

ODONATOLOGICAL ABSTRACTS

1981

- (13478) COWIE, B., 1981. The Fiji Aquatic Insect Survey, May-November 1980. *Envir. Stud. Rep. Inst. nat. Resour. Univ. Sth Pacific* 9: 1-17. — (c/o Dr A. Haynes, Govt Bldgs, P.O. Box 2431, Suva, Fiji). Refers to 2 described and 2 undescribed *Nesobasis* spp. from Vanuatu and to Dr T.W. Donnelly's 1972, 1973 and 1980 collections, containing "at least 13 new spp. that await description".

1986

- (13479) HAFNER, W., W. HONSIG-ERLENBURG & P. MILDNER, 1986. Faunistischer Bericht über die Thermen in Warmbad Villach. *Carinthia* (II) 96: 231-239. (With Engl. s.). — (First Author: Tefernerstr. 38/50, A-9500 Villach). Larval *Platycnemis pennipes*, *Onychogomphus forcipatus* and *Cordulia aenea* are recorded from thermal waters nr Villach, Carinthia, Austria. — For a review of the odon. fauna of this locality, see B. Kiauta, 1965, *Beaufortia* 13(152): 35-46.
- (13480) HAMBRIGHT, K.D., R.J. TREBatosKI, R.W. DRENNER & D. KETTLE, 1986. Experimental study of the impacts of Bluegill (*Lepomis macrochirus*) and Largemouth Bass (*Micropterus salmoides*) on pond community structure. *Can. J. Fish. aquat. Sci.* 43(6): 1171-1176. (With Fr. s.). — (Authors' current addresses unknown). The community impact of the 2 fish spp. was examined in a summer experimental pond study. Zygopteran and anisopteran larvae were suppressed in the presence of bluegill.

1990

- (13481) JAMET, J.-L., C. GARAVAGLIA, R. DAL MOLIN & D. SARGOS, 1990. Fécondité, croissance et régime alimentaire de la perche adulte (*Perca fluviatilis* L.) du Lac de Monate (Italie du Nord). *Riv. Idrobiol.* 29(2): 597-615. (With Engl. s.). — (First Author: Lab. Zool. & Parasitol., Univ. B. Pascal, F-63177 Aubière). The lake (alt. 266 m) is situated E of Lago Maggiore, N Italy. Odon. larvae represent a particularly important item in the perch diet throughout March.
- (13482) MASTRANTUONO, L., 1990. Composition and distribution of the zoobenthos associated with submerged macrophytes in Lake Albano (Italy) and environmental quality in the littoral. *Riv. Idrobiol.* 29(3): 709-727. — (Depto Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma). The lake is situated in the Latium Volcano area (alt. 293 m), central Italy. *Pyrrosoma nymphula* and *Somatochlora metallica* were recovered in samples from the depths of 0-4 and 4-8 m. Percentage values, based on annual mean abundances, are stated.

1991

- (13483) BARLOW, H.S., 1991. Dragonfly migration. *Malay. Nat.* 45(1/2): 13. — (Author's address not stated). A large number of *Pantala flavescens* were observed migrating in N-S direction, at Pahang, Malaysia, between 13.30 and 18.30 h, on 12-V-1991. At any time several hundred could be seen flying ca 4-5 m above the vegetation.

- (13484) **BEDJANIČ, M.**, 1991. Kačji pastir (Odonata favna ribnikov v Spodnjih Račah). *Zb. Povzetkov razisk. Nalog* (Srečanje mladih raziskovalcev Slovenije) 25: 26. (Slovene). – (Fram 117/A, SI-2313 Fram).
An indicative announcement [not a summary!] of the work described in OA 8094.

1992

- (13485) **DI GIOVANNI, M.V., E. GORETTI, V. TAMANTI, R. LE DONNE & A. MOTTI**, 1992. Studio limnologico di un biotopo sorgivo: il Lago de l'Aiso. *Riv. Idrobiol.* 31(1/3): 33-49, 1 col. pl. excl. (With Engl. s.). – (Dipto Biol. Anim. & Ecol., Univ. Perugia, Via Elce di Sotto, I-06123 Perugia).
The small limnocrenic lake (alt. 194 m) is situated between Bevagna and Cannara (Foligno, Perugia), Umbria, central Italy. *Libellula fulva* is recorded from its outflow.

1993

- (13486) **PISANENKO, A.D.**, 1993. [Odonata]. In: *Chirvonaya kniga Respubliki Belarus'*, pp. 196-200, Belarus. Encykloped., Minsk. (Belarus.). – (Author's last known address: Zool. Mus., Univ. Minsk, Belaruskaya St., Minsk, Belarus).
Redlisted in Belarus are: *Calopteryx splendens*, *Anax imperator*, *Cordulegaster boltonii*, *Leucorrhinia caudalis* and *Sympetrum pedemontanum*.
- (13487) **RIHA, S.**, 1993. *Še vedno nosimo otroška oblačila. – Wir tragen noch das Kinderkleid.* DZS, Ljubljana. 28 pp. ISBN 86-341-0867-8. (Slovene).
A Slovene edn of the 1990 German children book (Betz Verlag, Wien-München). On pp. 16-17 appears a beautiful, literary description of dragonfly larval life.

1994

- (13488) **HASTRICH, A.**, 1994. Makrozoobenthos in der mittleren und unteren Oder im Herbst 1992 und im historischen Vergleich. *Limnologica* 24(4): 369-388. (With Engl. s.). – (Ebereschallee 53, D-14050 Berlin).
Larval *Calopteryx splendens*, *Platycnemis pennipes* and (?) *Coenagrion pulchellum* are listed from the Neisse R., E Germany.

- (13489) **HAYNES, A.**, 1994. The effects of develop-

ment on Fijian island freshwater invertebrates. *Mem. Old Mus.* 36(1): 87-91. – (Govt Bldgs, P.O. Box 2431, Suva, Fiji).

Refers to the occurrence of the unidentified zygopt. larvae in the Nanuku Creek and the subsequent Lake Monasavu (Viti Levu, Fiji) before (Apr.-May 1977) and after (1977-1990) the Monasavu hydroelectric dam was built (1977-1982). The zygopt. survived until 1987-1989, but have completely disappeared by 1990.

- (13490) **HIGLER, L.W.G.**, 1994. Untersuchungen an Wasserinsekten zur Verwaltung von Gewässern in den Niederlanden. *Verh. westdt. Ent. Tag., Düsseldorf 1993*: 63-64. – (Hoogstraat 4, NL-3956 NA Leersum).
An abridged and updated version of the paper listed in OA 5733.

- (13491) **SCUDDER, G.G. & S. CANNINGS**, 1994. *British Columbia terrestrial and freshwater invertebrates: inventory priorities for and status of rare and endangered species.* Wildlife Br., Ministry Envir., Lands & Parks British Columbia, Victoria. 8 pp. ISBN none. – (Publishers: Wildlife Br., BC Environment, 780 Blanshard St., Victoria, BC, V8V 1X4, CA; – Second Author: BC Cons. Data Cent., Resource Inven. Br., P.O. Box 9344 Stn Prov. Govt, Victoria, BC, V8W 9M1, CA).
2 odon. spp. are mentioned: *Argia vivida* lives in British Columbia, Canada only in springs, especially hot springs (which present a rare and threatened habitat), and *Ischnura damula*, restricted to a relict population in Liard Hot Springs, is ranked as provincially rarest and most threatened sp.

1995

- (13492) **CANNINGS, S. & R. CANNINGS**, 1995. *Rare invertebrates of the South Okanagan.* Roy. British Columbia Mus. & BC Cons. Data Cent., Victoria. 6 pp. ISBN 0-7726-7546-5. – (Second Author: Roy. British Columbia Mus., P.O. Box 9815 Stn Prov. Govt, Victoria, BC, V8W 9W2, CA).
Argia vivida is among the spp. listed. In southern BC it lives around spring-fed pools and streams in a very few, scattered localities, mostly associated with hot springs. Most of these habitats are vulnerable. In S Okanagan only 2 sites are known (rangeland streams, originating in cold springs and disturbed by cattle). The habits of adults and larvae are described.

- (13493) **DYUZHAEVA, I.V. & I.V. LYUBVINA**, 1995.

Dopolnenie k faune strekoz (Odonata) Zhigulevskogo zapovednika. — [Additions to the odonate fauna of the Zhigulevski Reserve]. *Samarskaya Luka Byull.* 5(1): 193-195. (Russ.). — (Dept Biol., Samara St. Univ., Samara, Russia).
A commented list of 14 spp.; — Bahilova Polyana, Russia.

- (13494) KEILER, J.-A., 1995. Libellenlarvenreste (Odonata: Anisoptera) aus dem letztinterglazialen Travertin von Burgtonna/Thüringen. *Beitr. Geol. Thüringen* (N.F.) 2: 101-106. (With Engl. s.). — (Bereich Quartärpaläontol. Weimar, Inst. Geowiss., Univ. Jena, Steubenstr. 19a, D-99423 Weimar).
2 anisopteran larvae are described and illustrated from the Last Interglacial (Eemian) travertines of Burgtonna, Thuringia, central Germany. Possibly they are referable to 2 spp. These are the first Pleistocene odon. so far described from Thuringia.

- (13495) SRIVASTAVA, V.D. & C. SINHA, 1995. [Fauna of Meghalaya]. Odonata. *St. Fauna Ser. zool. Surv. India* 4(3): 33-154. — (Zool. Surv. India, 'M Block', New Alipore, Calcutta-700053, India).
A catalogue of 151 spp. hitherto recorded from the state of Meghalaya, India, with records, descriptive annotations, statements on habitats, and keys. — For a monographic treatment, with species descriptions and keys see OA 6232.

1996

- (13496) GAGINA, T.N., 1996. K faune strekoz (Odonata) zapovednika "Kuzneckiy Alatau". — [On the dragonfly (Odonata) fauna of the "Kuzneck Alatau" Reserve]. In: *Biocenoticheskie issledovaniya v zapovednike "Kuzneckiy Alatau"*, pp. 12-15, "Kuzneckiy Alatau", Novosibirsk. (Russ.). — (Dept Biol., Kemerovo St. Univ., Kemerovo, Russia).
The survey was mainly conducted in the upper Kiya R. basin (July 1994, 1995), Russia. 11 spp. are listed.

- (13497) MIYATAKE, Y., 1996. A list of the insect collection by Mr Hiroshi Aoki. *Spec. Publ. Osaka Mus. nat. Hist.* 28: iv+132 pp., 4 col. pls excl. (Jap., with Engl. title & taxonomic nomenclature). — (5-2-4-502, Shirakashi-cho, Kashihara, Nara, 634-0051, JA).
The odon. inventory is presented on pp. 1-6 (localities in Jap. script).

- (13498) MIZUBENO TOMODACHI, Saga (ISSN none),

Nos 6 (1 Feb. 1996), 7 (1 July 1996), 8 (31 March 1997), 9 (10 Feb. 1998), 10 (1 Aug. 1998). Published by Saga Tombo Kenkyu-kai [= Saga Dragonfly Research Association]. (Jap.). — (c/o Prof. Dr K. Higashi, Dept Appl. Biol. Sci., Fac. Agr., Saga Univ., Honjyo-machi 1, Saga, 840-8502, JA).

This odonatol. periodical is directed at, and written mostly by Primary School and Junior Highschool children. Aside of various meeting reports, the articles are bringing some interesting records and minor field observations. — Engl. abstracts of Nos 7, 9 and 10 are available from the Ed. of *Odonatologica*.

- (13499) SUI, J. & H. SUN, 1996. Odonata. In: *Insects of the Karakorum-Kunlun Mountains*, Vol. 2, pp. 38-39, Sci. Press, Beijing. ISBN 7-03-004740-0. (Chin., with Engl. s.). — (Shanghai Inst. Ent., Acad. Sinica, Chukung Rd (S) 225, Shanghai-200025, P.R. China).
Enallagma cyathigerum, *Ischnura lobata*, *Sympetma paedisca annulata*, *Anax parthenope julius*, *Libellula basilinea* and *Sympetrum imitans* are listed, mostly from alt. 1350-3500 m, VI/VIII-1987.

1997

- (13500) CANNINGS, R., 1997. Significant new Canadian Odonata records, 1973-1997: request for help. *Ontario Insects* 2(3): 41-42. — (Roy. British Columbia Mus., P.O. Box 9815 Stn Prov. Govt, Victoria, BC, V8W 9W2, CA).

A detailed call for information, required for the preparation of a 25-yr update list.

- (13501) CARPENTER, F.M., 1997. Insects. In: C.W. Shabica & A.A. Hay, [Eds], *Richardson's guide to the fossil fauna of Mazon Creek*, pp. 184-193, Northeastern Illinois Univ., Chicago, ISBN 0-925065-21-8. — (Author deceased, cf. OA 9772; — Publishers: 5500 North St Louis Ave, Chicago, IL 60625, USA).
Only 2 protodonate spp. are known from the Mazon Creek nodules; *Oligotypus makowskii* is mentioned and illustrated here. For the original description cf. OA 448.

- (13502) KUKALOWA-PECK, J., 1997. Mazon Creek insect fossils: the origin of insect wings and clues about the origin of insect metamorphosis. In: C.W. Shabica & A.A. Hay, [Eds], *Richardson's guide to the fossil fauna of Mazon Creek*, pp. 194-207, Northeastern Illinois Univ., Chicago, ISBN 0-925065-21-8. — (Author: Dept Earth Sci., Carleton Univ., Ottawa, ON,

K1S 5B6, CA; — Publishers: 5500 North St Louis Ave, Chicago, IL 60625, USA).

For a comprehensive abstract of Author's original paper on this subject see OA 2122 and cf. also OA 4320, 5967 and 7405.

- (13503) LASSWELL, J.L. & F.L. MITCHELL, 1997. Survey of dragonflies (Odonata: Anisoptera) in ponds of central Texas. *J. Kansas ent. Soc.* 70(1): 52-63. — (Texas Agric. Exp. Stn, Rte 2, Box 00, Stephenville, TX 76401, USA).
38 spp. were collected (Oct. 1994-Dec. 1995) from 12 ponds in Erath Co., W edge of the Texan biotic province, USA. Habitat preferences and other features of the evidenced adults and larvae are meticulously recorded.

- (13504) McGAW, P. & C. KING, 1997. Presqu'île-trip report. *Ontario Insects* 3(1): 2. — (Authors' addresses not stated).
4 odon. spp. are listed from Presqu'île Provincial Park, Ontario, Canada; 27-VII-1997. — M. Enright (*Ontario Insects* 4[2]: 36; 1999) lists 8 odon. gen. from the same park.

- (13505) VAN DER POORTEN, M., 1997. Branchton-trip report. *Ontario Insects* 3(1): 4. — (164 Morse St., Toronto, ON, M4M 2P8, CA).
5 odon. spp. are recorded, 19-VII-1997; — Ontario, Canada.

