnelly,*

N.: Dot map project nearing completion! (pp. 6-7); – Disjunct Odonata records: the agony and the ecstasy (pp. 7-8); – *Behrstock, R.A.*: New records of neotropical odonates on the upper Texas coast with comments on recent temperature increases (pp. 8-11); – *Donnelly, N.*: The hunt for red Orthemis (pp. 11-12); – *Paulson, D.*: First records of two tropical damselflies from the United States (pp. 12-13); – *Orr, R.*: The dragonflies and damselflies of Finzel Swamp (Maryland) (pp. 13--14); – *Tennessen, K.*: Just a few Bolivianos short (pp. 14-16); – *Walker, J. & J. Smentowski*: Swinging nets in the "Bootheel" (pp. 16-17; Missouri); – *Donnelli, N.*: Visit to a little-known area: the Miskito coast of Honduras (pp. 17-18); – *Sibley, F.C.*: Additional comments on the dragonflies of the British Virgin Islands (pp. 18-19); – Mismatched mating Enallagma (pp. 19-20); – *Ross, S.*: The occurrence of a male-male tandem pair of Enallagma damselflies in Micosta county, Michigan (p. 20); – *O'Brien, M.*: Leonard's Acanthagrion specimens present continuing problems for the UMMZ (pp. 20-21); – *Mauffray, B.*: Georgia Odonata update (1999) (p. 22); – Special offer for students: a reduced subscription to Odonatologica (pp. 22-23; valid for 4 yr in the Americas only; the difference is paid by the IORI). – The issue also contains several notices, a book review (Biggs, K., Common dragonflies of California: a beginners pocket guide), a call for a host of the 2001 DSA meeting, and the traditional web site review, *Tramea*, by *N. Donnelly* (p. 24).

(13264) The *ASHTON SKIMMER*. The newsletter of the National Dragonfly Museum. Not numbered, dated Apr. 2000. – (c/o Natn. Dragonfly Mus. at Ashton Mill, nr Oundle, Petersborough, PE8 5LZ, UK).
A 3-page issue gives an outline of the short-term development, a report of the 1999 activities, and a brief account of the 2000 season projects (a brochure is included). Also included is a local phenology table for 16 spp., and the replacement of the term, 'Museum' by 'Biomuseum', is suggested. This is now a fully-fledged visitor attraction, with exhibitions, demonstrations, video and other programs, a collection of "Dragonflies in art", and various dragonfly communities on the Museum grounds.

(13265) *ATROPOS* ["the UK's premier journal for active Lepidoptera and Odonata enthusiasts"], No. 10 (Apr. 2000). ISSN none. – (c/o M. Tunmore, 36 Tinker Lane, Meltham, Huddersfield, W Yorks, HD7 3EX, UK).
[Odon. articles:] *Parr, A.*: Blue Dasher, Pachydiplax longipennis (Burmeister) on an oil rig in the North Sea (pp. 3-5); – *Dey, D.*: County focus: the Odonata of Sussex (pp. 15-18); – *Parr, A.*: Southern Migrant Hawker, Aeshna affinis Vander Linden: a guide to identification (pp. 26-28); – *Ketelaar, R.*: European report 1999: The Netherlands, Odonata (pp. 47-49); – *Hill, P.M.*: Migrant Hawker, Aeshna mixta, using Buddleia bush as a feeding station (p. 57); – *Parr, A.*: Odonata Records Committee news (p. 58).

(13266) BALTES, B., 2000. Einfluss der Gewässerversauerung auf aquatische Insekten. *Mitt. dt. Ges. allg. angew. Ent.* 12(1/6): 231-235. (With Engl. s.). – (Inst. Naturschutz & Biogeogr., Univ. Basel, St. Johanns--Vorstadt 10, CH-4056 Basel).
Cordulegaster boltonii is considered moderately acidity--sensitive. In northern Saarland, Germany it occurs in low abundance still at pH 4.5.

(13267) [BEDJANIČ, M.] (Anonymous), 2000. [Slovenian researcher visited Dragonfly Park in Nakamura ...]. *Kochi Shimbun* (W. Kochi Edn), issue of 23 May, p. 20. (Jap.). – (Fram 117/A, SI-2313 Fram).
A local daily's news report, on the occasion of the visit of M. Bedjanič, the Past-President of the Slovene Odonatol. Soc., the Editor of its periodicals, *Exuviae* and *Erjavecia*, and Officer of the Slovene Government Environment Agency, to the Dragonfly Park at Gudoh, Nakamura, Kochi pref., Japan. A reference is made to his interest in the maintenance and management of the Park, his statement on the importance of his Japan tour for future odonatol. research in Slovenia is emphasized, and a photograph is included. The study tour was undertaken upon the invitation of the SIO President (K. Inoue), who has accompanied the guest almost throughout his stay in Japan (11-28 May 2000). – For the Japanese odonatol. community Bedjanič delivered in Osaka (13 May) and again in Tokyo (21 May) 3 talks, titled: "*Slovenian Odonata*", "*Dragonfly fauna of Sri Lanka: present state of research, threats and future perspectives*" and "*Dragonfly observations in southern Borneo, Indonesia*", and a slide show, "*Southern Borneo*". In Nakamura he paid a formal visit to the city Major (I. Sawada) where, in a brief address, he dwelled on the overwhelming importance of the Park surrounding area for the pond odon. communities in the sanctuary, and has given newspaper and TV interviews. – The following are the main odon. localities visited: 12 May: Kibune R., Kamo R., Mizorogaike pond (all Kyoto pref.); – 13 May: Osaka

Mus. Nat. Hist. (type locality Crocothemis servilia mariannae); – 14 May: streams and ponds in the Mt Kongo area (regular KRGO survey, Osaka pref.); – 15 May: Kibune R. (Kyoto pref.) and Shimoryuge (Shiga pref.); – 16 May: Lake Biwa and Shimoryuge (Shiga pref.) and Mizorogaike Pond (Kyoto pref.); – 20 May: localities in Kimitsu and Futtsu (Chiba pref.); – 21 May: Arakawa Municipal Park; – 22 May: Nakamura Dragonfly Kingdom and Iwata R. (Kochi pref.); – 23 May: Kawanobori, Unoe, Nakama, Ohgoh, Torogawa Park (all Kochi Pref.) and Shimohommura and Ketagawa (both Ehime pref.), accompanied by M. Sugimura; – 24-25 May: 10 localities in Kochi pref.), accompanied by M. Sugimura. – A similar article has appeared in *Mainichi Shimbun* (Kochi Edn), issue of 23 May, p. 21.

