

ODONATOLOGICAL ABSTRACTS

1971

- (7055) REMANE, A. & C. SCHLIEPER, 1971. *Biology of brackish water*. [Die Binnengewässer, Vol. 25]. X+372 pp. Wiley, New York-Toronto-Sydney. ISBN 0-471-71640-5. — Price: US \$ 57.50.

This is a revised Engl. edition of the classical 1958 "Biologie des Brackwassers" (Die Binnengewässer, Bd. 22, Schweizerbart'sche Verlagsbuchhandlung, Stuttgart). The scanty information on Odon. (p. 80) is mainly based on H. Lindberg's 1949 monograph (*Commentat. biol.* 10: 1-206), it is neither revised, nor completed or updated. The very substantial volume of information on Odon. in brackish water habitats published in the past 4 decades and covering all climatic zones and continents remains completely disregarded.

1978

- (7056) PINHEY, E., 1978. Falcon College Expedition to Huwi Private Nature Reserve, Ellisras, N.W. Transvaal, Nov.-Dec., 1977: Odonata and Lepidoptera. *Falcon, Zimbabwe* 6(3): 61-63. — (7 Anvil Close, Billingshurst, W. Sussex, RH14, 9NQ, UK).
Commented list of 30 odon. spp.

1979

- (7057) CHISHTI, M.Y., 1979. *Damselflies of Faisalabad*. M. Sc. thesis (Ent.), Univ. Agric., Faisalabad. VI+20 pp. — (c/o Dr M. Yousuf, Dept Agric. Ent., Univ. Agric., Faisalabad, Pakistan).

12 spp. from the Faisalabad area, Pakistan, are listed, described and discussed. *Pseudagrion ceylanicum* is a peculiar record, certainly referable to *C. rubriceps*.

1981

- (7058) GROSSBERGER, K. & J. HOFFMANN, 1981. Antrag auf Ausweisung eines Naturschutzgebietes im Bereich der Flussmündungen Ilmenau und Luhe, Landkreis Harburg. *MittBl. dt. Bund Vogelschutz Hamburg* (Sonderheft 9: 1-68. — (Second Author: Schopstr. 6, D-2000 Hamburg-20, FRG).

References to the list of, and a brief discussion on the national status of the 21 odon. spp. recorded in the area of the proposed nature reserve (Hamburg, FRG) appear on pp. 4, 5, 45-47.

1984

- (7059) NIAZI, W.A.K., 1984. *Damselflies of district Rawalpindi*. M. Sc. thesis (Ent.) Univ. Agric., Faisalabad. VI+36 pp., 1 map excl. — (c/o Dr M. Yousuf, Dept. Agric. Ent., Univ. Agric., Faisalabad, Pakistan).

18 spp. from the Rawalpindi area, Pakistan, are listed, described and discussed.

1985

- (7060) KANTH, Z.I., 1985. *Odonata of Azad Jammu and Kashmir*. M. Sc. thesis (Ent.) Univ. Agric., Faisalabad. X+101 pp. — (c/o Dr M. Yousuf, Dept Agric., Univ. Agric., Faisalabad, Pa-

kistan).

61 spp. from 4 districts of the province Azad Jammu and Kashmir, Pakistan, are described in considerable detail. Among other details, the characters distinguishing between *Crocothemis servilia* and *C. erythraea*, and between *Pseudagrion rubriceps* and *P. ceylanicum* are outlined, but no localities of the latter are stated (cf. OA 7057).

- (7061) KAPPES, E. & W. KAPPES, 1985. *Zusammenstellung der Libellen-Beobachtungen im Norden Griechenlands*. IV+133 pp. Privately published, Hamburg. — (Holstenstr. 157, D-2000 Hamburg-50, FRG).

Detailed account of odon. (47 spp.) recorded (1982-1984) in 44 areas in northern Greece, mainly in the regions of the Prespa Lakes, Aliakmon Delta, Limni Volvi, a stream nr Porto Lagos, and the Mitrikoy Lake. Detailed descriptions of habitats and their odon. fauna are followed by an annotated list of records. A key to the adults of the European Cordulegaster spp. (by H. Stobbe) is appended (cf. OA 7063).

- (7062) MICHAELIS, F.B., 1985. Rare or threatened species from inland waters of Tasmania, Australia. *Rec. Victoria Mus. Launceston* 87: 1-14. — (Aust. Natn. Parks & Wildlife Serv., 3rd Floor, Construction House, 217 Northbourne Ave., Turner, A.C.T. 2601, AU).

The Tasmanian endemics *Archipetalia auriculata* and *Synthemiopsis gomphomacromioides*, and *Synthemis macrostigma orientalis* (which is widespread in continental Australia) are listed in the IUCN category "rare".