1998

- (13506) BRUNELLE, P.-M., 1998. *The status of Somatochlora semicineta Robert, 1954 (Odonata, Anisoptera, Corduliidae) in Nova Scotia*. Report on study under a 1998 Nova Scotia Research Grant, Halifax. 10 pp. — (2460 John St., Unit 1, Halifax, NS, B3K 4K7, CA).
A checklist is presented of 50 spp., evidenced during a 12-day survey, June 1998. Field observations on *S. brevicincta* and 10 other spp. of particular interest are recorded in detail, incl. habitat descriptions and some diagnostic annotations. For these, distributional maps are also included.
- (13507) NACHTIGALL, W., A KESEL & P. KREUZ, 1998. Der Grosslibellen-Flügel als Tragekonstruktion: Verformung durch Luftkräfte (Odonata: Anisoptera). *Entomol. gener.* 23(1/2): 139-148. (With Engl. s.). — (Zool. Inst., Univ. Saarland, D-66041 Saarbrücken).

Using a high speed shutter camcorder, changes of shape (twisting, camber and especially bending) of the wings of *Aeshna cyanea* and *Sympetrum vulgatum* were recorded in a natural environment during hovering, acceleration from hovering and fast vertical starting from a watching position. Extreme shape changes were documented by video. During normal flights (hovering, medium fast straight ahead flight), no wing bending was detected. Even at very fast beats during accelerations, bending was small (mean bending angle $\beta = 6^\circ$) but there are stronger shape changes in some cases of extreme beating. The nodus is an element that allows for a certain local bending between the distal and basal wing part. It is working even at lower aerodynamical loading. Its morphology is functionally interpreted. Wing bending is simulated with Finite Element calculations and compared with field observations.

1999

- (13508) *AESCHNA*, Osaka (ISSN 1341-1047), No. 36 (30 Oct. 1999). (Mostly Jap., with Engl. titles, some papers with Engl. s's). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545-0004, JA).
Inoue, K.: [Perching ♂ *Aeshna grandis*, Espoo, Finland, 15-VIII-1995] (cover phot.); — *Nishida, T.*: The Odonata collected in the United States of America, mainly in the state of Michigan (pp. 1-20); — *Yoshida, M., T. Yagi & R. Futahashi*: Early records of some Odonata in 1998 in central Japan (pp. 21-24); — *Kawashima, I. & S. Itoh*: Notes on the last instar larva of *Somatochlora alpestris* (Selys, 1840) (Odonata, Corduliidae) from Hokkaido, northern Japan (pp. 25-31); — *Karube, H.*: A note on *Zyxomma obtusum* Albarda caught with light traps (p. 32); — *Futahashi, R. & H. Futahashi*: Records of large scale migration of *Sympetrum cordulegaster* (Selys) and *S. depressiusculum* (Selys) in 1997 and emergence of both species in 1998 at Toyama pref. (pp. 33-42); — *Moriyasu, T.*: Notes on molting and regeneration of anterior leg in the larvae of *Macromia daimoji* Okumura (pp. 43-45); — *Yoshida, M. & K. Ohkubo*: A record of *Anax guttatus* (Burmeister) in late season (p. 46); — *Futahashi, R.*: Notes on unusual connection in some species of dragonflies (pp. 47-56); — *Hujiwara, H. & T. Adachi*: Records of the emergence of *Macromia daimoji* Okumura from Asida river at Hirosima prefecture (pp. 57-58); — *Kitagawa, K. & H. Ichi*: Records of the Odonata from southern

- Thailand (pp. 59-68).
- (13509) BECHLY, G., 1999. *Phylogeny and systematics of fossil dragonflies (Insecta: Odonoptera), with special reference to some Mesozoic outcrops*. PhD thesis, Univ. Tübingen, Tübingen. x+755 pp. — (Staat. Mus. Tierk., Rosenstein 1, D-70191 Stuttgart). [Not available for abstracting.]
- (13510) BOWLES, B., 1999. 1999 Carden Alvar odonate count. *Ontario Insects* 5(1): 17. — (374 Grenville, Orilla, ON, L3V 7P7, CA). A checklist of 23 spp., Ontario, Canada.
- (13511) BOWLES, B., 1999. 1999 Pelee Island butterfly count. *Ontario Insects* 5(1): 12. — (374 Grenville, Orilla, ON, L3V 7P7, CA). Includes a list of 11 odon. spp., evidenced on Pelee Island, Ontario, Canada in 1999.
- (13512) BRUNELLE, P.-M., 1999. Additions to the lists of dragonflies (Odonata: Anisoptera) of the Atlantic provinces, Canada. *Neast. Naturalist* 6(1): 35-38. — (2460 John St., Unit 1, Halifax, NS, B3K 4K7, CA). With reference to the paper listed in *OA* 11682, the new additions are bringing up the numbers of spp. per list as follows: Atlantic provinces (Newfoundland, Labrador and the Maritime provinces) 131 spp., Maritime provinces 130 spp., New Brunswick 122 spp., Nova Scotia 114 spp., and Prince Edward Island 60 spp.
- (13513) BRUNELLE, P.-M., 1999. Distribution of damselflies and dragonflies (Odonata) of Maine, United States. *Neast. Naturalist* 6(2): 95-118. — (2460 John St., Unit 1, Halifax, NS, B3K 4K7, CA). The history of odonotol. exploration of Maine, USA is traced from 1890 to present. A review is provided of the odon. fauna of the state (155 spp.), based on literature, public collections, private holdings and recent surveys. Distribution to township level and flight periods for all spp. are stated, and notes on 26 currently state-listed spp. are appended.
- (13514) BUCZYNSKI, P., 1999. Dragonflies (Odonata) of sandpits in south-eastern Poland. *Acta hydrobiol.* 41(3/4): 219-230. — (Dept Zool., Maria Curie Skłodowska Univ., Akademicka 19, PO-20033 Lublin). The fauna, mainly based on larval communities, was studied in 10 sandpits, 1996-1998. 41 spp. were identified, of which 28 were autochthonous and 6 probably so. The (rapid) community succession is described; the noteworthy spp. are *Lestes barbarus*, *Aeshna affinis*, *Hemianax ephippiger*, *Sympetrum fonscolombii* and *S. meridionale*.
- (13515) *BULLETIN OF THE HOKKAIDO ODONATOLOGICAL SOCIETY*, Vol. 11 (June 1999). (Jap.). — (c/o Prof. Dr H. Ubukata, Dept Sci. Educ., Kushiro Coll., Hokkaido Univ. Educ., Shiroyama 1-15-55, Kushiro, 085-8580, JA).
Hiratuka, K.: *Sympetrum* frequens taken at Mt Hachiken-zan, Sapporo (p. 1); — Odonata of Horonobe-cho, northern part of Rumoi district (pp. 2-4); — *Yokoyama, T. & T. Fujibayashi*: Dragonflies of Ebetsu city, 2: records of *Somatochlora clavata* in Nishi-Nopporo (pp. 5-7); — *Yokoyama, T.*: Winter emergence of indoor reared *Aeshnophlebia longistigma* (p. 8); — *Akaishi, S. & T. Yokoyama*: *Somatochlora viridiaenea*, the 41st odonate species at the Nishioka reservoir, Sapporo city (p. 9); — *Wataji, M., F. Maruyama, M. Kanou, T. Yoshinuma & M. Taguchi*: Current status, behaviour and life history of *Nehalennia speciosa* (Coenagrionidae; Odonata) at the Shinoro Fukui bog, a disappearing habitat in the Ishikari river wetlands, Hokkaido, 1: adult stage (pp. 10-18).
- (13516) CATLING, P.M., 1999. Damselflies of Ontario: potential additions and recent range extensions. *Ontario Insects* 4(3): 56-57. — (2326 Scrivens Dr., RR3 Metcalfe, ON, K0A 2P0, CA). *Archilestes grandis*, *Enallagma divagans*, *Ischnura dammula* and *I. kellicotti* are emphasized, and a list of some other possible candidates is added, all documented with bibliographic references. — For a similar paper on Anisoptera, see *OA* 13563.
- (13517) CATLING, P.M., 1999. Good news: the 1999 Ontario Odonata Summary. *Ontario Insects* 4(3): 48-52. — (2326 Scrivens Dr., RR3 Metcalfe, ON, K0A 2P0, CA). The objectives and technical details of this Toronto Ent. Soc. project are described by the Provincial Compiler. Of general interest is a concise description of some of the specimen preservation methods. — A call for records, by the same Author, has appeared (2000) in *Ontario Insects* 5(3): 71.
- (13518) CHAKRABORTY, R., A. GUPTA, S. BISWAS & M. CHATTERJEE, 1999. New records of *Hydrobasileus croceus* (Brauer) and *Brachydiplax*

- chalybea Brauer (Insecta: Odonata: Libellulidae) from the state of Orissa, India. *Rec. zool. Surv. India* 97(4): 189-190. – (Zool. Surv. India, 27 Nehru Rd, Calcutta-700016, India).
- Satapada (Puri), Orissa, India; 24/28-III-1997: 1 ♀ *H. croceus* (new for Orissa and E India), 1 ♀ *R. chalybea* (new for Orissa).
- (13519) CONRAD, K.F., K.H. WILLSON, I.F. HARVEY, C.J. THOMAS & T.N. SHERRATT, 1999. Dispersal characteristics of seven odonate species in an agricultural landscape. *Ecography* 22(5): 524-531. – (First Author: Dept Biol. Sci., Durham Univ., Durham, DH1 3LE, UK).
- This is the first large-scale multi-spp. study to assess odon. dispersal behaviour by direct observation. Capture-mark-recapture techniques were used at 11 small ponds in Cheshire, UK; *Coenagrion puella*, *C. pulchellum*, *Enallagma cyathigerum*, *Ischnura elegans*, *Pyrrosoma nymphula*, *Lestes sponsa* and *Sympetrum sanguineum* were studied. Surprisingly high dispersal rates were found between ponds. The mean probability of dispersal differed significantly among spp., but the relationship between the probability of dispersal and distance moved consistently followed a simple negative exponential curve for all spp.
- (13520) FEDERSCHMIDT, A., 1999. Die Libellen der Taube und angrenzender Gräben auf dem Gebiet der Stadt Dessau. *Naturw. Beitr. Mus. Dessau* 11: 66-73. – (LPR Landschaftsplanung Dr. Reichhoff, Ausseinst. Magdeburg, Am Vogelgesang 2a, D-39124 Magdeburg).
- The odon. fauna (27 spp.) of the Taube R. and the adjacent ditches in the city area of Dessau, Sachsen-Anhalt, E Germany is reviewed and briefly discussed with references to the redlisted spp.
- (13521) FRASERIA. (New Series), South Asian Bulletin of Odonatology, Vol. 6, No. 1/2 (dated Dec. 1999; published Sept. 2000). – (Orders outside SE Asia: c/o *Odonatologica*, P.O. Box 256, NL-3720 AG Bilthoven); – Annual subscription US\$ 10.- net).
- Khatiq, A. & F. Maula*: Records of dragonflies from Swat valley, Pakistan (pp. 1-2); – *Kumar, A. & P. Kumari*: Population dynamics of the zygopteran larvae in a fish-pond (pp. 3-8); – *Surbamanian, M.A. & A. Reniprabha*: Tannery effluent acting as a metabolic stressor on the larvae of dragonfly *Pantala flavescens* (Fabricius) (Libellulidae: Anisoptera) (pp. 9-12); – *Singh, J. & A. Singh*: New records of dragonflies from Haryana state (India) (pp. 13-14); – *Walia, G.K. & R. Sandhu*: Autosomal fragmentation in five species of the family Coenagrionidae (pp. 15-20); – *Mitra, T.R.*: Diversity and zoo-centres of Indian Odonata (pp. 21-28); – *Surbamanian, M. A. & S. Muralidharan*: The effect of tannery effluent on rectal gills and oxygen consumption of the larvae of dragonfly *Pantala flavescens* (Fabricius) (Libellulidae: Anisoptera) (pp. 29-31); – (*Anonymous*): Obituary Dr S.K. Sangal (p. 32).
- (13522) FUDALEWICZ-NIEMCZYK, W., A. PETRYSZAK & M. ROSCISZEWSKA, 1999. Cuticular sensory organs of the mouthparts of larvae of the dragonfly *Libellula* (Odonata: Libellulidae). *Acta biol. cracov. (Zool.)* 41: 25-33. – Dept Zool. & Ecol., Agric. Univ., Al. Mickiewicza 24/28, PL-30059 Cracow).
- On the mouthparts of larval *L. depressa* and *L. quadrimaculata* the following sensory organs were identified: sensilla trichodea, s. chaetica, s. coeloconica, s. papillacea, s. campaniformia, s. canaliculata, and hair plates. The occurrence and arrangement of sensilla are compared between the larva and imago. It is suggested that sensilla can be helpful in determining the homology of modified appendages. – Cf. OA 2086.
- (13523) HEDGE, T.A. & T.E. CROUCH, 1999. Clarification of the names *Orthetrum julia falsum* Longfield, 1955 and *O. julia capicola* Kimmins, 1957 (Odonata: Anisoptera: Libellulidae). *Afr. Ent.* 7(2): 302-304. – (Durban Nat. Sci. Mus., P.O. Box 4085, Durban-4000, SA).
- It is shown that the correct names for the 2 spp. of *O. julia* that occur in S. Africa are *O. j. capicola* Kimmins and *O. j. falsum* Longfield.
- (13524) HIDAKA, T., 1999. Probably the oldest helicopter: Odonata. *Insectarium*, Tokyo 36(12): 10-11. (Jap., with Engl. title). – (Author's address not stated).
- General, by the President of the Shiga Prefectural Univ. Of interest is the statement on pterostigmas' role in flight aerodynamics; as stabilizers, preventing wing fluttering at high-speed flight. Following the dragonfly model, this principle was adopted also in aircraft construction, where some charge is put at the places corresponding to the pterostigma location.
- (13525) HONCŪ, M., 1999. Beitrag zur Kenntnis der