(13268) BIGGS, K., 2000. Common dragonflies of California: a beginner's pocket guide. Azalea Creek Publishing, Sebastopol/CA. 96 pp. (14.5×11.5 cm), softcover. ISBN 0-9677934-0-8. – Price: US$ 10.95 net, postage extra. – (Publishers: 308 Bloomfield Rd, Sebastopol, CA 5472-5161, USA).
This is an attractive, concisely styled field guide, covering 77 California's common spp., with 111 col. (mostly field) portraits. For each sp. the information is provided on its size, recognition in the field, habitat, known flight period, and on its status and general distribution in California. The families are also briefly characterized, incl. a note on the resp. behavioural features. The immature stages are not considered. The book includes a brief outline of dragonfly biology (with a Glossary), concise suggestions for dragonfly watchers, and a complete checklist of the California spp. The reference list contains a good number of the current N. American web site programs as well. – This is the first field guide available for a southwestern US area. It is designed to be taken into the field, and it is styled to meet all the beginner's requirements optimally, based on Author's own experience. Its presentation and style will be also of interest to the extralimital workers.

(13269) [BONAMIE, G.], 2000. Bedreigde libellen – [Threatened dragonflies]. *Atalanta, Kruishoutem* 28(2): 42. (Dutch). – (Merendreedorp 58, B-9850 Merendree).
Aeshna cyanea, A. grandis, Brachytron pratense, Leucorrhinia rubicunda and Sympetrum pedemontanum are listed as endangered in Flanders, Belgium.

(13270) BROCK, V., 2000. Quelljungfer: eine ungewöhnliche Begegnung am Kröterzaun. *NatSchutz Samtgemeinde Tostedt* 11: 23. – (Heidekamp 7, D-21256 Handeloh).
On 5 Feb. 2000, an "almost fully grown, close to 4 cm long" Cordulegaster boltonii larva was discovered in a frog trap, ca 50 m from its breeding stream that was set dry some 8 weeks earlier. The trap was located in the direction of a nearby permanent stream, some 90 m from it. Apparently, the larva left the dried up habitat in search for another stream. – Holmer Teiche, Harburg distr., Lower Saxony, Germany.

(13271) *BULLETIN OF AMERICAN ODONATOLOGY*, Vol. 6, No. 1 (15 May 2000). ISSN 1061-3781. – (c/o Dr & Mrs N. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA).
Daigle, J.J.: The distribution of the Odonata of Hawaii (pp. 1-5; 37 spp. are currently known, their distribution is recorded for the 6 main islands); – *Von Ellenrieder, N.*: Additions to the description of Gomphomacromia nodisticta Ris, 1928 (Anisoptera: Corduliidae) (pp. 7-11; penis description, some additional measurements and illustrations of diagnostic value, and a comparison with the congeners).

(13272) COLLIER, K.J. & J.N. HALLIDAY, 2000. Macroinvertebrate-wood associations during decay of plantation pine in New Zealand pumice-bed streams; stable habitat or trophic subsidy? *Jl N. Am. benthol. Soc.* 19(1): 94-111. – (Natn. Inst. Water & Atmospheric Res., P.O. Box 11-115, Hamilton, NZ).
The odon. are hardly considered. Antipodochlora braueri was identified in 3 wood and 2 inorganic substrate samples, collected in summer 1996 from 12 New Zealand pumice-bed streams.

(13273) COSTA, J.M. & T.C. SANTOS, 2000. Espécie nova de Heteragrion Selys, 1862 do estado do Rio de Janeiro, Brasil (Odonata: Zygoptera: Megapodagrionidae). *Bolm Mus. nac. Rio de J.* (N.S./Zool.) 411: 1-7. (Port., with Engl. s.). – (Depto Ent., Mus. Nac., UFRJ, Quinta da Boa Vista, BR-20940-040 Rio de Janeiro, RJ).
H. muryense sp. n. is described and illustrated. Holotype ♂, allotype ♀: Rio de Janeiro, Nova Friburgo, Mury, alt. 1500 m, 10-III-1990; deposited at MNRJ. Keys to separate the groups within the genus, and the spp. that occur in the state of Rio de Janeiro are provided.

(13274) *DARTER*. Newsletter of the Dragonfly Recording Network, No. 20 (Spring 2000). – (c/o Dr P. Harding,

Biol. Records Centre, Monks Wood, Abbots Ripton, Huntingdon, Cambs, PE17 2LS, UK).
Cham, S.: [Editorial] (p. 1); – *McGeeney, A.*: Dragonfly recording today (p. 2); – *Parr, A.*: Migrant dragonflies: climate change, the new millenium, and all that (p. 3); – [*Moore, N.*]: Still under threat: Norfolk Hawker, Aeshna isosceles (p 3); – *Campbell, J.*: The status of the Ruddy Darter, Sympetrum sanguineum (Müller) in Oxfordshire (p. 4); – *Cham, S.*: Co-incidence mapping with DMAP (p. 5); – *Lucas, M.J.*: The history and distribution of the Emperor dragonfly, Anax imperator Leach, in Yorkshire (p. 6); – *Taylor, P.*: News from Norfolk (pp. 6-7); – *Averill, M.*: News from the Midlands (pp. 7-8); – *Perrin, V.*: The key sites register: an update (pp. 8-9); – *Clarke, D.*: News from North--East England (p. 10); – *Gladwin, T. & C. Shepperson*: Dragonfly recording in Hertfordshire (p. 11); – *Smith, B.*: News from Scotland (p. 12); – *Jones, S.*: News from Cornwall (pp. 12-13); – *Cham, S.*: Proof of breeding (p. 14).

(13275) DE FONSEKA, T., 2000. *The dragonflies of Sri Lanka.* WHT Publications, Colombo. 303 pp., 20 col. pls excl. Hardcover, wrappers (14.5×22.5 cm). ISBN 955-9114-19-0. – Price: US$ 50.- or UK£ 35.- net. – (Publishers: 95 Cotta Rd, Colombo-8, Sri Lanka).
A beautifully produced, comprehensive descriptive key to the adults (122 spp., incl. 5 spp. that were not yet actually recorded from Sri Lanka) and to the hitherto known larvae; 52 spp. are endemic to the island. Most of the line drawings are based on figs in primary publications. The book is intended to facilitate future research. It includes a thorough outline of the history of odonatol. research in Ceylon (1839-1971), chapters on general odon. biology and preparation of collections, a checklist of the Ceylonese spp. in the Colombo National Mus. (75 spp.), a glossary, and a fairly complete regional bibliography. In the preparation of the work, some assistance was rendered by the renown taxonomists, M. Bedjanič and Dr M. Hämäläinen. For an earlier, preliminary edn see *OA* 11693. The book has appeared posthumously, therefore some errors and shortcomings could not be ironed out. – The Author (1919-2000) was a qualified Zoologist in the Ceylon Civil Service, incl. the directorship of the Dept of Fisheries. He commenced the work on the book a few years prior to his retirement in 1970, whereafter he moved to England, where the work was completed by about 1997. This is the first "guide" ever published for the complete odon. fauna of any Southasian country.