- Entomofauna des Lausitzer Gebirges (Tschechische Republik). *Ber. naturf. Ges. Oberlausitz* 7/8: 119-122. – (Okresni Muz., CZ-47001 Česká Lipa).
Cordulegaster boltonii is recorded from the mountain range of Lužické Hory, N. Bohemia, Czech Republic.
- (13526) LANG, C., 1999. *Zur Biologie und Mikrohabitatwahl der Larven von Cordulegaster heros Theischinger, 1979 und Cordulegaster bidentata Selys, 1843 (Insecta: Odonata) in Weidlingbach (Niederösterreich)*. MagisterArb. Univ. Wien. vi+97 pp. (With Engl. s.). – (Inst. Ökol. u. Naturschutz, Univ. Wien, Althanstr. 14, A-1090 Wien).
 The field work was conducted (May 1997-Apr.1998) in the catchment area of the Weidlingbach, Lower Austria. *C. heros* larvae are larger than *C. bidentata*, and so are the ♀♀ compared to the ♂♂. The last 5 (out of 14) instars are particularly well differentiated. They hibernate at the final stage and emerge in May/June. Some differences, relative to hydrological parameters were recorded between the 2 spp. *C. heros* tolerates higher velocities and water depth than *C. bidentata*. Especially the earlier *bidentata* instars often colonize microhabitats at the margin of the brook. The 2 spp. are able to syntopically colonize a brook, but *C. bidentata* prefers smaller waters, with lower velocity, higher conductivity and higher hardness than *C. heros*. This was reflected also in the abundance of the 2 spp. at some sampling sites.
- (13527) MERTA, L., 1999. Physical-chemical characteristics and seasonal succession of macroinvertebrate community in the floodplain pools of the Odra river. *Čas. slez. Muz. Opava (A)* 48(3): 237-247. (With Czech s.). – (Dept Ecol., Fac. Nat. Sci., Palacký Univ., Svobody 26, CZ-77146 Olomouc).
 The study was conducted at 6 pools nr the village of Suchdol-nad-Odrou, NE Czech Republic. 5 odon. spp. are listed.
- (13528) MÜLLER, H., 1999. *Phänologie und Ökologie der Imagines von Cordulegaster heros Theischinger, 1979 und Cordulegaster bidentata Selys, 1843 (Insecta: Odonata) an Weidlingbach (Niederösterreich)*. MagisterArb. Univ. Wien. vi+90 pp. (With Engl. s.). – (Inst. Ökol. u. Naturschutz, Univ. Wien, Althanstr. 14, A-1090 Wien).
 The field work was conducted (June-Aug. 1997 & 1998) in the catchment area of the Weidlingbach, Lower Austria. *C. heros* individuals are larger than *C. bidentata*. The latter appear 7 days earlier on the stream.
- C. bidentata* ♂♂ largely patrol smaller brooks (width up to 200 cm), mainly in the upstream direction, and return to the starting point in rapid flight over land. *C. heros* fly along larger streams (with up to 350 cm), in upward and downward direction. Subsequent to copulation (in bank vegetation, >40 min), oviposition takes place in shallow water (max. depth ca 4 cm), 1-2 strikes/s (>100 at suitable sites).
- (13529) MUSTOW, S.E., 1999. Lotic macroinvertebrate assemblages in northern Thailand: altitudinal and longitudinal distribution and the effects of pollution. *Nat. Hist. Bull. Siam Soc.* 47(2): 225-252. – (9 Knighton Rd, Sutton Coldfield, West Midl., B74 4NY, UK).
 The principal physico-chemical features were measured and the fauna sampled at 23 sites in the Ping R. basin, SW of Chiang Mai. The odon. were family-wise considered. Generally, reduction in diversity at severely polluted sites was smaller than in similarly impacted sites in temperate region.
- (13530) OYEDTRAN, I.O., E.A. HEINRICH & D.E. JOHNSON, 1999. Abundance of rice arthropods and weeds on the continuum toposequence in a West African inland valley. *Insect Sci. Applic.* 19(2/3): 109-119. (With Fr. s.). – (Second Author: Dept Ent., Univ. Nebraska, Lincoln, NE, USA).
 A 2-yr study was conducted to determine the abundance of rice arthropods as affected by weeding regimes and toposequence sites, from upland to lowland, in Côte d'Ivoire. The odon. were considered family-wise. Weeding regime had an effect on their abundance, varying with toposequence site. A species list is not presented.
- (13531) POTRYKUS, W., C. STRATZ & S. WEIO, 1999. Zum Vorkommen der Gemeinen Keiljungfer (*Gomphus vulgatissimus* [Linnaeus, 1758]) in Oberfranken. *Ber. naturf. Ges. Bamberg* 73: 51-64. – (First Author: Domstr. 11, D-96049 Bamberg).
 53 records from Upper Franconia, Germany are listed, along with comprehensive notes on regional habitats, ecology and biology of *G. vulgatissimus*.
- (13532) RAM, R. & M. PRASAD, 1999. On the collection of Odonata from Arunachal Pradesh, India. *Rec. zool. Surv. India* 97(2): 113-132. – (Zool. Surv. India, M-Block, New Alipore, Calcutta-700053, India).
 A list is presented of 92 spp., deposited in the Natm. Colls of the Zool. Surv. India, Calcutta, with collection

- data and some annotations. 15 spp. are new to the fauna of Arunachal Pradesh, NE India.
- (13533) ROLFF, J., 1999. Parasitism increases offspring size in a damselfly: experimental evidence for parasite-mediated maternal effects. *Anim. Behav.* 58: 1105-1108. — (Zool. Inst., Techn. Univ., Fasanenstr. 3, D-38092 Braunschweig).
The effects of parasites on host fitness and the fitness effects on maternal parameters are discussed. Both aspects were linked in an experiment, where the ecoparasite load (Acari: *Arrenurus cuspidator*) of *Coenagrion puella* was manipulated. It was found that larvae from mothers with high parasite loads were larger than those from mothers with low parasite loads. There was a negative correlation between the number of eggs laid and parasite load. Parasitized mothers seemed to have fewer, but probably better, offspring. The ecological significance of these parasite-mediated effects remains to be tested. However, size-dependent cannibalism almost certainly has important consequences for population dynamics.
- (13534) RYCHNOVSKÝ, B., 1999. Vážka čárkovaná (*Leucorrhinia dubia* [Vander Linden, 1825]) Odonata. *Drosera* 5(7): 24-26. (Czech). — (Smetanova 500, CZ-66501 Rosice).
A review of the recent Czech records, with bibliography and 2 distribution maps.
- (13535) RYCHNOVSKÝ, B., 1999. Vážky ve Žďárských vrších. — [Dragonflies of the Žďárské Hills]. *Drosera* 5(7): 22-23. (Czech). — (Smetanova 500, CZ-66501 Rosice).
A checklist of 22 spp.; — Czech Republic.
- (13536) SOUTHCOTT, R.V., 1999. Larvae of *Leptus* (Acarina: Erythraeidae), free-living or ectoparasitic on arachnids and lower insects of Australia and Papua New Guinea, with descriptions of reared post-larval instars. *Zool. J. Linn. Soc.* 127: 113-276. — (Author deceased).
A "dragonfly" is recorded as one of the hosts of *L. draco* larvae in New Guinea. Originally, the sp. was described from 3 larvae, ectoparasitic on *Neopromachus* sp. (Phasmatodea), while tettigoniids are also utilized as hosts.
- (13537) STAV, G., L. BLAUSTEIN & J. MARGALITH, 1999. Experimental evidence for predation risk sensitive oviposition by a mosquito, *Culiseta longiareolata*. *Ecol. Ent.* 24(2): 202-207. — (Second Author: Lab. Community Ecol., Inst. Evol., Univ. Haifa, Haifa-31905, Israel).
♀♀ should choose oviposition sites where risks of predation and competition are low. The oviposition responses of *C. longiareolata* to a predator and to sp. sharing the same trophic level as this mosquito were assessed experimentally in outdoor artificial pools. The predator, larval *Anax imperator*, which strongly reduced larval *C. longiareolata* survival, resulted in a 52% reduction of *C. longiareolata* egg rafts. The controphic sp. (primarily *Daphnia magna*), which had a small but statistically significant negative effect on the survival of *C. longiareolata* larvae did not have a statistically significant influence on the number of egg rafts. Laboratory trials indicated that only a small fraction of the reduced number of egg rafts seen in predator pools may be due to consumption of the egg rafts by *A. imperator*. The experimental evidence indicates that the reduced number of *C. longiareolata* egg rafts found in the presence of *A. imperator* is due largely to oviposition habitat selection, i.e. *C. longiareolata* ♀♀ choose pools with low risk of predation for their offspring.
- (13538) TROCKUR, B. & A. DIDION, 1999. Fortpflanzungsnachweise der Zierlichen Moosjungfer, *Leucorrhinia caudalis* Charpentier, 1840 im Moseltal. *Delattinia* 25: 57-66. (With Engl. s.). — (First Author: Schulstr. 4, D-66636 Tholey-Scheuern).
Between 1996-1999, adult *L. caudalis* ♂♂ were repeatedly recorded from gravel pits in the Mosel Valley, i.e. nr Nennig (Saarland, Germany) and nr Remich (Luxembourg). Successful reproduction was evidenced in May 1999. High water transparency and rich submerged (at places also floating) vegetation are characteristic features of these habitats.
- (13539) YOUNG, D., 1999. Dances with dragonflies: Paul-Michael Brunelle's singular passion netted a new species of Odonata. *Can. Geographic* 1999 (Sept./Oct.): 61-64. — (c/o P.-M. Brunelle, 2460 John St., Unit 1, Halifax, NS, B3X 4K7, CA).
A biographic article on the work of the noted Canadian odonatologist, with a portrait.

2000

- (13540) ABSTRACTS OF PAPERS PRESENTED AT THE ANNUAL MEETING OF THE JAPANESE SOCIETY OF ODONATOLOGY, 2000. Edited by S.

- Nishu, published by Jap. Soc. Odonatol., Shiojiri, 22 pp. (Jap.).
- P a p e r s: *Arai, Y.*: A comparative study of behaviour in *Lestes sponsa* and *L. temporalis* (pp. 1-2); – *Karube, H.*: Notes on two undescribed *Planaeschna* species (p. 3); – *Inoue, K. & H. Yokota*: A new *Somatochlora* species from Taiwan (p. 4); – *Muraki, A.*: Taxonomic considerations on the *Macromia amphigena*-group (p. 5); – *Oshima, Y. & H. Karube*: *Davidius moiwanus sawanoi* in Okayama prefecture (p. 6); – *Suzuki, K.*: Odonata wings: some new comparative morphological approaches (pp. 7-8); – *Kagimoto, B.*: Some background information re the discovery of *Orthetrum poecilops miyajimaensis* Yuki & Doi (pp. 9-10); – *Matsuki, K.*: On the problems of prefectural Red Data Books: the case of Chiba prefecture (pp. 11-12); – *Yoshida, N.*: Ranking of redlisted species (p. 13). – P o s t e r s: *Shimura, S.*: Eggs of Kinki district *Sympetrum* species (pp. 14-15); – *Watanabe, Y.*: On some remarkable morphological features in the first and early instars of odonate larvae (p. 16); – *Nakatani, M. & H. Ubukata*: Odonata collected in 2000 in the Kuriles, by the International Kurile Islands Team (p. 17); – *Kurashina, H.*: A note on the difference in emergence dates of *Libellula angelina* in different areas of the Noyori Shin Pond (p. 18); – *Fukui, J.*: Breeding of *Libellula angelina* in Okegayanuma Marsh, Iwata City (pp. 19-20); – *Ugai, S.*: Dragonfly pictures by image scanner (pp. 21-22).
- (13541) ANHOLT, B.R., E. WERNER & D.K. SKELLY, 2000. Effect of food and predators on the activity of four larval ranid frogs. *Ecology* 81(12): 3509-3521. – (First Author: Dept Biol., Univ. Victoria, P.O. Box 3020, Stn CSC, Victoria, BC, V8W 3N5, CA).
When animals are more active they encounter both more food and more predators. Thus, activity rates mediate a trend-off between growth rates and predation risk. Models of the trade-off generally, but not exclusively, predict reduced activity when resource availability increases or when predation risk increases. In a laboratory settling, larval *Rana coatesbeiana*, *R. clamitans*, *R. pipiens* and *R. sylvatica* were videotaped. F-1 and F-2 *Anax junius* larvae were the predators. Changes in activity level, in response to changes in food and predator density, were measured. Overall, spp. reduced both the proportion of time active and swimming speed with increase in resource level and predator density. These effects were additive. Regardless of food level, additional predators reduced activity levels to similar amounts in all 4 spp.
- (13542) ARGIA. The news journal of the Dragonfly Society of the Americas (ISSN 1061-8503), Vol. 12, No. 3 (10 Oct. 2000). – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA). [Signed articles:] *Glotzhofer, B.*: Bernie V. Counts Jr (pp. 3-4; obituary); – *Hutchings, G.*: DSA Annual Meeting, 27 July-4 August 2000, British Columbia (pp. 4-6); – *Cannings, R. & S. Cannings*: Post-Meeting field trip (pp. 6-7); – *Wagner, D.L.*: Dragonfly and Damselfly Workshop, University of Connecticut (p. 8); – *Cashatt, T.*: Hine's Emerald Workshop 2000 (pp. 8-10); – *Nikula, B.*: Bog hopping and stream sloshing in the Maine woods (pp. 10-12); – *Donnelly, N.*: Na-nick of the North strikes again: a visit to Churchill, Manitoba (pp. 12-13); – *Behrstock, R.A.*: Results of a brief odonate survey at East Sandia Spring, Reeves Co., Texas, including a new state record of Paiute Dancer (*Argia alberta* Kennedy, 1918 (pp. 13-15); – *Dunkle, S.*: Fun in Oz (pp. 15-18; Australia, with records); – *Donnelly, N.*: Farango 2000: Hong Kong, Thailand and Cambodia (pp. 18-22; with records); – *Barlow, A.E.*: Additions to the checklist of Odonata from New Jersey (pp. 21-25); – *Paulson, D.*: New records from Washington and Idaho (pp. 25-26); – *Laudermilk, E.*: New Kentucky records (pp. 26-27); – *Beckemeyer, R.J.*: Some county Odonata records for Kansas and Nebraska for 1999 and 2000 (pp. 27-28); – *Donnelly, N.*: Late records in the northeastern United States and eastern Canada (p. 28); – *Ramos Hernández, J.M.*: Geographic distribution of *Crocothemis servilia* (Drury) (Odonata: Libellulidae) in Cuba (pp. 28-29); – *Mauffray, B., S. Roble & K. Tennesen*: New state records of Odonata for West Virginia in the collection of the late Paul D. Harwood (pp. 29-31); – *Donnelly, N.*: Dot-map project: hung up on *Lestes*? (pp. 31-32); – *Dunkle, S.*: Snakes eating adult odonates (p. 32); – *Barlow, A.E.*: Observation of Odonata utilizing ants as prey (pp. 32-33); – *Donnelly, N.*: History of American Odonata studies: Edmund N. Walker (pp. 33-35); – *Beckemeyer, R.*: Dragonfly dogs: canine collecting companions (pp. 35-36); – Some arcane dragonfly publications from the past (pp. 36-37); – *Daigle, J.J.*: 2000 DSA Financial Report (p. 41). – The issue also contains 3 book reviews, several announcements and notifications, and a brief Web-Section, *Tramea* (by N. Donnelly).
- (13543) ARTMEYER, C., A. FRONEK, C. GÖCKING,