(13276) *DIGEST OF JAPANESE ODONATOLOGICAL SHORT COMMUNICATIONS*, No. 10 (March 2000). – Translated, edited and produced by N. Ishizawa (1644-15, Yamaguchi, Tokorozawa, Saitama, 359-1145, JA).
Matsuki, K.: Threatened dragonfly species in Japan (p. 1); – *Someya, T.*: The present state of the damselfly Mortonagrion hirosei (pp. 2-3); – *Aoki, T. & T. Azuma*: A report from Hyogo prefecture on the reduction of population size of Sympetrum maculatum Oguma (pp. 3-4); – *Takasaki, Y.*: Dragonflies of the projected site of the exposition at Seto city, Aichi (pp. 4-5); – *Watanabe, Y., H. Yokota, K. Kato & M. Hatakeyama*: Artificial parthenogenesis in the dragonfly Stylurus oculatus (Odonata) (pp. 5-6); – *Takasaki, Y.*: A male Crocothemis servilia mariannae Kiauta with glittery wings (p. 7); – *Yamamoto, Y.*: A female Cercion melanurum Selys preyed a male Nannophya pygmaea Rambur: on its foraging behaviour (p. 7); – *Kano, K. & Y. Hirose*: Orthetrum triangulare melania (Selys) inhabiting spas [= hot springs] of the northern district [of Hokkaido] (p. 8).

(13277) *DRAGONFLY NEWS.* The newsletter of the British Dragonfly Society, No. 37 (Spring 2000). – (c/o S. Henson, 10 Shotesham Rd, Poringland, Norwich, NR14 7LE, UK).
Henson, S.: From the Editor (pp. 1-2); – *McGeeney, A.*: From the President (pp. 2-3); – *Mill, P.*: 1999 Members' Day (pp. 3-6); – *Mahoney, G.*: Dragonflies on the Web (pp. 6-7); – *Averill, M.*: BDS field meetings & courses for 2000 (pp. 8-11); – *Perrin, V.*: Dragonfly news for 1999: resident's round-up (pp. 11-12); – *Parr, A.*: Dragonfly news for 1999: migrants & vagrants (pp. 12-13); – *Henson, S.*: First & last dates for 1998 & 1999 (pp. 14-16); – (*Anonymous*): Extra protection for East Sussex wetland (p. 17); – *Clarke, D.*: Dragonflies feature in Cumbria (p. 17); – *Perrin, V. & D. Clarke*: Can BAPs benefit dragonflies?: experiences from Cumbria & Cambridgeshire (pp. 17-18); – *Moore, N.*: Applying IUCN criteria to assess threats to British dragonflies (pp. 19-20); – *Thompson, R.*: DragonflyIreland 2000-2003 (pp. 20-21); – *Corlett, R.*: Bristol Region Dragonfly Recording Group (BRDRG) (pp. 21-22); – *Requests* (pp. 22-23); – *Noticeboard* (pp. 23-26); – *BDS business* (pp. 26--28).

(13278) DUNKLE, S., 2000. The many joys of dragonflying. *Am. Butterflies* 8(2): 26-32, 44. – (Dept Biol., Collin Co Community Coll., 2800 E Spring Creek

Pkwy, Plano, TX 75L74, USA).
A very beautiful personal-style narrative on some aspects of dragonfly biology and on some of the Author's dragonflying experiences, with high-quality photographs. A brief biographic note and a portrait of the Author are added on p. 44.

(13279) ENDERSBY, I.D., 2000. Checklist of Victorian dragonflies (Insecta: Odonata). *Proc. R. Soc. Victoria* 112(1): 59-64. – (56 Looker Rd, Montmorency, Vic. 3094, AU).
A checklist of the currently known fauna of Victoria, Australia (74 spp.). New distribution records and taxonomic nomenclatural changes since 1974 are detailed.

(13280) ENDERSBY, I.[D.], 2000. Nomenclatural changes affecting Victorian dragonflies. *Victorian Ent.* 30(3): 40-41. – (56 Looker Rd, Montmorency, Vic. 3094, AU).
A summary is presented of the higher level nomenclatural changes as they affect the Victorian fauna (Australia), following the usage adopted in the work described in *OA* 13097.

(13281) FET, V. & G. BECHLY, 2000. Ischnurainae Fraser, 1957 (Insecta, Odonata): proposed conservation as the correct spelling of Ischnurinae to remove homonymy with Ischnuridae Simon, 1879 (Arachnida, Scorpiones). *Bull. zool. Nomencl.* 57(1): 26-28. – (First Author: Dept Biol. Sci., Marshall Univ., Huntington, WV 25755, USA).
The purpose of this application is to remove the homonymy between the damselfly subfamily name Ischnurinae Fraser, 1957 (type genus Ischnura Charpentier, 1840; family Coenagrionidae) and the scorpion family name Ischnuridae Simon, 1879 (type genus Ischnurus C.L. Koch, 1837, a junior subjective synonym of Liocheles Sundevall, 1833). It is proposed that the entire generic name of Ischnura should be adopted as the stem, so that the correct spelling of the damselfly subfamily will be Ischnurainae Fraser, 1957.

(13282) GORB, S., W. PRESE & U. SCHWARZ, 2000. Was Libellen zu Flugkünstlern macht. *Spektrum Wissenschaft* 2000(July): 12-13. – (Max-Planck-Inst. Entwicklungsbiol., Spemannstr. 35, D-72076 Tübingen).
Detailing on the resilin function in the dragonfly wing, as pointed out in the paper listed in *OA* 13018.

(13283) GRONERT, R., 2000. *Fladderen in de wind: dagvlinders en libellen aan de kust* – [*Fluttering in the wind: butterflies and dragonflies on the coast*]. Marcelis-van der Lee-Vlaar, Alkmaar. 96 pp. (17×23 cm), hardcover. ISBN 90-73118-04-2. – Price: NLG 39.- net. (Dutch).
The book is directed at general readership. The odon. part (pp. 57-93) deals with 17 spp. from the area of Petten, the Netherlands.

(13284) GUILLOTON, J.-A., 2000. Odonata 44-85: 4ème rapport (1999). *Lettre Atlas ent. rég.* (Nantes) 13: 226-228. – (La Close des Saules, F-44810 Héric).
The 1999 annual progress report on the Loire-Atlantique and the Vendée odon. mapping project, France. Since 1990, 57 spp. were evidenced; these are listed and a statement on the numbers of squares for each of them is provided.

(13285) HÄMÄLÄINEN, M., 2000. Enäjärven lahtien sudenkorennoista – [On dragonflies in two bays of Lake Enäjärvi]. In: L. Paasivirta, [Ed.], *Enäjärven suojeluyhdistys 25 vuotta*, p. 22, Vantaa, ISBN 952-91-1905-4. (Finn.). – (Sunankalliontie 13, FIN-02760 Espoo).
20 spp. are listed from this lake in SW Finland; Leucorrhinia caudalis and L. pectoralis were among the most abundant spp.

(13286) [HATTO, Y.], 2000. [A children's culture at the verge of extinction]. *Yomiuri Shimpon*, Tokyo, issue of 3 Apr., p. 30 (Jap.). – (4-17-19 Yakumo, Meguro-ku, Tokyo, 152-0023, JA).
A Tokyo daily's interview with Yuichi Hatto (born 12 May 1920), a very active practician and Master of the traditional *buri* and *toriko* dragonfly catching techniques, which were among the popular children games in Japan, but the custom is now at the verge of extinction. Some of his experience is narrated, and his portrait ("in action") is added. – See also *OA* 9988, 10160, 10428 and 10429.

(13287) HELLBERG, F., A. NAGLER, H. KLUGKIST & A. SHOPPENHORST, 2000. Pflege und Entwicklung einer Niederungslandschaft im Bremer Becken am Beispiel des Naturschutzgebietes "Westliches Hollerland (Leher Feld)". *Natur Landschaft* 75(1): 17-27. (With Engl. s.). – (First Author: Inst. Ökol., FB-2, Univ. Bremen, Postfach 330440, D-28334 Bremen).
The Westliches Hollerland Nature Reserve, nr Bremen is considered a prototypical grassland-ditch area, and it

is regarded as one of the most valuable landscapes in NW Germany. The paper includes an annotated list of 25 odon. spp., with brief comments on the fauna.

(13288) JIANG, Y.-H., 2000. Verification and distribution of genus Aeschnophlebia Selys (Odonata; Aeschnidae) in China. *Chin. J. Ent.* 20(1): 63-67. (With Chin. s.). – (Yuntaixiang Diversified Management Office, Lianyungang City, Jiangsu, 222064, P.R. China).
The identity of A. anisoptera Sel. and A. longistigma Sel. in China is discussed. It is concluded that the former does not occur in China, while the specimens of the latter are available from Nanjing and the Yuntai Mts (Jiangsu prov.). The 2 spp. are described and illustrated, and A. kolthoffi Sjöstedt, 1925 is shown to be conspecific with A. longistigma Sel., 1883.

(13289) *JOURNAL OF THE BRITISH DRAGONFLY SOCIETY*, Vol. 16, No. 1 (March 2000). – (c/o Dr W.H. Wain, Haywain, Hollywater Rd, Bordon, Hants, GU35 0AD, UK).
Smith, R.W.J., E.M. Smith & M.A. Richards: Habitat and development of larvae of the Azure Hawker Aeshna caerulea (Ström) in northern Scotland (pp. 1-16); – *Cham, S.*: Discovery of a 'new' population of the Scarce Chaser Libellula fulva Müller on the River Stour in the Dedham Vale (pp. 17-19); – *Jones, S.P.*: First proof of successful breeding by the Lesser Emperor Anax parthenope (Sélys) in Britain (pp. 20-23); – *Ward-Smith, A.J., D.J. Sussex & S.A. Cham*: Flight characteristics of the Brilliant Emerald Somatochlora metallica (Vander Linden) in south-east England (pp. 24-28); – *Pellow, K.*: Observations of the Red-veined Darter Sympetrum fonscolombei (Sélys) at Bake Lakes in Cornwall during 1999 (pp. 29-30); – *Corbet, P.*, Book review [of the volume listed in *OA* 12590] (pp. 31-32).

(13290) KALKMAN, V.J. & K.-D.B. DIJKSTRA, 2000. The dragonflies of the Białowieża area, Poland and Belarus (Odonata). *Opusc. zool. flumin.* 185: 1-19. – (Naturalis, P.O. Box 9517, NL-2300 RA Leiden).
A synthesis of 942 records (49 spp.) from the Białowieża Forest and its surroundings (1983, 1990, 1993, 1995-1999) is presented. The fauna includes southern elements (Sympecma fusca, Lestes barbarus, Erythromma viridulum, Ischnura pumilio, Anax imperator, Crocothemis erythraea, Orthetrum albistylum, Sympetrum depressiusculum) and interesting northern and eastern spp. (Sympecma paedisca, Coenagrion armatum, C. hastulatum, C. lunulatum, Ophiogomphus cecilia, Epitheca bimaculata, Somatochlora arctica, Sympetrum pedemontanum, Leucorrhinia albifrons, L. caudalis, L. pectoralis). Brief remarks are made on differences in habitat preference of spp. between western and eastern Europe. It is postulated that Pyrrhosoma nymphula is restricted to running waters in the East. A short note on the subspecific status of Somatochlora metallica in northeastern Europe is added. It is concluded that specimens show a mix of features of the sspp. metallica and abocanica and that the recognition of the latter in the region by H. LOHMANN (1994, *Notul. odonatol.* 4: 39-40) is unjustified. The value of the area as a reference for conservation is discussed and conservation priorities are stressed.

(13291) KEMPE, R., 2000. Das NSG "Heidemoor bei Ottermoor" und die Otterheide, ein lebhaftes Relief aus Binnendünen und Moortälchen. *NatSchutz Samtgemeinde Tostedt* 11: 10-12. – (Wörmer Weg 3, D-21256 Höckel).
A population of Aeshna subarctica elisabethae is recorded from Ottermoor, Tostedt distr., Lower Saxony, Germany.

(13292) LABUS, N., 2000. *Kačji pastirji akumulacije Medvedce z biologijo kritično ogroženih vrst* – [*Dragonflies of Medvedce Reservoir, with notes on biology of the critically endangered species*]. Mladi za napredek Maribora, 17 Srečanje. 30 pp. (Slovene). – (Korbunova 6, SI-2000 Maribor).
During an 18-day survey (1998, 1999), 32 spp. were evidenced at the Reservoir, Styria, Slovenia. An annotated and commented list is presented, and the biological importance of the basin is emphasized. 6 additional spp. were recorded from the adjacent area.

(13293) LAZARIDOU-DIMITRIADOU, M., V. ARTEMIADOU, G. YFANTIS, S. MOURELATOS & Y. MYLOPOULOS, 2000. Contribution to the ecological quality of Aliakmon river (Macedonia, Greece): a multivariate approach. *Hydrobiologia* 410: 47-58. – (First Author: Dept Zool., Sch. Biol., Aristotle Univ., GR-54006 Thessaloniki).
20 sites were sampled, the Gomphidae were among the dominant taxa, Coenagrionidae and Calopterygidae are also family-wise considered. A spp. list is not presented.