- M. HÄUSLER, N. MENKE, C. WILLIGALLA & S. WINTER, 2000. Die Libellenfauna der Stadt Münster. *Abh. westf. Mus. Naturk.* 62(4): 3-73. (With Engl. s.). — (c/o C. Göcking, Zum Hiltruper See 9, D-48165 Münster).
- A monograph on the past and current odon. fauna of the urban area of Münster, Germany. Since the early 19th century, 57 spp. were recorded, of which 43 spp. were evidenced during 1996-1999 (30 autochthonous, 19 redlisted).
- (13544) BAUMANN, W., 2000. Zwergdommel fischt mit Köder! *Falke* 47(11): 346. — (Heuweg 20, D-72417 Jungingen).
- During 5-24 June 2000, the Author watched at the Danube oxbow in Lipot, Hungary, a Little Bittern (*Ixobrychus minutus*) fishing every evening in the reeds. It perched low on reed stem, grasped a dragonfly from the reeds, dropped it on the water table at the upstream side of its perching site, and watched it drifting past its position. If a fish approached the drifting dragonfly, the bird snapped it. When the drifting dragonfly came within the bird's reach, it picked it up and dropped it again into the water upstream of its position. When the dragonfly has gotten worn out, the bird took another one. It continued fishing in this way for about one hour, and spent ca 10 dragonflies during this time. — For a similar behaviour in Striated Heron (*Butorides striatus*) see OA 11059.
- (13545) BECHLY, G., 2000. Mainstream cladistics versus Hennigian phylogenetic systematics. *Stuttg. Beitr. Naturk.* (A) 613: 1-11. (With Germ. s.). — (Staat. Mus. Naturk., Rosenstein 1, D-70191 Stuttgart).
- Mainstream cladistic methods are shown to be fundamentally different from traditional Hennigian phylogenetic systematics, and indeed seem to have more in common with phenetics. Like phenetics, the general approach of mainstream cladistics has to be regarded as being rooted in formalism rather than realism. It is explained that parsimony implies more than the minimization of steps in cladograms, and that a priori homologization, polarization and weighting are inevitable procedures of phylogenetic systematic analysis. Consequently it is concluded that genuine phylogenetic systematics should be preferred over mainstream cladistics. — The paper includes a comment on the odon. publication of J.W.H. Trueman (1996, *Odonatologica* 25: 59-72).
- (13546) BECHLY, G., 2000. Two new fossil dragonfly species (Insecta: Odonata: Pananisoptera: Aeschnidiidae and Aktassiidae) from the Solnhofen Lithographic Limestones (Upper Jurassic, Germany). *Stuttg. Beitr. Naturk.* (B) 288: 1-9. (With Germ. s.). — (Staat. Mus. Naturk., Rosenstein 1, D-70191 Stuttgart).
- Solnhofenia stoebeneri gen. n., sp. n. (holotype in SMNA, Stuttgart) and Aeschnogomphus kuempeli sp. n. (holotype in Jura Mus., Eichstätt) are described. S. stoebeneri is the sixth Aeschnidiidae sp. from this locality in Bavaria. A. kuempeli is one of the biggest dragonflies known from the Post-Triassic Mesozoic and Cenozoic.
- (13547) BEDJANIČ, M., 2000. *Analiza stanja biotske raznovrstnosti Slovenije: kačji pastirji* (Insecta: Odonata). — [Analysis of the status of biotic diversity in Slovenia: dragonflies (Insecta: Odonata)]. Directorate of the Republic of Slovenia for Nature Manag., Fram. 34 pp. (Slovene). — (Fram 117/A, SI-2313 Fram).
- An analysis of the threats to the odon. fauna of Slovenia, with a review of the regions essential for its conservation, and a documented draft of a revised national Red List.
- (13548) BEDJANIČ, M., 2000. *Proposals for addition to the Annexes of the Habitat Directive: Cordulegaster heros Theischinger, 1979*. MOP-URSVN, Ljubljana. 6 pp. (Slovene). — (Fram 117/A, SI-2313 Fram).
- A formal and documented proposal by the Government of Slovenia for inclusion in Annexes II and IV.
- (13549) BERNARD, R., 2000. Stan wiedzy o występowaniu i biologii *Cordulegaster boltonii* (Donovan, 1807) w Polsce (Odonata: Cordulegastridae). — State of knowledge of the occurrence and biology of *Cordulegaster boltonii* (Donovan, 1807) in Poland (Odonata: Cordulegastridae). *Rocz. nauk. pol. Tow. Ochr. Przyr. 'Salamandra'* 4: 55-87. (Pol., with Engl. s.). — (Dept Gen. Zool., Mickiewicz Univ., ul. Fredry 10, PO-61-701 Poznan).
- All literature records are summarized and new localities are added. The information on distribution, habitats, flight periods, location of exuviae and on selected aspects of behaviour of this sp. in Poland are presented and discussed, and some protective measures are proposed.
- (13550) BINOT-HAFKE, M., R. BUCHWALD, H.-J. CLAUSNITZER, H. DONATH, H. HUNGER, J. KUHN, J. OTT, W. PIPER, F.-J. SCHIEL & M.

- WINTERHOLLER, 2000. Ermittlung der Gefährdungsursachen von Tierarten der roten Liste am Beispiel der gefährdeten Libellen Deutschlands: Projektkonzeption und Ergebnisse. *Natur Landschaft* 75(9/10): 393-401. (With Engl. s.). — (c/o Dr J. Ott, LUPO, Friedhofstr. 28, D-67705 Trippstadt).
A national project, aiming at the compilation of causes of threat to redlisted animals, was here tested on dragonflies. The results confirm the methodology adopted.
- (13551) BLOMENKAMP, K., 2000. Die Odonatenfauna einer ehemaligen Kiesgrube (heute flächenhaftes Naturdenkmal) in Düsseldorf/Kaiserswerth. *Verh. westdt. Ent. Tag., Düsseldorf* 1998: 147-156. — (Biol. Didaktik, FB9/S05, Univ. Essen, D-45117 Essen).
The odon. fauna (27 spp.) of a former gravelpit, N Düsseldorf, Germany, is described and discussed from the point of view of conservation of the locality (Spee Lake).
- (13552) BOGDANOVIĆ, T., 2000. Evaluation of the dragonfly (Odonata) number by method of minimum squares. *Int. Ass. Danube Res.* 33: 507-514. (With Germ. s.). — (Dept Biol., Fac. Educ., Strossmayer Univ., Jägera 9, CRO-31000 Osijek).
This is a mathematical paper, based on the odon. fauna (9 spp.) of the Miljacka Pond nr Nard, Croatia. — For the fauna treatment, see OA 10956.
- (13553) BONET BETORET, C., 2000. Expansión de *Trithemis annulata* en Europa en los años 80 y 90 (Odonata). *Boln Soc. ent. aragon.* 27: 85-86. — (C. Linterna 28, ES-46001 Valencia).
A commented review of the 1984-1994 records, with bibliography.
- (13554) BRUNELLE, P.-M., 2000. A new species of *Neurocordulia* (Odonata: Anisoptera: Corduliidae) from eastern North America. *Can. Ent.* 132(1): 38-48. (With Fr. s.). — (2460 John St., Unit 1, Halifax, NS, B3K 4K7, CA).
N. michaeli sp. n. is described and illustrated. Holotype ♂: Canada, New Brunswick, Charlotte Co., Canoose Stream at Hwy 175, 30-VI-1995; deposited at CNCI, Ottawa. It differs from other northeastern spp. in its short mesotibial keel and from all congeners in the great width of its abdomen. The sp. is obligate crepuscular and locally abundant at its riverine habitat. Larvae have the lowest dorsal spine in the genus and cling to the underside of rocks in rapids.
- (13555) BRUNELLE, P.-M., 2000. Distribution of damselflies and dragonflies (Odonata) of Cape Breton Island, Nova Scotia, Canada. *Parks Canada tech. Rep. Ecosystem Sci.* 24: iv+52 pp. (With Fr. s.). — (2460 John St., Unit 1, Halifax, NS, B3K 4K7, CA).
A catalogue of 85 spp., with descriptive notes, flight periods, habitat characteristics, all known localities and regional distribution maps for all spp.
- (13556) BRUNELLE, P.-M., 2000. *Status of knowledge of Odonata (Anisoptera, Zygoptera) in Acadia as of 1999*. Brunelle (Atlantic Dragonfly Inventory Program & Maine Damselfly and Dragonfly Survey), Halifax, 12 pp. — (2460 John St., Unit 1, Halifax, NS, B3K 4K7, CA).
A summary of the current knowledge on the odon. distribution in Acadia (Atlantic Canada and New England).
- (13557) BUCZYNSKI, P., 2000. New data on the occurrence of *Orthetrum brunneum* (Fonsc.) and *O. coerulescens* (Fabr.) (Odonata: Libellulidae) in the Lublin region. *Wiad. ent.* 19(1): 51-52. (Pol., with Engl. title). — (Dept Zool., Maria Curie-Skłodowska Univ., ul. Akademicka 19, PO-20033 Lublin).
3 *O. brunneum* and 2 *O. coerulescens* records are listed, some of the habitats are described, and the occurrence of the 2 spp. in the region (SE Poland) is briefly discussed.
- (13558) BUCZYNSKI, P., 2000. Ważki (Odonata) niektórych istniejących i projektowanych rezerwatów torfowiskowych Polesia Lubelskiego. — Dragonflies (Odonata) of some existing and proposed peat bog reserves in the region Polesie Lubelskie. *Rocz. nauk. pol. Tow. Ochr. Przyr. 'Salamandra'* 4: 89-101. (Pol., with Engl. s.). — (Dept Zool., Maria Curie-Skłodowska Univ., ul. Akademicka 19, PO-20033 Lublin).
The odon. communities (39 spp.) were studied in 4 peat bog localities in the Polish part of Polesie. Species composition and the environmental condition of the reserves are discussed.
- (13559) *BULLETIN OF AMERICAN ODONATOLOGY* (ISSN 1061-2781), Vol. 6, No. 2 (15 Dec. 2000). — (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA).
Cruden, R.W. & O.J. Gode: The Odonata of Iowa (pp. 13-48; 108 spp., with a discussion on 20 additional spp. whose presence in the state is questionable).

- (13560) CANNINGS, R., 2000. Dragons and damsels in the Kootenays. *Discovery* 28(2): 1-2. — (Roy. British Columbia Mus., P.O. Box 9815 Stn Prov. Govt, Victoria, BC, V8W 9W2, CA).
During the 1998-1999 systematic survey of the Columbia R. Basin exclusive of the Okanagan R. drainage, British Columbia, Canada, 9 odon. spp. were added to the "Kootenays" list (a colloquial name, after the Kootenay R., the largest Canadian tributary of the Columbia R.). These are listed and discussed. So far 66 spp. are known to occur in the Columbia R. Basin.
- (13561) [CANNINGS, R.A.] YAWORSKI, A., 2000. Robert Cannings, PhD. *Discovery* 28(2): 2. — (Roy. British Columbia Mus., P.O. Box 9815 Stn Prov. Govt, Victoria, BC, V8W 9W2, CA).
In Feb. 2000, R.A. Cannings, the leading British Columbia odonatologist, was awarded the PhD, on a dissertation in the field of the Asilidae (Lasiopogon). Some details on his PhD work and a recent portrait are given here in the RBCM "house magazine". — In the same issue (p. 6), there is an announcement of a tour through odon. collections of the RBCM, guided by Dr Cannings.
- (13562) CARVALHO, A.L. & E.R. CALIL, 2000. Chaves de identificação para as famílias de Odonata (Insecta) ocorrentes no Brasil, adultos e larvas. *Papéis avul. Zool.* 41(15): 223-241. (With Engl. s.). (First Author: Caixa Postal 68044, BR-21944-970 Rio de Janeiro, RJ).
Family keys are presented for the Brazilian adults and larvae. Those for final instar larvae of 13 fams are new. Also included is a synopsis of the geographical ranges and breeding habitats. General data on the biology and morphology (specially wing venation) of the order are added, and a statement is made on the number of genera and spp. in each fam.
- (13563) CATLING, P.M., 2000. Dragonflies of Ontario: recent additions and species to watch for. *Ontario Insects* 5(2): 7-13. — (2326 Scrivens Dr., RR3, Metcalfe, ON, K0A 2P0, CA).
Recent additions to the odon. fauna of Ontario, Canada are reviewed (with bibl. references), and a commented list is presented of 25 anisopt. spp., the discovery of which in Ontario could be expected. — For a similar paper on Zygoptera, see OA 13516.
- (13564) CATLING, P.M. & V.R. BROWNELL, 2000. *Damselflies and dragonflies (Odonata) of Ontario: resource guide and annotated list.* ProResources, Metcalfe/ON. vi+198 pp. ISBN 0-9682013-1-8. (21.4x27.0 cm), softcover. — Price: Can \$ 28.-, postage excl. — (Publishers: 2326 Scrivens Dr., RR.3, Metcalfe, ON, K0A 2P0, CA).
The guide is designed to assist both the novice and the experienced researcher. It covers the information available up to 1999. An annotated list of 168 spp. is presented, and for each taxon notes are provided on conservation status, flight period, habitat, distribution by county and district, and identification (incl. keys and figs). The bibliography covers Ontario and the adjacent regions. Potential additions to the odon. fauna of Ontario, Canada are also discussed.
- (13565) CATLING, P.M., C. JONES & P. PRATT, [Eds], 2000. *Ontario Odonata*, Vol. 1 (including 1999 observations). Toronto Entomologists' Assoc., Toronto. iv+153 pp. ISBN 0-921631-21-9, (21.4x27.6 cm), softcover. — Price: Can \$ 30.- net. — (Publishers: c/o A.J. Hanks, 34 Seaton Dr., Aurora, ON, L4G 2K1, CA).
Registered as a book, this is the first vol. of a serial work, containing a number of papers pertaining to the Ontario fauna and an excellent review of the 1999 surveys (pp. 60-145). The titles of the papers are: *Oldham, M.J., D.A. Southerland & M.L. Holder*: Conservation status ranks for Ontario Odonata (pp. 1-7); — *Oldham, M.J.*: Citrine Forktail (*Ischnura hastata*) in Ontario (pp. 7-9); — *Catling, P.M., V.R. Brownell & D. Bree*: Notes on the Odonata of Sandbanks Provincial Park and surrounding area (pp. 10-13); — *Jones, C.D. & M.L. Holder*: Additions to (and a delation from) the Odonata list of Algonquin Provincial Park (pp. 13-17); — *Bree, D.*: Odonata of Bon Echo Provincial Park: preliminary checklist with notes (pp. 17-20); — *Catling, P.M., V.R. Brownell & C.H. Catling*: Notes on the Odonata of Wheatley Provincial Park (pp. 20-21); — *Bree, D.*: Observations of Stream Bluets (*Enallagma exulans*) ovipositing at Mazinaw Lake, some interesting questions (pp. 21-22); — *Jones, C.D.*: Common Garter Snake (*Thamnophis sirtalis*) preying upon a teneral Black-tipped Darner (*Aeshna tuberculifera*) at Bat Lake, Algonquin Provincial Park, Ontario (pp. 22-24); — *Catling, P.M.*: Erosion control, channelization and reservoirs destroy habitats of imperiled dragonflies (pp. 24-25); — *Jones, C.D.*: New odonate records for Timiskaming district, Ontario (pp. 25-27); — *Oldham, M.J. & D.R. Elder*: Noteworthy Odonata records from northwestern Ontario (pp. 28-33); — *Catling, P.M.*,