(13294) La LETTRE DES SOCIETAIRES, Société française d'Odonatologie, No. 21 (20 March 2000), No. 22 (15 July 2000). ISSN 1260-0857. – (c/o J.-L.

Dommanget, 7 rue Lamartine, F-78390 Bois-d'Arcy). [No. 21:] 12 pp., incl. the 1999 SFO Balance Account. – [No. 22:] 12 pp., incl minutes of the 2000 SFO Plenary Business Meeting, regional reports, the SFO Estimates for 2000, etc.

(13295) *LIBELLENNACHRICHTEN*. Mitteilungsblatt der Gesellschaft deutschsprachiger Odonatologen (GdO), (ISSN 1437-5621), No. 4 (1 Sept. 2000). – (c/o Mrs U. Krüner, Gelderner Str. 39, D-41189 Mönchengladbach).
20 pp., organised under the traditional headings. In addition to various announcements, brief reports, notes on dragonflies in arts, and much bibliographic information, there is a scientific note, by *K. Reinhardt*: Eine Libellenbeobachtung in etwa 5000 m Höhe (pp. 15-16; Pamir), presenting a brief literature review of some high altitude records.

(13296) *LIBELLULA*. Zeitschrift der Gesellschaft deutschsprachiger Odonatologen (GdO), (ISSN 0723-6514), Vol. 19, No. 1/2 (Sept. 2000). (With Engl. s's). – (c/o Mrs U. Krüner, Gelderner Str. 39, D-41189 Mönchengladbach).
Mikolajewski, D.J., D. Miksche, K.G. Leipelt & F. Suhling: Weibchenpolymorphismus, Geschlechterverhältnis und Grössenunterschiede in französischen Populationen von Boyeria irene (Odonata: Aeshnidae) (pp. 1-15); – *Wildermuth, H.*: Totstellreflex bei Grosslibellenlarven (Odonata) (pp. 17-39); – *Rolff, J.*: Intime Interaktionen: ektoparasitische Wassermilben an Libellen (Hydrachnidia; Odonata) (pp. 41-52); – *Peters, G.*: Unbekannte Bekannte: die Anax-Species in Europa (Odonata: Aeshnidae) (pp. 53-64); – *Müller, J.M.*: Coenagrion lunulatum in einem oberschwäbischen Moorgebiet (Odonata: Coenagrionidae) (pp. 65-69); – *Fliedner, T. & H. Fliedner*: Aeshna cyanea als Beute von Vespula vulgaris: ergänzende Beobachtungen zu Angriffen sozialer Faltenwespen auf schlüpfende Libellen (Odonata: Aeshnidae; Hymenoptera: Vespidae) (pp. 71-77); – Herbstschlupf von Gomphus vulgatissimus (Odonata: Gomphidae) (pp. 79-84); – *Pankratius, U.*: Vermehrungsnachweis von Sympetrum meridionale in Nordbayern (Odonata: Libellulidae) (pp. 85-88); – *Wildermuth, H.*: Lestes barbarus bei Eiablage in einem subalpinen Hochmoor der Schweizer Alpen (Odonata: Lestidae) (pp. 93-96); – *Mauersberger, R.*: Rezentes Fliessgewässervorkommen von Onychogomphus f. forcipatus in Brandenburg (Odonata: Gomphidae) (pp. 97-103); – *Herren B. & K. Herren*: Entwicklung von Onychogomphus forcipatus unguiculatus in einem See (Odonata: Gomphidae) (pp. 105-106); – *Kalkman, V.J.*: Records on the dragonfly fauna of northwestern Albania (Odonata) (pp. 107-111); – *Jödicke, R.*: Späte Herbstnachweise von Lestes sponsa und Sympetrum striolatum (Odonata: Lestidae, Libellulidae) (pp. 113-115).

(13297) LITT, R., 2000. Observations de la fin de l'hivernage et de l'éclosion de Calopteryx virgo L. en captivité (odonate). *Revue verviét. Hist. nat.* 2000(Apr.): 97-98. – (rue Libon 17, B-4800 Verviers).
Larvae collected in the field on 3 Apr. (water temperature 3.5°C) emerged at room temperature on 20 Apr.

(13298) MARINOV, M., 2000. *Dzhoben polevi opredelitel na vodnite koncheta na B'lgariya – [A pocket guide for identification of adult Bulgarian dragonflies]*. Eshna, Sofia. 104 pp., (11× 21 cm), softcover. ISBN 954-90613-1-0. (Bulg., with a Bulg. & Engl. s. Afterword, by the British Embassy in Sofia). – (Author: P.O. Box 134, BG-1000 Sofia).
A well-organised and beautifully executed pictorial key, based on structural characters, and incl. distribution maps for each sp. Statements on larval habitats and on adult phenology are also provided.

(13299) *MARTINIA*. Revue scientifique de la Société française d'Odonatologie, Vol. 16, No. 1 (dated March, mailed 20 June 2000), No. 2 (June 2000). – (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois-d'Arcy). [No. 1:] *Jourde, P.*: Nouvelles données de captures d'odonates par un végétal non carnivore (pp. 3-7); – *Brugière, D.*: Du nouveau sur Macromia splendens (Pictet, 1843) en Lozère (p. 8); – *Papazian, M.*: Chronique de l'insolite: (2e note) Sympetrum fonscolombii (Sélys, 1840), la mer et l'automobile (pp. 9-10); – *Faton, J.-M. & C. Deliry*: Nouvelles données sur la population de Coenagrion caerulescens (Fonscolombe, 1838) dans les Hautes-Alpes (pp. 11-14); – *Frat, J.*: Première observation de Leucorrhinia pectoralis (Charpentier, 1825) dans le département de l'Allier (Odonata, Anisoptera, Libellulidae) (pp. 15-17); – *Analyses d'ouvrages* (pp. 18-22; comprehensive book reviews of the works described in *OA* 12671, 12810 and 12872); – *d'Aguilar, J.*: Les descriptions des odonates d'Europe, 4: Villers, Charles Joseph de (1724-1810) (pp. 23-28). – [No. 2:] *Grand, D. & M. Papazian*: Étude faunistique des odonates de Corse (pp. 31-50); – *Lohr, M.*: Reproduction de Trithemis annulata (Palisot de Beauvois, 1805) dans le département des Pyrénées-Orientales (Odonata, Libellulidae) (pp. 51-

-52); – *d'Aguilar, J.*: Les descriptions originales des odonates d'Europe, 5: Müller, Otto Friederich (1730--1784) (pp. 53-80).