- V.R. Brownell, P. Pratt & S. Marshall: A preliminary annotated list of the Odonata of northern Bruce county, including Bruce Peninsula National Park (pp. 34-39); — Jones, C.D., C. Michener, C. Purdon & M.W.P. Runtz: An annotated checklist of the Odonata of Renfrew county, Ontario (pp. 39-48); — Barker, J.J.: Dragonfly migration in the western Lake Ontario area in 1999 (pp. 49-50); — Oldham, M.J.: Green-faced Clubtail (*Gomphus viridifrons*) in Ontario (pp. 51-52); — Catling, P.M.: An illustrated key to the mature nymphs and exuviae of eastern Canadian Hanging Clubtails (*Stylurus*) (pp. 52-54); — Catling, P.M., C. Jones & P. Pratt: Introduction to the 1999 Odonata summary records (pp. 54-58; list of contributors and records, pp. 58-145). — Also added are a list of *Ontario Odonata projects* (p. 146), some *News* on recent literature (p. 146), and a comprehensive *Notice to contributors* (pp. 146-150).
- (13566) CHELMICK, D.G., 2000. *The dragonflies of central Africa: an identification key to the larvae*. Cameroon Dragonfly Project, Haywards Heath, 96 pp. ISBN none. — (31 High Beech Lane, Haywards Heath, West Sussex, RH15 1SQ, UK).
The organisation and objectives of this work, and the treatment of the described and keyed taxa are similar to those in the publication described in OA 12117. A novelty are numerous col. figs, which greatly enhance the value of the work. Very useful are sections on breeding both directly in the field and in the laboratory. — This is a revised (Nov. 2000) though still considered a preliminary edn, directed particularly at field workers, but it will be of much interest to extralimital students as well.
- (13567) CHENG, X.-Y., H.-Z. ZHOU & G.-X. ZHANG, 2000. Perspective of molecular biological techniques applied in insect systematics. *Acta zootaxon. sin.* 25(2): 121-133. (Chin., with Engl. s.). — (Inst. Zool., Chin. Acad. Sci., Beijing-100080, P.R. China).
An annotated and bibliographically crossreferenced list is presented of higher taxa, the systematics of which was studied by a molecular biology approach during 1992-1999. For odon., reference is made to the work listed in OA 12327.
- (13568) COUTEYEN, S. & M. PAPAZIAN, 2000. Contribution à la connaissance des odonates de l'île de la Réunion. 2. Description de la larve de *Gynacantha bispina* Rambur (Odonata, Aeshnidae). *Entomologiste* 56(5): 215-229. (With Engl. s.). — (Second Author: La Constellation bât. A, 72 av. des Caillols, F-13012 Marseille).
The ultimate instar larva is described and illustrated, and information is provided on its habitat and biology. — For pt 1, see OA 13398.
- (13569) DAVID, S., 2000. New records of dragonflies (Insecta, Odonata) from Slovakia. *Biologia, Bratislava* 55(5): 444. — (Inst. Landsc. Ecol., Nitra Branch, Akademicka 2, SK-94901 Nitra).
Coenagrion armatum (1 ♀, Poprad-Štufy, N Slovakia, 15-V-1999) and *Somatochlora metallica meridionalis* (a series from various localities in N and SW Slovakia, 1988, 1996) are for the first time recorded from Slovakia.
- (13570) DRAGONFLY NEWS. The Newsletter of the British Dragonfly Society, No. 38 (autumn 2000). — (c/o S. Henson, 10 Shotesham Rd, Poringland, Norwich, NR14 7LE, UK).
Henson, S.: From the Editor (p. 1); — *Beynon, T.*: From the President (pp. 2-3); — *Mahoney, G.*: Dragonflies on the web (pp. 4-5); — *Batty, P./Averill, N./Taylor, P./Clarke, D./Leysdon, O./Gennard, D./Waring, T.*: Highlights of some of the 2000 BDS field meetings (pp. 5-9); — *Conservation and Research News* (pp. 9-11); — *Kriegel, P.*: I love dragonflies (p. 11; a poem); — *Merrill, I.*: Scotland 2000 (pp. 12-15). — Also included are various announcements, business news, requests, etc.
- (13571) DUNKLE, S.W., 2000. *Dragonflies through binoculars: a field guide to dragonflies of North America*. Oxford Univ. Press, New York. viii+266 pp., 47 col. pls excl. ISBN 0-19-511268-7 (14.0×21.0 cm), softcover. — Price: US \$ 29.95 net. — (Orders to Int. Odon. Res. Inst., DPI, P.O. Box 147100, Gainesville, FL 32614-7100, USA).
A long-awaited field guide, by one of the leading North American odonatologists, providing for Anisoptera identification in the field, mainly based on differences in their colour patterns and body proportions. Also included is information on habitats, adult season and habits of each sp. Col. portraits and distribution maps are given for almost all of the over 300 regional spp., many of which were never before photographed in the field and published. In the introductory chapters, all the information that is of interest to a dragonfly watcher is concisely and lucidly presented, based on several decades of Author's experience. — This is an

excellent work, the first of its kind in the New World, and certainly by far the best among the new identification-without-capture guides in the world literature.

- (13572) ELKIN, C.M. & R.L. BAKER, 2000. Lack of preference for low-predation-risk habitats in larval damselflies explained by costs of intraspecific interactions. *Anim. Behav.* 60(4): 511-521. – (Second Author: Dept Zool., Univ. Toronto at Mississauga, 3359 Mississauga Rd, Mississauga, ON, L5L 1C6, CA).

Many studies indicate prey organisms select microhabitats with high structural complexity as a way of reducing risk of predation. Laboratory experiments were used to show that *Ichnura verticalis* larvae suffer higher predation rates from pumpkinseed sunfish in low-density vegetation. However, larvae do not preferentially occupy microhabitats with high vegetation density in either the presence or absence of sunfish: when given a choice, the number of larvae per stem of vegetation was equal across all densities of vegetation. That larvae do not congregate in dense vegetation may reflect costs of aggressive interactions. Results from laboratory experiments indicated larval interactions increase conspicuous behaviours (most notably swimming) and consequently increase fish predation. A subsequent experiment indicated that frequency of larval interactions increases with increased vegetation density when number of larvae/stem is constant. Thus, larval microhabitat selection may reflect a trade-off between reduced risk of predation in areas of high vegetation density, caused by reduced fish foraging ability, and increased aggressive larval interactions, due to decreased proximity of larvae.

- (13573) ERJAVECIA. Newsletter of the Slovene Odonatological Society (ISSN 1408-8185), No. 10 (31 Oct. 2000). (Slovene). – (c/o M. Bedjanič, Fram 117/A, SI-2313 Fram).

The feature article on Fran Erjavec (1834-1887) was contributed by B. Kiauta (pp. 1-5). M. Bedjanič & M. Štern (pp. 24-37) report on their odonatol. experience in Japan. Notes on *Pyrrhosoma nymphula* (pp. 14-15) and *Leucorrhinia pectoralis* (pp. 15-17) are authored by P. Pirker and L. Božič, resp. Some records are also included in the reports on various workshops (Vogrsko, Stari trg nr Lož, Cerčno). Minutes of the Annual Business Meeting appear on pp. 5-7, and Nos 333-351 are added to the Slovene odonatol. bibliography

(pp. 42-44, by M. Bedjanič). Membership list includes 36 domestic and 15 foreign members.

- (13574) ETTER, W. & O. KUHN, 2000. An articulated dragonfly (Insecta, Odonata) from the Upper Liassic Posidonia Shale of northern Switzerland. *Palaeontology* 43(5): 967-977. – (First Author: Paläontol. Inst. & Mus., Univ. Zürich, Karl-Schmid-Str. 4, CH-8006 Zürich).

Liassogomphus brodei (Buckman, 1843) is described and illustrated from the lowermost calcareous horizon in the Lower Toarcian Posidonia Shale ('Unterer Stein'), situated 1 km E of Hemmikon, canton Baselland. It is considered conspecific with *Phthitogomphus angulatus* (Handlirsch) and *Palaeogomphus propinquus* (Bode), therefore *Palaeogomphus Handlirsch, 1939* is treated as a junior synonym of *Liassogomphus Cowley, 1934*.

- (13575) EXUVIAE. Journal of the Slovene Odonatological Society (ISSN 1218-3664), Vol. 7, No. 1 (Nov. 2000). (All papers in Engl., with Slov. s's). – (Orders outside Slovenia: c/o *Odonatologica*, P.O. Box 256, NL-3720 AG Bilthoven).

Hill, B.T. & B. Beinlich: The dragonfly community of a communal cattle pasture in the Sava floodplain (Croatia), with special reference to the biology of *Lestes barbarus* (Fabricius, 1798) (Zygoptera: Lestidae) (pp. 1-18); – Wehrauch, F.: A note on *Brachytron pratense* (Müller, 1764) from coastal Istria, NW Croatia (Anisoptera: Aeshnidae) (pp. 19-26); – Bedjanič, M. & S. Weldt: Rediscovery of *Coenagrion hastulatum* (Charpentier, 1825) in Slovenia (Zygoptera: Coenagrionidae) (pp. 27-30); – *Publication dates* and contents of *Exuviae* vols 1-6, 1994-1999 (pp. 31-32).

- (13576) FALCK, J. & F. JOHANSSON, 2000. Patterns in size, sex ratio and time at emergence in a South Swedish population of *Sympetrum sanguineum* (Odonata). *Aquatic Insects* 22(4): 311-317. – (Second Author: Dept. Ecol. & Envir. Sci., Umeå Univ., S-90187 Umeå).

Differences between sexes in life history patterns were studied in a small pond by means of exuviae and adult sampling. Emergence occurred from 4 to 28 July (mean date was 10 July, for both sexes). The sex ratio at emergence did not differ from 1:1, but significantly more ♀♀ emerged during the first 5 days. Size of emerging individuals decreased as season progressed, and ♂♂ emerged at a larger size than ♀♀. While the

- former were heavier than the latter at emergence, no such difference was found in mature individuals. It is suggested that the sexual differences in size and emergence patterns are the result of different optimisation by ♂♂ and ♀♀ with respect to the growth-mortality risk trade-off in the larval and adult stages.
- (13577) FROST, R.A., 2000. Strange behaviour of Golden-ringed Dragonfly. *J. Derbys. Notts. ent. Soc.* 140(summer): 2. – (Author's address not stated). A ♂ *Cordulegaster boltonii* was seen on 12-VII-2000 flying slowly along a minor road, adjacent to Ramsley Reservoir, ca 1 km away from the only 2 known Derbyshire (UK) breeding sites of this sp. Over a distance of some 20 m it was about 10 times striking the road surface with its abdomen, recalling the way some libellulid ♀♀ oviposit. It was then killed by a car.
- (13578) GRACILE. [Newsletter of Odonatology], Osaka (ISSN 1344-123X), No. 62 (1 Aug. 2000). (Jap., with Engl. titles). – (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545-0004, JA). *Tabata, O.*: Observations of *Tanypteryx pryeri* copulation (pp. 1-3); – *Okamoto, Y.*: Behavior of *Polycanthagyna melanictera* observed in Sakai city, Osaka pref. in 1997 (pp. 4-7); – *Nishiura, N.*: Records of *Epiophlebia superstes* (Selys) in Sennan city, Osaka pref. (p. 8); – *Tabata, O.*: *Tramea virginia* collected in Miyazi city, Kyoto pref. (p. 9); – *Matsuda, I.*: Report on the odonate fauna of Oizumi Ryokuchi Park, Sakai city, Osaka pref. in 1999 (pp. 10-11); – *Nagase, K.*: Additional knowledges on *Mnais* damselflies in Ehime pref. (pp. 11-12); – *Kuwahara, H.*: A small record on the odonate fauna of Kuchino-erabu island, Kagoshima pref. in 1991 (pp. 12-14); – *Matsuda, I.*: A children's song of "Gin-yamma" (*Anax parthenope julius*) (p. 15); – *Kuwahara, H.*: Report of the survey trip on *Mnais* damselflies of Nose district, Osaka pref. in 1999 (pp. 16-17); – *Tani, K. & N. Doi*: Report of the survey trip on the odonate fauna of the central part of Nara pref., pt 1: in early summer 1999 (pp. 18-20); – pt 2: in autumn 1999 (pp. 20-22); – *Kuwahara, H.*: Report of the survey trip on the odonate fauna of Yodo river, Kyoto and Osaka pref. in 1999 (p. 23); – *Matsuda, I.*: Report of the survey trip on the odonate fauna of Shinodayama, Izumi city, Osaka pref. in spring 1999 (pp. 24-25); – in autumn 1999 (pp. 25-28); – *Okazaki, M. & K. Inoue*: Discovery of *Zyxomma petiolatum* in South Borodino Island, with notes on its biology in relation to *Z. obtusum* (pp. 29-34); – *Inoue, K.*: Let's offer display materials to the "Eco-Museum Center" on Mt Kongo (pp. 35-36).
- (13579) GUEFFROY, D. & T. LIECKWEG, 2000. Zur Odonatenfauna des Fintlandsmoores (Landkreis Ammerland). *Drosera* 2000(1/2): 53-65. (With Engl. s.). – (First Author: Littenweilerstr. 36 c, D-79117 Freiburg).
The fauna (19 spp., 15 indigenous) of a dystrophic, rewetted bog and of an undisturbed section of a former raised bog in Ammerland Co., NW Germany is described, circumstantial evidence on the spp. is brought on record, and the required habitat protective measures are emphasized.
- (13580) HANSEN, L., 2000. Usaedvanlig masseforekomst af guldsmeden *Aeshna mixta* Latreille, 1805 pa Fyn. – Unusual mass occurrence of the dragonfly *Aeshna mixta* Latreille, 1805 on Funen. *Flora og Fauna* 106(2): 47. (Danish, with Engl. title). – (Valmuevej 1, DK-5800 Nyborg).
The swarm of ca 3000 individuals (10-IX-1999) is described and its significance is discussed. In Denmark, the sp. has the NW border of its range.
- (13581) HELLMUND, W., 2000. Unsere Libellen: Versuch einer Bestandsaufnahme, 6. Troisdorf, Jb. 30 (Sonderh.): 110-118. – (Von-Loe-Str. 31), D-53840 Troisdorf).
A sequel in the series described in OA 11178 and 12271, dealing with the Libellulidae, Corduliidae and Gomphidae.
- (13582) HIRVENOJA, M., 2000. Macroscopic bottom fauna in the slack water and rapids of Pitkääkoski in the river Vantaanjoki (southern Finland). *Memo. Soc. Fauna Flora fenn.* 76(1/2): 27-39. – (Sotilaskorventie 13, FIN-01730 Vantaa).
Changes in macrobenthos of the polluted Vantaanjoki R. were recorded during 1982-1991 at Pitkääkoski rapids and the slack water above them, nr Helsinki. Selected parameters of water quality are stated and the abundance of captured *Calopteryx virgo* and *Platycnemis pennipes* is given.
- (13583) HOSHIKAWA, K. & T. MORI, 2000. Utilization of river space by a mixed population of two closely related *Mnais* damselflies, with special reference to results of an artificial transfer experiment. *New Ent.* 49(1/2): 18-25. (Jap. with Engl. s.). – (First