(13300) MASON, R.P., J.-M. LAPORTE & S. ANDRES, 2000. Factors controlling the bioaccumulation of mercury, methylmercury, arsenic, selenium and cadmium by freshwater invertebrates and fish. *Archs envir. Contam. Toxicol.* 38(3): 283-297. – (Cent. Envir. Sci., Chesapeake Biol. Lab., Univ. Maryland, P.O. Box 38, Solomons, MD 30688, USA).
Concentrations of Hg, MMHg, As, Se, and Cd were measured in atmospheric deposition, stream water, and biota in 2 streams in W Maryland, USA. They are stated for Aeshna sp., compared with other insect orders, and discussed.

(13301) *MATERIAŁI 7 OGÓLNOPOLSKICH WARSZTATOW BENTOLOGICZNYCH – [MATERIALS OF THE 7th POLISH BENTHOLOGY WORKSHOP]* (Ed. S. Cerbin), Jeziory, Welikopolski National Park, 25-27 May 2000. (Polish).
[Odon. papers:] *Mielewczyk, S.*: Fauna of odonate larvae of the Great Poland National Park and changes in its composition (pp. 13-17); – *Buczyński, P., S. Czachorowski & J. Pakulnicka*: Can small man-made water bodies substitute for the lacustrine littoral benthic zone? (pp. 45-47); – *Czerniawska-Kusza, I. & T. Kochanowski*: Features of benthos in the Opolce chalk-marl pits (pp. 77-78); – *Domek, P. & T. Joniak*: Benthic fauna and water trophy of three dystrophic lakes in the Drawa National Park, northern Poland (pp. 81-84).

(13302) MAXTED, J.R., M.T. BARBOUR, J. GERRITSEN, V. PORETTI, N. PRIMROSE, A. SILVIA, D. PENROSE & R. RENFROW, 2000. Assessment framework for mid-Atlantic coastal plain streams using benthic macroinvertebrates. *Jl N. Am. benthol. Soc.* 19(1): 128-144. – (First Author: Delaware Dept Natural Resour. & Envir. Control, 89 Kings Highway, Dover, DE 19903, USA).
A collaborative study among 6 states along the mid--Atlantic seaboard of the USA developed a consistent approach for collecting and interpreting macroinvertebrate data for low-gradient streams of the coastal plain. The study had 3 objectives: (1) to evaluate the validity of aggregating reference site data into a single bioregion, (2) to select biological metrics that best discriminated reference sites from sites impaired by habitat disturbance and organic pollution, and (3) to combine these metrics into an index of biological quality. Macroinvertebrate, physical habitat, and water-quality data were collected in 106 streams during autumn 1995. Fifty-five sites were referenced, 34 sites had habitat stresses, and 17 sites had water-quality stresses. Classification of reference sites divided the coastal plain into 3 bioregions, separated N and S by Chesapeake Bay and separated E and W by ecoregion. – 20 odon. genera are listed, with annotations on tolerance values and clinger habit.

(13303) McPEEK, M.A. & J.M. BROWN, 2000. Building a regional species pool: diversification of the Enallagma damselflies in eastern North America. *Ecology* 81(4): 904-920. – (First Author: Dept Biol. Sci., Dartmouth Coll., Hanover, NH 03755, USA).
The phylogeny of the N American Enallagma, derived from molecular and morphological data, is used to examine how the patterns of local and regional assemblage structure developed in this taxon across eastern N America. The 2 primary clades in the genus have nearly identical numbers of extant spp., but the centers of diversity and the diversification rates for the 2 clades are quite different. One clade has its center of diversity in New England and radiated very recently from 3 spp. to give the current 18. Although most of this radiation involved the creation of new spp. in the ancestral fish-lake habitat, at least 2 independent lineages invaded and adapted to a new habitat: ponds and lakes lacking fish but supporting large numbers of large predatory dragonflies. The other clade, with greatest diversity in the southeastern US, contains spp. that inhabit only water bodies that support fish populations. This "south-eastern" clade diversified at a much slower and more steady pace within the fish-lake habitat than the "New England" clade, but 4 speciation events in this clade appear to have occurred at the same time as the northern radiation. Combined with the current understanding of local community structure in fish and fishless lakes, these results indicate that most of the spp. in this regional assemblage were created by speciation mechanisms other than filling empty niches, which have resulted in many locally coexisting spp. that are very similar in their ecological characteristics. Damselflies in eastern North American ponds and lakes appear to exemplify features of both a regulated component of the littoral food web (i.e., a functional group) and an assemblage whose local community composition is influenced by nonadaptive macroevolutionary processes that have operated on a much larger regional scale.

(13304) MIKKOLA, K., 2000. Korentojen erehdys –

[Dragonflies made a mistake]. *Suomen Luonto* 59(6): 41. (Finn.). – (Zool. Mus., P.O. Box 17, FIN-00014 University of Helsinki).
A note on the intergeneric copula, Leucorrhinia albifrons ♂ × Sympetrum flaveolum ♀, with a photograph by S. Karjalainen.

(13305) MORITZ, K., 2000. Beitrag zur Insektenfauna des Bezirks Mattersburg, Burgenland. *Z. ArbGem. öst. Ent.* 52(1/2): 35-54. (With Engl. s.). – (Bachzeile 7, A--7022 Loipersbach).
The work includes a checklist of 29 odon. spp., evidenced in the distr. of Mattersburg, Burgenland, Austria since 1973.

(13306) MOSTERT, K. & K.D. DIJKSTRA, 2000. Libellen in Zuid-Holland – [Dragonflies in Zuid--Holland province, the Netherlands]. *Zuidhollands Landschap* 2000(2): 10-11. (Dutch). – (Second Author: Naturalis, P.O. Box 9517, NL-2300 RA Leiden).
A brief general review of the main habitat types in the province. A few spp. are mentioned; Dutch common nomenclature only.

(13307) MÜLLER, J. & R. STEGLICH, 2000. Zur Verbreitung der Südlichen Mosaikjungfer Aeshna affinis (Odonata) in Sachsen-Anhalt in den Jahren 1993 bis 1999. *Ent. Mitt. Sachsen-Anhalt* 8(1): 22-32. – (First Author: Frankefelde 3, D-39116 Magdeburg).
92 records (787 ♂, 24 ♀) of A. affinis in Sachsen--Anhalt, E Germany are listed, mapped, and discussed from the point of view of climatic conditions prevailing during 1993-1999.