- Author: Fac. Life & Envir. Sci., Shimane Univ., Matsue, 690-8504, JA).
- Into a mixed *M. nawai*/*M. pruinosa* population, numerous conspecific adults were released. Subsequently, space utilization was compared between the original residents and the newcomers, using the mark-recapture method. Recapture ratios were low in ♀♀, but rather high in territorial ♂♂. As to the latter: (1) ratio of immigrant settlement, a week after the release indicates that more *pruinosa* ♂♂ remained in the study area; – (2) territorial persistency was higher in col. wing *nawai* ♂♂; – (3) both col. and transparent wing *pruinosa* ♂♂ were relatively vagile, tending to utilize a wider space, performing frequent short-distance movements.
- (13584) HUTCHINSON, R., 2000. Actualité entomologique. *Nouv'Ailes* 10(2): 8-9. – (12 ch. de la Savane, app. 12, Gatineau, QU, J8T 1P7, CA). Includes some highlights in the recent odonatol. activities in Ontario, Canada.
- (13585) INOUE, K., 2000 [Dragonfly Environment Index]. *Envir. Assess. Anim. Survey Methods*, Osaka 10: 1-16. (Jap.). – (5-9, Fuminosato 4-chome, Abenoku, Osaka, 545-0004, JA).
A method is presented for the assessment of environmental value ("Dragonfly Environment Index", DEI) of an odon. site, based on its spp. quality score, as defined in terms of their national range-size, scope of their ecological valence, and the size of local population. The DEI value also depends on the frequency and quality of adult and larval surveys of the respective site.
- (13586) JOURNAL OF THE BRITISH DRAGONFLY SOCIETY, Vol. 16, No. 2 (Oct. 2000). – (c/o Dr W.H. Wain, Haywain, Hollywater Rd, Bordon, Hants, GU35 0AD, UK).
Goodyear, K.G.: A comparison of the environmental requirements of larvae of the Banded Demoiselle *Calopteryx splendens* (Harris) and the Beautiful Demoiselle *C. virgo* (L.) (pp. 33-51); – *Parr, A.J.*: Migrant and dispersive dragonflies in Britain during 1999 (pp. 52-58); – *Wildermuth, H.*: Larvae of the Downy Emerald *Cordulia aenea* (L.) examine the space for eclosion with their hind-legs (pp. 59-62); – *Radford, A.P.*: Predation of a bumblebee (*Bombus* sp.) by Four-spotted Chaser *Libellula quadrimaculata* L. (p. 63); – *Bailey, M.P.*: Predation of Four-spotted Chaser *Libellula quadrimaculata* L. by otter *Lutra lutra* L. (p. 64).
- (13587) KANO, K., 2000. [Late odonate records in 1998]. *Gekkan-Mushi* 356: 43-44. (Jap., with taxonomic nomenclature). – (No. 601, 19-17, Koshigawa 5-chome, Bunkyo-ku, Tokyo, 112-0002, JA).
Mnais pruinosa costalis (23-IX; Yorii-machi, Saitama), *Crocothemis servilia mariannae* and *Orthetrum albistylum speciosum* (3-XI; Misaki, Kanagawa), *Anax guttatus* (21-IX; Kita-ku, Tokyo); all ♂♂. These are very late dates for the resp. spp.
- (13588) KUHN, J., 2000. Libellen (Odonata) im Murnauer Moos, Oberbayern: Fauna und Naturschutzprobleme. *Verh. westdt. Ent. Tag., Düsseldorf* 1998: 141-146. (With Engl. s.). – (Abt. Wickler, Max-Planck-Inst. Verhaltensphysiol., D-82319 Seewiesen). "Murnauer Moos" is a large bog and fen complex in S. Bavaria, Germany. 55 odon. spp. are listed and conservation problems are summarized.
- (13589) LIBELLULA. Zeitschrift der Gesellschaft deutschsprachiger Odonatologen (GdO) (ISSN 0723-6514), Vol. 19, No. 3/4 (Dec. 2000). (With Engl. s's). – (c/o Mrs U. Krüner, Gelderner Str. 39, D-41189 Mönchengladbach).
Knaus, P.: Emergenzstudien an *Somatochlora alpestris* (Odonata: Corduliidae) (pp. 117-142); – *Wildermuth, H.*: Alternative Taktiken bei der Weibchensuche von *Boyeria irene* (Odonata: Aeshnidae) (pp. 143-155); – *Geissen, H.-P.*: Gomphidae vom südlichen Mittelrhein (Odonata) (pp. 157-174); – *Müller, O., C. Schütte, C. Artmeyer, K. Burbach, D. Grand, D. Kern, K.G. Leipelt, A. Martens, F. Petzold, F. Suhling, F. Weihrauch, J. Werzinger & S. Werzinger*: Entwicklungsdauer von *Gomphus vulgatissimus*: Einfluss von Gewässertyp und Klima (Odonata: Gomphidae) (pp. 175-198); – *Bönsel, A. & A. Kühner*: Libellen (Odonata) aus der Sammlung des Zoologischen Instituts der Universität Rostock (pp. 199-211); – *Buczynski, P.*: Grosslibellen auf Kiefernadeln aufgespiesst (Odonata: Libellulidae) (pp. 213-216); – *Burbach, K.*: Nachweis einer zweiten Jahrgeneration von *Enallagma cyathigerum* und *Ischnura pumilio* in Mitteleuropa (Odonata: Coenagrionidae) (pp. 217-227); – *Leifeld, D. & M. Lohr*: Erstfund von *Gomphus flavipes* an der Oberweser (Odonata: Gomphidae) (pp. 229-231); – *Postler, E. & W. Postler*: Entwicklung von *Gomphus vulgatissimus* im Datteln-Hamm-Kanal (Odonata: Gomphidae) (pp. 233-235);

- *Burbach, K. & F. Weihrauch*: Entwicklung von drei Gomphiden-Arten in einem Baggersee bei München (Odonata: Gomphidae) (pp. 237-240); – *Wimmer, W. & W. Winkel*: Libellen (Odonata) in der Nestlingsnahrung des Trauerschnäppers *Ficedula hypoleuca* (Aves) (pp. 241-246).
- (13590) *LIBELLULA* (SUPPL.) (ISSN 0723-6514), Vol. 3 (Dec. 2000): *Studien zur Libellenfauna Griechenlands*, Vol. 2. 116 pp. – (c/o Mrs U. Krüner, Gelderner Str. 39, D-41189 Mönchengladbach). *Breuer, M. & E. Douma-Petridou*: A Greek mountain stream (N Peloponnesus) as habitat of *Caliaeschna microstigma* (Odonata: Aeshnidae) (pp. 1-7); – *Breuer, M., E. Douma-Petridou & A. Koutsafikis*: Seasonal distribution of Odonata in brackish temporary wetlands of NW Peloponnesus, Greece (pp. 9-24); – *Hochebner, T., W. Lopau & J. Pennerstorfer*: Die Libellenfauna der Insel Lesbos, Griechenland (Odonata) (pp. 25-40); – *Jödicke, R. & W. Lopau*: Overlapping adult generations of the univoltine dragonfly *Sympetrum striolatum* in southern Greece (Odonata: Libellulidae) (pp. 41-47); – *Peters, G. & A. Günther*: Frühjahrsbeobachtungen an *Anax ephippiger* auf Rhodos nebst Anmerkungen über den Invasionsraum der Art (Odonata: Aeshnidae) (pp. 49-61); *Schnapauff, I., K. Ullmann & F. Suhling*: Die Libellen-Lebensgemeinschaft griechischer Reisfelder (Odonata): Auswirkungen von Habitaddauer, Anbaumethode und Vegetationsdichte (pp. 63-80); – *Lopau, W.*: Bisher unveröffentlichte Libellenbeobachtungen aus Griechenland, 2 (Odonata) (pp. 81-116). – For Vol. 1 see OA 12842.
- (13591) *MAINENSIS*. Newsletter of the Maine Damselfly and Dragonfly Survey (MDDS), No. 1 (Apr. 2000). Written and edited by Dr P. deMaynadier & P.-M. Brunelle. – (c/o Dr P. deMaynadier, Endangered Species Group, Maine Dept Inland Fish. & Wildlife, 650 State St., Bangor, ME 04401, USA). The newsletter is named after *Ophiogomphus mainensis*, and it is scheduled to appear annually, in March or April, with emphasis on the discoveries of the previous yr and on what to look for in the next flight season. – In 1999, 44 Survey volunteers participated at 2 introductory seminars; 29 of them provided 1403 records, incl. 145 first county records. Some highlights are mentioned, and the issue also includes a brief biographic sketch (and portrait) of Dr H.B. White III, the major contemporary contributor to the Odon. of Maine.
- (13592) *MALANGPO*. Newsletter of the Thai National Office of SIO, Bangkok (ISSN 1381-5345), No. 17 (Nov. 2000). – (Orders to the Eds of *Odonatologica*, P.O. Box 256, NL-3720 AG Bilthoven). *Pinratana, A.*: Editorial (p. 155); – *Hämäläinen, M. & A. Pinratana*: Additions and corrections to dragonfly lists of five protected areas in Thailand (pp. 156-157); – *Hämäläinen, M. & W.-C. Yeh*: *Polycanthagyna ornithocephala*, again a new aeshnid to the Thai fauna (pp. 158-159); – *Donnelly, N.*: Farangpo 2000: Hong Kong, Thailand and Cambodia (pp. 160-162).
- (13593) MANNEVILLE, O., V. VERGNE & O. VILLEPOUX, 2000. *Le monde des tourbières et des marais: France, Suisse, Belgique et Luxembourg*. Delachaux & Niestlé, Lausanne-Paris. 320 pp. ISBN 2-603-01134-0 (15.5x23.0 cm), hard cover. – Price: CHF 64.- net. – (Publishers: 79 rte d'Oron, CH-1000 Lausanne-21).
A good review of the biology of the regional peat-bogs, fens and marshes, with an odon. chapter on pp. 152-154, and a spp. list on pp. 303-304.
- (13594) *MARTINIA*. Revue scientifique de la Société Française d'Odonatologie (ISSN 0297-0902), Vol. 16, No. 3 (Sept. 2000), Suppl. 1 (Sept. 2000). – (c/o J.-L. Dommangeat, 7 rue Lamartine, F-78390 Bois-d'Arcy).
[No. 3: *Contribution à la connaissance de la faune odonatologique des départements et territoires d'Outre-mer français*, 1:] *Dommangeat, J.-L.*: Avant-propos (pp. 83-84); – *Dommangeat, J.-L. & M. Mashaal*: Les départements et territoires d'outre-mer français: généralités (pp. 85-94); – *Vaillant, F.*: Les odonates de Saint-Pierre-et-Miquelon (pp. 95-99); – *Jacquemin, G.*: Une petite collection d'odonates de la Guadeloupe (p. 100); – *Couteyen, S.*: Déterminisme de la posture de guet chez *Trithemis annulata haematina* (Rambur, 1842) (Odonata, Libellulidae) (pp. 101-106); – *Couteyen, S. & M. Papazian*: Contribution à la connaissance des odonates de la Réunion, 3: *Hemicordulia asiatica* Selys, 1878, une espèce nouvelle pour l'île (Odonata, Corduliidae) (pp. 107-110); – *Donnelly, T.W.*: Clef d'identification des odonates de Guadeloupe, Dominique et Martinique (pp. 111-121); – *Dupont, P.*: Contribution à l'inventaire des odonates de Martinique (p. 122); – *Mashaal, M.*: Brefs souvenirs odonatologiques de Guadeloupe, Martinique et Réunion (pp. 123-126); – *Grand, D.*: Voyage en Martinique (pp. 127-132); – *Dommangeat, J.-L.*: Note préliminaire sur des