(13308) *NORDISK ODONATOLOGISK FORUM NYHETSBREV – NORDIC ODONATOLOGICAL SOCIETY NEWSLETTER*, Vol. 6, No. 1 (June 2000). (In Nordic languages, mostly with Engl. s's). – (c/o H. Olsvik, N-6694 Foldfjorden).
Sahlen, G.: Dragonfly meeting 4-6 Aug. 2000 near Lund, Skäne, Sweden (p. 3); – *Olsvik, H.*: Dragonflies in man-influenced environments (pp. 4-7); – *Ilmonen, J. & E. Korkeamäki*: The Fourth Nordic Meeting for odonatologists (pp. 8-10; Engl.); – *Olsvik, H.*: From the 5th Summer Meeting of the Nordic Odonatological Society in Aure, Norway (pp. 11-12); – A dragonfly visit in Ostfold, SE Norway, in 1999 (pp. 13-15); – *Holmen, M.*: Comments on Henning Pedersen's paper about rare and new dragonfly species in Denmark 1997--1998 (pp. 16-17); – *Olsvik, H.*: Additional structural features in Somatochlora arctica larvae/exuviae (p. 17); – Dragonflies in Rindal, western central Norway (pp. 18-19); – A small dragonfly collection from Lefkas, Greece (p. 19).

(13309) PERRON, J.-M. & L.J. JOBIN, 2000. Faune odonatologique du territoire du marais Léon-Provancher, Neuville, Québec. *Naturaliste can.* 124(1): 26-33. – (First Author: 506-953, rue Grandjean, Sainte--Foy, Que, G1X 4P9, CA).
A comprehensive review of the fauna (42 spp.) of this wetland area, Quebec, Canada, with annotations on species abundance, flight periods etc., and with specimen phot. of all spp.

(13310) PERRON, J.-M. & Y. RUEL, 2000. Extension de l'aire de répartition connue au Québec d'Ophiogomphus anomalus Harvey (Odonata: Gomphidae). *Fabreries* 25(1): 22. – (First Author: 506-963, rue Grandjean, Sainte-Foy, Que., G1X 4P9, CA).
The records of exuviae from Moulin Banal (1 ♂, 7--VII-1998; 2 ♂, 1 ♀, 9/16-VI-1999) are to be added to the known Quebec, Canada localities, as stated in the works, listed in *OA* 10099 and 12439.

(13311) PERRON, J.-M. & Y. RUEL, 2000. Implantation d'Enallagma civile (Hagen) (Odonata: Coenagrionidae) sur le territoire du marais Léon-Provancher, Neuville (Québec). *Fabreries* 25(1): 20-21. – (Second Author: 760, chemin Saint-Louis, Québec, Que., G1S 1C3, CA).
The Léon-Provancher marsh nr Neuville, Quebec, Canada has been declared a protected area in the early 1990s. In 1999, a small population of E. civile was discovered there, and its habitat is described in detail.

(13312) PINKNEY, A.E., P.C. McGOWAN, D.R. MURPHY, T.P. LOWE, D.W. SPARLING & L.C. FERRINGTON, 2000. Effects of the mosquito larvicides temephos and methoprene on insect populations in experimental ponds. *Environ. Toxicol. Chem.* 19(3): 678-684. – (First Author: U.S. Fish. & Wildl. Office, Chesapeake Bay Fld Office, 177 Admiral Cochrane Dr., Annapolis, MD 21401, USA).
The nontarget effects of Abate®4E (44.6% temephos) and Altosid®Liquid Larvicide (5% methoprene) were investigated in 18 experimental ponds in Patuxent Wildlife Res. Center, Maryland, USA. Odon. were affected adversely by exposure to Abate: after the first spraying, 7 individuals emerged from Abate ponds, compared with 34 from control ponds and 36 from Altosid ponds.

(13313) *PTEROBOSCA*. Newsletter of the Japanese Society for Odonatology (ISSN none), No. 6B (30 Aug. 2000). Edited by T. Aoki. (Jap., with Engl. journal title). – (Orders to: Prof. Dr S. Eda, Dept Oral Pathol., Matsumoto Dental Univ., 1780 Gobara, Hirooka, Shiojiri, Nagano, 399-0781, JA).
[Scientific Notes:] *Karube, H.*: Minor dragonfly observations in Tasmania (pp. 33-36; Archipetalia auriculata, Austroaeschna hardyi, Synthemiopsis gomphomacromioides); – *Matsuki, K.*: Report of the Nature Conservation Committee (pp. 36-37); – *Karube, H.*: On the Red data list of the Environment Agency (pp. 37-39); – *Aoki, T.*: A note on the seasonal regulation in Odonata (pp. 39-40).

(13314) RETTIG, K., 2000. Die Tierwelt, insbesondere Vogelwelt, der Emder Wallanlagen. *Beitr. Vögel-Insektenwelt Ostfrieslands* 146: 2-13. – (Danziger Str. 11, D-26725 Emden).
Records of Aeshna cyanea and A. grandis; – Emden, Germany.

(13315) SCHMIDT, E., 2000. Ordnung: Odonata, Libellen. In: M. Schaefer, [Ed.], *Brohmer, Fauna von Deutschland: ein Bestimmungsbuch unserer heimischen Tierwelt*, 20th edn, pp. 245-256, Quelle & Meyer, Wiebelsheim. – (Aurhor: Biol. Didaktik, FB-9/S05, Univ. Essen, D-45117 Essen).
A revised and updated edn of the popular work, listed in *OA* 10243, where a brief history and a list of the earlier edns are given.

(13316) SCHULZ, C.-J., 2000. Aquatische Insekten der Wipper, einem salzbelasteten Fluss Nordthüringens. *Mitt. dt. Ges. allg. angew. Ent.* 12(1/6): 249-254. (With Engl. s.). – (Staat. Umweltamt, Postfach 36, D-99701 Sondershausen).
The salinity tolerance values are stated for the "Agrionidae" (< 6‰) and for Ischnura elegans (> 12‰); – Wipper R., Thuringia, Germany.

(13317) SOKOLOVSKA, N., L. ROWE & F. JOHANSSON, 2000. Fitness and body size in mature odonates. *Ecol. Ent.* 25(2): 239-248. – (Third Author: Dept Anim. Ecol., Univ. Umeå, S-90187 Umeå).
The relationship between body and size and fitness components was examined using a meta-analysis of 33 published studies. There was a positive and significant overall effect of body size on mating rate and lifetime mating success among ♂♂. There was also a weaker but still significant positive effect of body size on survivorship of ♂♂. The relationship between body size, mating rate, longevity, and lifetime mating success differed significantly between ♂♂ of territorial and nonterritorial spp. The effect of body size was significant for all fitness components in territorial spp. but significant only for longevity and lifetime mating success in nonterritorial spp. Effect sizes appeared to be strongest on longevity in both sexes, and on ♂ mating rate in territorial spp. Other effect sizes, even when significant, were small. Despite a much smaller data set, ♀ fitness also increased significantly with body size. Both clutch size and longevity showed a significant positive relationship with body size. These results suggest that there is a general fitness benefit to large size in odon. Nevertheless, significant heterogeneity is apparent in this effect, which can be attributed to sex, mating system, and fitness component. Finally, these analyses point to inadequacies in the current data that need further study before the potentially rich patterns in size effects on fitness can be explored more thoroughly.