- collections d'odonates exotiques mises à disposition de la SFO (p. 133); – Liste provisoire des odonates de Guadeloupe et de Martinique (pp. 134-137); – *Dommanget, J.-L. & M. Papazian*: Liste provisoire des odonates de Guyane française (pp. 138-141); – *Dommanget, J.-L.*: Liste provisoire des odonates de la Nouvelle-Calédonie (pp. 142-144); – Groupe odonatologique Outre-mer: convention individuelle [...] (pp. 145-148). – [Suppl.1]: *Meurgey, F., F. Herbrecht, P. Gurliat, F. Dortel, A. Boureau, F. Dusoulier & T. Williamson*: Atlas préliminaire des odonates de Loire-Atlantique (pp. 1-28).
- (13595) *MATERIAŁY ZJAZDOWE 18 Zjazd Hydrobiologów polskich*. – [Abstracts of Papers of the 18th Meeting of Polish Hydrobiologists], Białystok, 4-8 Sept. 2000. Pol. Tow. Hydrobiol. & Dept Gen. Biol., Medical High School, Białystok. (Polish). – (Odon. papers c/o Dr P. Buczyński, Dept Zool., Maria Curie-Skłodowska Univ., Akademicka 19, PO-20033 Lublin).
[Odon. papers:] *Buczyński, P.*: Survival of dragonfly larvae (Odonata) in small, drying-up water bodies (pp. 33-34); – *Czachorowski, S., P. Buczyński, T. Majewski, J. Malek, M. Monko, K. Rudowska & D. Rykowski*: Caddis-flies and dragonflies of the Górowo Iławieckie region, NE Poland (pp. 40-41); – *Krzysztof, L.*: Dragonflies (Odonata) of small water bodies (pp. 151-152); – *Rutkowski, D.H.*: Diurnal and nocturnal food consumption by Zygoptera in Lake Kuc littoral (p. 226); – *Zawal, A. & P. Mrówiński*: Synchronous emergence in *Cordulia aenea* (L., 1758) (p. 300).
- (13596) *MATSUDA, I.*, [Ed.], 2000. *Self-introductions of participants at the Annual Meeting of the Japanese Society of Odonatology*, 2000. Jap. Soc. Odonatol., Shiojiri. 16 pp. – (Jap.).
Brief statements, by 73 Japanese workers, on their current odonatol. research and interests.
- (13597) *MEYER, A. & E.I. MEYER*, 2000. Discharge regime and the effect of drying on macroinvertebrate communities in a temporary karst stream in East Westphalia (Germany). *Aquat. Sci.* 62(3): 216-231. – (Abt. Lymnol., Inst. Zool., Univ. Münster, Hüfferstr. 1, D-48149 Münster).
The study was conducted at the Sauer R. Calopteryx splendens is reported from a site in the transition from the permanent to the temporary section of this karst stream, but otherwise the odon. are not considered in this study. Generally, the invertebrate fauna of the section with the temporary discharge regime consists of spp. characteristic of temporary streams.
- (13598) *NATURE AND INSECTS*. (ISSN 0023-3218), Vol. 36, No. 11 (Nov. 2000): *The dragonfly*. (Jap., with Engl. titles).
Watanabe, K.: Coeliccia of Thailand and Malaysia (pp. 2-5); – *Kano, K. & N. Yokoi*: On the plant worms of Odonata (pp. 6-9); – *Watanabe, Y.*: Attachment apparatus of dragonfly eggs (pp. 10-13); – *Ishizawa, N.*: Thermoregulation in calopterygid damselflies (pp. 14-17); – *Ugai, S.*: Hybrid records of dragonflies in Japan (pp. 18-22). – (For other odon. topic issues of this periodical see OA 2572, 11011, 11600, 12157, 12988).
- (13599) *NIEUWSBRIEF VAN DE NEDERLANDSE VERENIGING VOOR LIBELLENSTUDIE* (ISSN 1387-4470), Vol. 4, No. 4 (Dec. 2000). (Dutch). – (c/o M. Wasscher, Minstraat 15 bis, NL-3582 CA Utrecht).
Contains 3 faunistic articles, by *E. Ruiter* (p. 4; Sympetrum pedemontanum records at Denekamp, Bathmen, Deventer and Soestwetering), and by *T. van Trigt* (p. 5; list of 24 spp. from Plateaux and Hageven on the Dutch/Belgian border; – and p. 6; list of 22 spp. from Zuid-Kennemerland in Noord Holland prov.).
- (13600) *OKUDO, H.*, 2000. *Minami-daito-jima no Shizen* – [Nature in South Borodino Island]. Nirai-sha, Naha. 136 pp., (21×15 cm), softcover, with dust jacket. ISBN 4-93-13-14-40-6. – Price: ¥ 1800.- net. (Jap., with Jap. nomenclature). – (Publishers: 1-1-6, Tsuji, Naha, Okinawa pref., 900-0037, JA).
The geological features and a review of flora and fauna of the island (ca 350 km ESE of Okinawa, surface ca 30.7 km²), Japan are presented. The odon. are dealt with on pp. 101-106. The following 16 spp. are listed and illustrated (in page sequence): *Zyxomma obtusum*, *Macrodiplax cora*, *Brachydiplax chalybea flavovittata*, *Anax guttatus*, *Tholymis tillarga*, *Crocothemis s. servilia*, *Ictinogomphus pertinax*, *Pantala flavescens*, *Rhyothemis variegata imperatrix*, *Lyriothemis elegantissima*, *Diplacodes trivialis*, *Orthetrum s. sabina*, *Ceriagrion aurantiacum ryukyuanum*, *Ischnura senegalensis*, *Agriocnemis pygmaea*, and *Cercion sexlineatum*. – For a paper by *M. Okazaki & K. Inoue* on *Zyxomma petiolatum* from South Borodino Is., see OA 13578.

- (13601) **PANTALA**. International Journal of Odonatology (ISSN 1388-7890), Vol. 3, No. 2 (Nov. 2000).
Pritchard, G., L.D. Harder, A. Kortello & R. Krisnaraj: The response of larval growth rate to temperature in three species of coenagrionid dragonflies, with some comments on *Lestes disjunctus* (Odonata: Coenagrionidae, Lestidae) (pp. 105-110); – **Donnelly, T.W. & F.L. Carle**: A new subspecies of *Gomphus* (*Gomphus*) *septima* from the Delaware river of New Jersey, New York and Pennsylvania (Odonata: Gomphidae) (pp. 111-123); – **Ferreras-Romero, M., M.D. Atienzar & P.S. Corbet**: Voltinism of *Calopteryx haemorrhoidalis* (Vander Linden) in the Sierra Morena mountains, southern Spain. (Zygoptera: Calopterygidae): a preliminary study (pp. 125-130); – **Jödicke, R., S.N. Borisov, A.Y. Hariionov & O. Popova**: Additions to the knowledge of *Sympetrum sinaiticum* Dumont (Odonata: Libellulidae) (pp. 131-140); – **Moore, N.W.**: Interspecific encounters between male aeshnids: do they have a function? (pp. 141-151); – **Corbet, P.S.**: The first recorded arrival of *Anax junius* Drury (Anisoptera: Aeshnidae) in Europe: a scientist's perspective (pp. 153-162); – **Yeh, W.-C. & K. Veenakumari**: Description of *Gynacantha andamanae* spec. nov. from South Andaman Island, Indian Ocean (Anisoptera: Aeshnidae) (pp. 163-167); – **Dijkstra, K.-D.B. & N.J. Dingemans**: New records of *Crocothemis sanguinolenta* (Burmeister, 1839) from Israel, with a critical note on the subspecies *arabica* Schneider, 1982 (pp. 169-171); – **Wilson, K.D.P. & W.-B. Zhou**: *Sinocnemis yangbingi* gen. nov., sp. nov. and *Sinocnemis dumonti* sp. nov., new platycnemidids from South-West China (Odonata: Platycnemididae) (pp. 173-177); – **Thompson, D.J.**: On the biology of the damselfly *Vestalis amabilis* Lieftinck (Odonata: Calopterygidae) in Borneo (pp. 179-190).
- (13602) **PERUŠEK, M. & B. MOZETIČ**, 2000. *Kočevsko (Rudniško) jezero*. – *Lake Kočevje*. DOPPS/ BirdLife Slovenia, 6 pp. (Slov., with Engl. s.). – (Publishers: P.O. Box 2395, SI-1001 Ljubljana).
 A visitor brochure, with emphasis on bird fauna of the lake, a part of which is Nature Reserve (Lower Carniola, Slovenia; alt. 475 m, surface ca 40 ha, depth 34 m). Out of ca 15 resident odon. spp., *Somatochlora flavomaculata* and *Sympetrum fonscolombeii* are mentioned.
- (13603) **PFAU, H.K.**, 2000. *Erasipteron larischii* Pruvost, 1933, *Eugeropteron lunatum* Riek, 1984 und die Evolution der Verstellpropeller-Flügel der Libellen. *Mitt. schweiz. ent. Ges.* 73(3/4): 223-263. (With Engl. s.). – (Rathenastr. 14, D-65326 Aarbergen).
 The functional morphology of the odon. wing base is described, and the evolution of the odon. wing is outlined.
- (13604) **PONGRAC, Z.**, 2000. *Morphometric characteristics of different populations of Calopteryx splendens (Harris, 1782) (Insecta: Odonata) in Croatia*. M.Sc. thesis, Univ. Zagreb. viii+115 pp., 79 textfigs + 16 tabs incl. (Croat., with Engl. s.). – (c/o Prof. Dr P. Durbešić, Dept Biol., Fac. Sci., Univ. Zagreb, Rooseveltov trg 6, CRO-10000 Zagreb).
 The populations of *C. splendens*-complex differ in the appearance of wing spot and in the number of wing veins and cells. In Dalmatia, populations occur with visible influence of the continental *C. s. ancilla* and the mediterranean *C. balcanica*. The objective of the present work was to identify the forms of the complex in Croatia, to define their genetic relationships and to ascertain their respective geographical distribution within the region. 591 individuals of both sexes were examined from 25 localities in Croatia, Bosnia & Herzegovina and from the Czech Republic. 25 fore- and hindwing morphometric parameters were considered. An appreciable influence of *C. balcanica* was recorded in the SE populations, while the influence of *C. s. ancilla* prevails in N and NW Croatia. The possibility of a third genetic factor is tentatively suggested.
- (13605) **PUDWILL, R.**, 2000. Die Neubesiedlung und Populationsdynamik der Libellenfauna eines neu angelegten Moorweihers (Odonata). *Braunschweig. naturk. Schr.* 6(1): 57-67. (With Engl. s.). – (Böttcherstr. 3, D-38518 Gifhorn).
 The odon. colonisation and population dynamics were studied during 3 yr in a newly made acid and oligotrophic moor pond in Lower Saxony, Germany. 25 spp. were recorded as adults, 16 of them as exuviae. The fauna was a typical bog fauna, with *Aeshna juncea*, *Leucorrhinia dubia*, *L. rubicunda* and *Sympetrum danae*.
- (13606) **RETTIG, K.**, 2000. Wie weit können Libellen-Larven "über Land" krabbeln? *Beitr. Vögel- Insektenwelt Ostfrieslands* 154: 20. – (Danziger Str. 11, D-26725 Emden).
 Several records of "almost grown-up" *Aeshna cyanea* larvae, crawling at a distance of up to 30 m from a garden pond (Emden: 23-VI-1984, 18-VII-1984, 18-

- IX-2000).
- (13607) ŠALAMUN, A., 2000. Poročilo odonatološke skupine. [Report of the odonate group]. In: M. Govedič, [Ed.], *Raziskovalni tabor študentov biologije Šalovci '99*, pp. 23-27, ZTKS, Ljubljana, ISBN 961-6243-18-7. (Slovene). — (ZKFF, Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju). Annotated and commented list of 32 spp., evidenced (July 1999) in the Goričko region, Slovenia.
- (13608) SCHMIDT, E., 2000. Odonata-Libellen (Imagines), In: H.-J. Hannemann, B. Klausnitzer & K. Senglaub, [Eds], *Exkursionsfauna von Deutschland*, [9th revised edn], Vol. 2, pp. 74-90, Spektrum & Fischer, Heidelberg-Berlin. — (Biol. Didaktik, FB/S05, Univ. Essen, D-45117 Essen). A technical key for the spp. known to occur in Germany, with statements on habitats and adult phenology.
- (13609) SCHMIDT, E. & M. WOIKE, 2000. Rote Liste der gefährdeten Libellen (Odonata) in Nordrhein-Westfalen. (3. Fassung, Stand 1.10.1998). *SchrReihe Landesanst. Okol. Bodenordnung Forsten*, Recklinghausen 17[1999]: 507-521. — (Second Author: Landesanstalt Ökol., Leibnitzstr. 10, D-45659 Recklinghausen). This is the 3rd and revised edn of the Northrhine-Westphalia (Germany) odon. Red List (cf. 2694, 5817). 43 (65%) out of the 66 currently in the province known spp. are redlisted. Since 1986, the status of 14 spp. has improved, and that of 5 spp. has deteriorated.
- (13610) SCHÖLL, F. & J. FUKSA, 2000. *Das Makrozoobenthos der Elbe vom Riesengebirge bis Cuxhaven*. Bundesanst. Gewässerkr., Koblenz & Masaryk Water Res. Inst., Prague. ii+30 pp. ISBN none. — (First Author: Bundesanst. Gewässerkr., Kaiserin-Augusta Anlagen 15-17, D-56068 Koblenz; — Second Author: Masaryk Water Res. Inst., Podbabska 30, Praha-6, CZ). *Aeshna caerulea* and *Somatochlora alpestris* are listed from the Czech section of the Elbe R., and 4 other odon. spp. from its section in Germany. — Cf. also OA 12049.
- (13611) SHIEH, S.-H. & P.-S. YANG, 2000. Community structure and functional organization of aquatic insects in an agricultural mountain stream of Taiwan: 1985-1986 and 1995-1996. *Zool. Stud.* 39(3): 191-202. (With Chin. s.). — (Second Author: Dept Ent., Natn Taiwan Univ., Taipei-106, Taiwan). *Lanthus* sp. and *Sieboldius deflexus* are listed from 4 sites of Chichiawan Stream, upstream of the Tachia R., central Taiwan. They are not considered in multivariate analysis.
- (13612) SIOJA. [Information bulletin of the SIO Japan Branch Office], 2000, No. 1 (18 Nov. 2000). (Jap.). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545-0004, JA). Various informative notes on SIO, on the 15th Int. Symp. Odonatol. (Novosibirsk, Russia), and a Special Offer from the SIO Antiquarian Dept.
- (13613) STERNBERG, K. & R. BUCHWALD, [Eds], 2000. *Die Libellen Baden-Württembergs*, Vol. 2: *Grosslibellen (Anisoptera; Literatur)*. Eugen Ulmer, Stuttgart. 712 pp., 225 col. phot., 33 graphs & line drawings, 49 distribution maps, 20 tabs incl. ISBN 3-8001-3514-0. (17.0x24.0 cm) hard cover. — Price: DEM 98.- net. — (Publishers: Wollgrasweg 41, D-70599 Stuttgart). This is the second and final vol. of the work described in OA 12860. It deals monographically with the regional Anisoptera, and includes a cumulative bibliography (pp. 626-706) for both vols. This is the most thorough and detailed regional monograph yet published. The information provided on spp. biology, ecology, conservation and management will be of principal importance to the extralimital workers as well.
- (13614) STOKS, R., 2000. Components of lifetime mating success and body size in males of a scrambling damselfly. *Anim. Behav.* 59(2): 339-348. — (Evol. Biol. Group, Univ. Antwerpen, Groenenborgerlaan 171, B-2020 Antwerpen). Sexual selection is hypothesized to favour small body size in ♂♂ of scrambling spp., that is those in which ♂♂ obtain matings by actively searching for ♀♀. This hypothesis was tested in a natural population of *Lestes sponsa*. Mating efficiency (matings/visit to the pond) was the most important factor explaining variation in ♂ lifetime mating success (LMS; 71%). This suggests a large potential for sexual selection. Path analysis of ♂ LMS suggested a quality factor that positively affected both mating efficiency and life span. In contrast with the small-♂ mating advantage hypothesis, part of this potential for sexual selection was realized as stabilizing selection on ♂ body size, indicating that there may also be a lower limit to body

- size for mating efficiency. This also illustrates that the constancy of body size may be explained by sexual selection alone. Survival explained about 20% of the variation in LMS and random processes were potentially important for determining LMS. My results show the problems of using mating efficiency as a measure for the intensity of sexual selection and the need to distinguish between potential and realized selection pressures, especially when comparing the importance of natural and sexual selection. Mechanisms that may have caused the intermediate-♂ mating advantage in this scrambling sp. are discussed.
- (13615) SWITZER, P.V. & G.E. GREYER, 2000. Characteristics and possible functions of traditional night roosting aggregations in rubyspot damselflies. *Behaviour* 137(4): 401-416. — (First Author: Dept Biol. Sci., Eastern Illinois Univ., Charleston, IL 61920, USA).
Night roosting aggregations of *Hetaerina americana* were investigated along a creek in the Coastal Range Mts of California. Both ♂ and ♀ individuals were found in roosting aggregations, although the aggregations tended to be ♂-biased relative to the population sex ratio. Damselflies roosted on the W side of slow moving sections of the creek: within this habitat they were highly aggregated but were not associated with any particular habitat features. The spatial pattern of site use tended to change gradually over time and sites with a relatively large number of individuals were more likely to be used on subsequent nights. These results suggest that within suitable habitat, the specific locations of roosting aggregations were traditional (socially learned). *H. americana* roosting patterns, when taken in combination with other aspects of its biology, do not support habitat limitation, thermal or desiccation benefit, foraging, and aposematic hypotheses for the function of rubyspot roosting aggregations. Rather, the roosting aggregations most likely serve an antipredator function or are the result of using conspecifics to choose safe sites.
- (13616) SYMNET. The newsletter of the Aka-tombo network, No. 8 (5 May 2000). Engl. edn. — (c/o Dr T. Uéda, Nat. Sci. Lab., Ishikawa Agric. Coll., Suematsu 1, Nonoichi, Ishikawa, 921-8836, JA).
Uéda, T.: "The Japanese" and dragonflies (p. 1); — Nakai, K.: Watching a migration of Aka-tombo in swarms (p. 2); — Ishizawa, N.: Articles on Aka-tombo in newspapers (pp. 2-3); — Aoki, T.: Evidence of rapid decreasing of Aka-tombo in Kobe (pp. 3-4); — Ushiyama, M.: Rescue works of larvae in swimming pools (p. 5); — Matsumura, T. & T. Uéda: A report on the vertical distribution of Aka-tombo on Mt Akasagi, Fukui pref. and marking survey of *Sympetrum frequens* (pp. 6-8); — Tsubuki, T.: A record of *Sympetrum darwinianum* at the Yonomaru Heights (pp. 8-9); — Observation on *Sympetrum frequens* and *Sympetrum darwinianum* at Soja city, Okayama pref. in the early November (p. 9); — Ishizawa, N.: Aka-tombo at Otemachi in 1999 (pp. 9-10); — *Sympetrum frequens* at Omori pond, 3 (pp. 10-11); — Tsubuki, T.: Seasonal fluctuations of Aka-tombo in the peripheries of Mogusayama, Hino city, Tokyo in 1997 (pp. 11-13). — The issue also contains 2 book reviews.
- (13617) TANAKA, T., 2000. *Shin Yasashii Tombo Zukan*. — [A new comprehensive dragonfly iconography]. Shizen-tsushinsha, Matsudo. 82 pp. ISBN none. (12.8×18.2 cm), softcover. — Price: ¥ 1200.- net. (Jap., with vernacular nomenclature). — (Author & Publisher: 500, Naka-yagiri, Matsudo, Chiba, 271-0095, JA).
Portraits of 72 spp. from Kanto distr., Japan, with captions and some brief annotations.
- (13618) TOTH, S., 2000. Adatok a Villányi-hegység szitakötő (Odonata) faunájához. — Data on the dragonfly (Odonata) fauna of the Villány Hills, south Hungary. *Stud. pannonica* (A) 10: 139-146. (Hung., with Engl. & Germ. s's). — (Széchenyi ut. 2, HU-8420 Zirc).
A commented list of 39 spp., incl. *Pyrrhosoma nymphula interposita* and *Chalcolestes v. viridis*.
- (13619) TROCKUR, B. & R. MAUERSBERGER, 2000. Vergleichende ökologische Untersuchungen an *Eitheca bimaculata* Charpentier, 1825 im Saarland und in der Uckermark (Odonata: Corduliidae). *Beitr. Ent.* 50(2): 487-518. (With Engl. s.). — (First Author: Schulstr. 4, D-66636 Tholey-Scheuern).
Between 1988-1998, more than 100 *E. bimaculata* habitats were studied in Saarland (SW Germany), in the adjacent parts of Luxembourg and France and in the Uckermark (NE Germany). In Saarland, the sp. inhabits eutrophic to polytrophic artificial backwaters, gravelpits and fishponds, whereas in the Uckermark it occurs in small natural, mostly eutrophic lakes. Main characteristics of its habitats in both regions are: (1) still waters of small area: 85% of the habitats were

less than 10 ha, 63% less than 4 ha; relatively shallow water body without distinct stratification: maximum water depth between 1.1 and 12 m (91% less than 8 m, 67% between 2 and 6 m, only 12% with complete temperature stratification; – (2) low oxygen content in deeper strata: usually less than 2 mg O₂/l below 4 m; – (3) water clouded by phytoplankton, eutrophic to polytrophic: breeding sites between 0.5 and 3.1 m median Secchi-depth (68% with visibility of less than 2 m); – (4) water surface with abundant floating or submerged vegetation, more rarely also tree trunks or reed: substrates for oviposition and habitats of the younger larvae; – (5) water surrounded by shrubs and/or deciduous woodland; – (6) water inhabited by fish populations; – (7) the dragonfly communities are dominated by *Orthetrum cancellatum*, *Cordulia aenea* and *Erythromma* spp.; aeshnids usually occur in low densities. – The typical habitats of *Epiptera* in central and western Europe are still waters in the flood plain (river lagoons or gravel pits) and small lakes inhabited by fish.

- (13620) UBUKATA, H., 2000. The impact of global warming on insects. In: A. Domoto, K. Iwatsuki, T. Kawamichi & J. McNeely, [Eds], *A threat to life: the impact of climate change on Japan's biodiversity*, pp. 61-70, Tsukiji-Shokan, Japan & IUCN, Gland. ISBN 4-8067-1217-5. – (Orders to: IUCN Publ. Serv., 219c Huntingdon Rd, Cambridge, CB3 0DL, UK).

A slightly different text was circulated privately (1997), and it is described in OA 12100. Here figures the work as a chapter in a book, considered to present the latest and best of Japanese research on climate change and its impact on selected animal groups and vegetation. The current northward range expansion of numerous palaeartic and nearctic odon. spp. is mentioned, that of *Ictinogomphus pertinax* in Japan, and *Crocotthemis erythraea* in Europe is outlined and mapped in some detail. The Japanese brackish water endemites, *Mortonagrion hirosei* and *Orthetrum poecilops miyajimaensis*, are threatened by loss of habitats, due to a rise in sea level.

- (13621) VAN BUSKIRK, J., 2000. The costs of an inducible defense in anuran larvae. *Ecology* 81(10): 2813-2821. – (Inst. Zool., Univ. Zürich, Winterthurerstr. 190, CH-8057).

The costs of responding to predators (4 *Aeshna* and *Anax* spp.) were estimated for 15 spp. of anuran tadpoles in artificial pond experiments. Across all spp. there was a highly significant reduction of growth rate

in the presence of predators, but no tendency for a survival cost of responding to predators. It is concluded that evolutionary changes in specific phenotypic responses to predators have not been accompanied by changes in the cost. The prevalence of growth costs of responding to predators, but not survival costs, supports models of induced defenses that assume that fitness costs arise from shifts in allocation of time and energy.

- (13622) VAN EERDEN, M.R. et al. [25 authors], 2000. *Pechora Delta: structure and dynamics of the Pechora Delta ecosystems (1995-1999)*. Inst. Biol., Syktyvkar; St. Committee Envir. Prot. Nenets Autonomous Okrug, Nar'yan-Mar & Inst. Inland Water Manag., Lelystad. 368 pp. ISBN 90-3659-334-0. – (RIZA, Zuiderwagenglein 2, NL-8200 AP Lelystad).

The lower Pechora region is situated in the NE part of European Russia, on the Barents Sea. The odon. chapter appears on p. 147, it is authored by M.R. van Eerden & M. Roos. Dragonflies appear extremely rare in the region, viz.: 1 specimen *Aeshna caerulea* in the Delta (mouth of the Pechora R.), 8-VII-1995; and 1 ♀ *Somatochlora arctica*, Khabuika, 7-VII-1996.

- (13623) VAN TOL, J., 2000. The Odonata of Sulawesi and adjacent islands, 5: the genus *Protosticta* Selys (*Platystictidae*). *Tijdschr. Ent.* 143(2): 221-266. – (Natn. Mus. Nat. Hist., P.O. Box 9517, NL-2300 RA Leiden).

A revision of 12 Sulawesi (formerly Celebes, Indonesia), Buton and the Sangihe Isls spp. is provided. *P. annulata* Fraser is a synonym of *P. simplicinervis* Sel. 9 spp. are described as new, viz. *P. coomansi* sp. n. (Palu: Lindu Valley), *P. geijskesi* sp. n. (NNE of Malili), *P. linduensis* sp. n. (Polewali), *P. marenae* sp. n. (Palu: Lindu Valley nr Gimpu), *P. maurenbrecheri* sp. n. (NW of Palopo), *P. pariwonoi* sp. n. (N of Ujung Pandang: Maros), *P. reslae* sp. n. (Polewali), *P. rozendalorum* sp. n. (Sangihe Isls), and *P. vanderstarrei* sp. n. (Polewali). The status of the genus is discussed. Its high diversity in Sulawesi is in contrast with the complete absence of the *Platycnemididae* and *Euphaeidae*, and the virtual absence of the *Protoneuridae* from the island. In addition, various spp., as here recognized, show significant variation between populations. The morphological variation is clinical in some spp., presumably related to the geological history of the island.

- (13624) VIZSLÁN, T., 2000. Adatok a Cserehát Odonata faunájához. – Data on the dragonfly fauna

- of Cserehát. *Fol. hist. nat. Mus. matraensis* 24: 133-137. (Hung., with Engl. s.). – (Szenet Mihály ut. 9, HU-9400 Sopron).
Records of 37 spp.; Cserehát, Hungary.
- (13625) WANG, L.-J., 2000. *Dragonflies of Taiwan*. Jemjem Calendar Co., Taipei. 352 pp. ISBN 957-30885-1-7. (21.0×20.0 cm), softcover. (Chin. & Engl.). – (Author: 27, No. 26, Lane 203, Sec. 2, Shin Long Rd, Taipei-116, Taiwan).
The first part of the book (pp. 1-79) deals with morphology, life history, biology, ecology and behaviour (Chin. text, chapter titles and fig. captions bilingual), the second part is a systematic, species-wise treatment of the Taiwanese fauna (text bilingual, taxonomic nomenclature throughout). The adults of all spp. (♂ and ♀) are shown on exceptionally beautiful field photographs. The information presented includes the regional occurrence, habitats, adult season, and notes on behaviour, oviposition, etc. The book will certainly serve also as a handy tool for identification of the regional spp. It is by far the best commercially available work on the Taiwanese fauna.
- (13626) WILLIAMSONIA. A quarterly publication of the Michigan Odonata Survey. Vol. 4, No. 4 (Nov. 2000). – (c/o Dr M.F. O'Brien, Insect Div., Mus. Zool., Univ. Michigan, 1109 Gaddes Ave., Ann Arbor, MI 48109-1079, USA).
O'Brien, M.: The spotted-wing (mostly) libellulida (pp. 1-3; descriptive key); – *Freeman, C.*: Fall dragons in the UP (p. 4); – *O'Brien, M.*: Observations at Ives Road Fen (pp. 4-5); – (*Anonymous*): MOS news (p. 6); – *New publications reviewed* (pp. 6-7).
- (13627) WINSTON, M., 2000. A dragonfly could be portent [...]. *Vancouver Sun* (Forum), issue of 14 Sept., p. A17. – (Dept Biol. Sci., Simon Fraser Univ., Burnaby, BC, V5A 1S6, CA).
An article on global warming, in the leading British Columbia daily, using the "dragonfly" as an example.
- (13628) YEH, W.-C., 2000. Description of a new species of the genus *Oligoaeschna* Selys (Anisoptera: Aeshnidae) from northern Thailand. *Chin. J. Ent.* 20: 225-231. (With Chin. s.). – (Div. Forest Prot., Taiwan Forestry Res. Inst., 53 Nan-Hai Rd, Taipei, Taiwan).
O. pramoti sp. n., the second representative of the genus recorded from Thailand, is described, illustrated and compared with *O. niisatoi* Karube, its close ally. Holotype ♂: Chiang Mai, above Siribhum waterfalls, alt. 1400-1450 m, 18-V-1999; deposited in A. Pinratana coll., Bangkok.
- (13629) YOKOI, N., 2000. A list of dragonflies collected in central Laos. *Gekkan-Mushi* 356: 18-22. (Jap., with Engl. s.). – (2-37-11, Kaisei, Koriyama, Fukushima, 963-8851, JA).
An annotated list of 20 spp., of which *Protosticta taipokauensis* and *Epophthalmia elegans* are for the first time recorded from Indo-China. – See also *OA* 10626, 12879.
- ### 2001
- (13630) JONES, C.D., 2001. Results of the Algonquin odonate counts 1999 and 2000. *Ontario Insects* 6(2): 36-38. – (Box 182, Lakefield, ON, K0L 2H0, CA).
59 and 45 spp. were evidenced on 26-VI-1999 and 24-VI-2000 resp. Checklists are presented and some annotations on the "highlight" records are made. – For the 1998 report, see *OA* 12680.
- (13631) SURI BABU, B. & V.K. SRIVASTAVA, 2001. Annotations on the dragonfly fauna of Sagar, Madhya Pradesh, central India (Odonata: Anisoptera). *Opusc. zool. flumin.* 193: 1-7. – (First Author: Forensic Sci. Lab., Police Control Rm, E-4 Saket Colony, Jagdalpur-494001, M.P., India).
21 spp., evidenced during 1992-1996, are listed and field notes are provided on all of them. 17 spp. were not previously recorded from the district of Sagar. *Crocothemis misrai* Baijal & Agarwal (1955, *Agra Univ. J. Res. [Sci.]* 4: 453-470), originally described from Sagar, was not encountered during the survey. Its status is considered uncertain until the holotype will have been re-examined.
- (13632) VAN DER POORTEN, N., 2001. Report on 2000 field trips to Urquart Butterfly Garden, Wainfleet Bog, Marcie Woods, and Leslie St Spit. *Ontario Insects* 6(2): 42-43. – (c/o TEA, 34 Seaton Dr., Aurora, ON, L4G 2K1, CA).
Lists 8 odon. spp. from Wainfleet Bog, the largest remaining bog in S Ontario, Canada.