(13318) STEGLICH, R., 2000. Zum Vorkommen der "FFH-Libellen" Ophiogomphus cecilia und Gomphus (Stylurus) flavipes sowie von Gomphus vulgatissimus (Odonata, Gomphidae) in der "Magdeburger Strom-Elbe". *Ent. Mitt. Sachsen-Anhalt* 8(1): 3-6. – (Quittenweg 53, D-39118 Magdeburg).
The occurrence of the 3 spp. in the Elbe R. nr Magdeburg, E Germany is outlined. The records are stated, the importance of the 3 spp. in water quality assessment is emphasized, and particular habitat conservation measures are advocated.

(13319) SWITZER, P.V. & P.K. EASON, 2000. Proximate constraints on intruder detection in the dragonfly Perithemis tenera (Odonata: Libellulidae): effects of angle of approach and background. *Ann. ent. Soc. Am.* 93(2): 333-339. – (Dept Biol. Sci., Eastern Illinois Univ., Charleston, IL 61920-3099, USA).
The implications of insects' vision for territorial defence have been relatively little studied in the field. Here, it was investigated whether either the angle at which an intruder was viewed by a territorial resident or the background against which it was viewed affected the detection of that intruder. Residents detected intruders at a greater distance if the intruders were directly in front of them, they also detected more intruders in front of them than from other angles. Intruders viewed against distant vegetation were detected more readily than were intruders against near vegetation; however, more intruders than expected were detected against near vege-

tation. The probability of detecting intruders depends on the angle at which they are viewed and the background behind them. Hence, there may be selection on territorial residents to adjust their orientation and space use to enhance their view of their territory and intruders.

(13320) VAN DER MEULEN, J., 2000. Lantaarntjes op Groes III – [Work on Ischnura elegans at the Groesbeek Summer Workshop-III]. *Amoeba, Amst.* 74(2): 48-50. (Dutch). – (Oude Rijnsburgerweg 42, NL-2342 BC Oegstgeest).
A brief report on the inquiry into the occurrence of various I. elegans ♀ morphs, conducted during the 1999 workshop of the Netherlands Youth Federation of Nature Friends (NJN).

(13321) VAN DER WEIDE, M., 2000. [Werkgroepen]. Libellen (Odonata: 1504. *NieuwsBr. europ. invert. Surv. Nederland* 30: 6. (Dutch). – (Heidevenstraat 223, NL-6533 TP Nijmegen).
A very brief statement on the Netherlands 1999/2000 season, with a reference to a number of Gomphus flavipes records in the area between the German border and the Biesbosch.

(13322) VAN SWAAY, C. & R. KETELAAR, 2000. *Dagvlinders en libellen onder de meetlat: jaarverslag 1999. – Monitoring butterflies and dragonflies in the Netherlands: results for 1999.* Vlinderstichting & CBS, Wageningen. 32 pp. [Rapport VS2000.06]. (Dutch, with Engl. s.). – (De Vlinderstichting, P.O. Box 506, NL-6700 AM Wageningen).
125 fortnightly visited odon. transects and 80 single species sights were considered in 1999. Enallagma cyathigerum was the most abundant sp. and Ischnura elegans was evidenced from most sites. Some rare spp., such as Aeshna viridis and Leucorrhinia pectoralis, were adequately monitored. The status of Calopteryx virgo, Aeshna viridis and Leucorrhinia rubicunda is dealt with in some detail.

(13323) *VORTRAGE DER TAGUNG DER SCHUTZGEMEINSCHAFT LIBELLEN IN BADEN-WÜRTTEMBERG: Artenschutz in Mooren, Konzeption und Umsetzung.* (19-20 May 2000). SGL, Friesenheim. 27 pp. – (c/o F.-J. Schiel, INULA, Friesenheimer Hauptstr. 20, D-77948 Friesenheim).
[Papers with references to Odon.:] *Buchwald, R.*: Begrüssung und Einführung (p. 1); – *Schall, B.*: Artenschutz durch Prozessschutz am Beispiel des Wurzbacher Riedes (pp. 4-6); – *Kuhn, J.*: Pflegeproblematik in präalpinen Mooren am Beispiel von Libellen und Amphibien (p. 10); – *Wildermuth, H.*: Das Rotationsmodell zur Pflege kleiner Moorgewässer: Simulation naturgemässer Dynamik (pp. 11-13); – *Schiel, F.-J. & R. Buchwald*: Konzeption, Durchführung und erste Ergebnisse des LIFE-Natur, Projektes "Gefährdete Libellenarten in SW-Deutschland (Teil Leucorrhinia pectoralis) (pp. 23-26).

(13324) WIEWEL, R., 2000. Natuur & milieu. *Stadsblad*, Utrecht 46 (issue of 31 May): 11. (Dutch). – (Organizer: Natuurmonumenten, Noordereinde 54 b, NL-1243 JJ 's Graveland).
Includes a brief announcement and description of a family weekend-workshop on "dragonfly life", organized on 3-4 June 2000 by Natuurmonumenten at 's Graveland, the Netherlands.

(13325) *WILLIAMSONIA*. A publication of the Michigan Odonata Survey. Vol. 4, No. 2 (Spring 2000; received on 10 May), No. 3 (Summer 2000, received 1 Sept.). – (c/o Dr M.F. O'Brien, Insect Div., Mus. Zool., Univ. Michigan, 1109 Gaddes Ave, Ann Arbor, MI 48109-1079, USA).
[No. 2:] This is a "Beginner's Issue", including an "Entomological suppliers index", a list of North American odonatol. books, some examples of Michigan odon. larvae, etc. The sole technical article was contributed by *M. O'Brien*: Gliders on the move (pp. 4-5; on Tramea and Pantala). – Much of the presented information is of a considerable extralimital interest as well. – [No. 3:] *O'Brien, M.*: Summer reading bonanza: interesting new publications (pp. 1-2); – *Bright, E.*: A casual review of "Dragonfly larvae (Odonata); a guide to the identification [...] of Australian families [...], by J. Hawking & G. Theischinger (p. 2); – *Other new publications* (pp. 2-3); – *MOS in the news* (p. 3); – *Freeman, C.*: Field trip report (p. 3); – *O'Brien, M.*: Hines' sight (pp. 4-5); – *Farmer, J.*: News from South of Ann Arbor (p. 5); – *Swanson, G.B.*: Kent Co. dragonflies (p. 6); – *Charter, A.*: Port Huron SGA trip (p. 6; with records); – *O'Brien, M.*: Williamsonia lintneri trip in Mecosta Co. (pp. 6-7); – *Ross, S.*: Table of Sympetrum (Meadowhawk) male characteristics (p. 7).