- (7063) STOBBE, H., 1985. Bestimmungsschlüssel für die europäischen Cordulegaster-Arten (Anisoptera: Cordulegasteridae). In: E. Kappes & W. Kappes, *Zusammenstellung der Libellen-Beobachtungen im Norden Griechenlands*, pp. 128-133, privately published, Hamburg. — (Holthusenstr. 4a, D-2000 Hamburg-67, FRG).

Key to the adults of both sexes of 6 European spp.; the infraspecific taxa are not considered. — For the book cf. OA 7061.

1986

- (7064) DAVID, S., 1986. Vážky (Odonata) Holého vrchu a Košiar dolinky v Štiavnických vrchoch. — [Dragonflies (Odonata) of the Holý hill and the Košiar valley in the Landscape Reserve of the Štiavnecké Range]. *Prehl. odbor. Výsl. XXI Tabora Ochranov Prir.*, pp. 50-56. (Slovak). — (Tekovské Muzeum, CZ-934 69 Levice).

15 spp. are listed and the fauna of this reserve in the Štiavnecké Range (= Schemnitzer Mts), Slovakia, Czechoslovakia, is briefly discussed.

- (7065) DAVID, S., 1986. Vážky Hrádockého ramene Váhu a ďalších lokalít v okolí Trenčína. — Dragonflies of the Hrádok branch of the River Váh and of other localities in the surroundings of Trenčín. *Zbor. odbor. Prac IV zapadoslov. Topu, Bratislava* 3: 255-265. (Slovak, with Engl. s.). — (Tékovské Múzeum, CZ-934 69 Levice).

20 spp. are evidenced from this locality in Slovakia, Czechoslovakia. The record of *Crocothemis erythraea* is of particular interest.

- (7066) KAPPES, E. & W. KAPPES, 1986. *Dragonfly observations in Canada (Yukon and British Columbia)*. 44 pp. Privately published, Hamburg. — (Holstenstr. 157, D-2000 Hamburg-50/Altona, FRG).
Field notes and a list of records.

- (7067) SCHMIDT-FASEL, S. & D. SCHMIDT, 1986. Zur Flora und Fauna des Nistertales zwischen Stein-Wingert und Wissen. *Ornithol. NatSchutz Koblenz* 7: 149-156. — (Denkmalstr. 16, D-5244 Daarden, FRG).
Contains a list of 8 odon. spp. (Westerwald nr Koblenz, FRG).

1987

- (7068) CHAO, H.-f., 1987. Odonata: Aeshnidae, Libellulidae. In: S. Zhang, [Ed.], *Agricultural insects, spiders, plant diseases and weeds of Xizang [=Tibet]*, Vol. 1, pp. 5-6, Xizang Peoples' Publishing House, Xizang. [Published in 1988, though 1987 is given on the cover]. (Chin., with Engl. s.). — (Inst. Biol.

Control, Fujian Agric. Coll., PRC-350002 Fuzhou, Fujian).

This is a highly interesting little note, dealing with the fauna of an odonatologically virtually unexplored region in Tibet. Since the text is entirely in Chinese, Professor H.-f. Chao was kind enough to provide Engl. transliterations of the locality names as appearing in the paper by S.-m. Zhang, Y.-x. Chao & S.-c. Hu, "On the geographical regions of agricultural insects in Xizang", published in the same volume, pp. 25-27. The Engl. transliterations of Tibetan locality names there, however, are in part unusual, hence the places not easily recognizable, therefore the *Abstracter* requested Dr Gyatsho Tshering (Library of Tibetan works and archives, Dharamsala, India) for a more "classic" transliteration, based on the names in the Zhang et al. work. The localities are as follows (the Zhang et al. transliteration in parentheses): Oriental region: (1) Dza-yul/Mon-yul/Glo-yul rice and tea district ("Zayu-Menyu-Loyu"), (2) "double cropping dry farming district", no locality name, (3) "Middle Himalaya district", no locality name, (4) Nying-khu/sMin-gling district ("Nyingchi-Mainling"); — Palaearctic region: (5) Hong-grong mountain district ("Heng-Duang"), (6) "southern Xizang [=Tibet] farming and animal husbandry district", no locality name, (7) "Mountain region high cold district", no locality name, (8) Western mNg'a-ris district ("Ali"), (9) Nag-chu high cold district ("Nagqu"). The spp. and the corresponding localities are: *Anax parthenope* (1, 2, 3, 7), *Aeshna* sp. (9?), *Acisoma panorpoides* (4), *Crocothemis erythraea* (6), *Diplacodes trivialis* (5), *Libellula quadrimaculata* (1, 2, 8), *Orthetrum chrysus* (6), *O. internum* (2), *Palpopleura sexmaculata* (4, 6), *Pantala flavescens* (6), *Trithemis festiva* (6), *T. pallidinervis* (2, 6). In the Zhang et al. paper a good map is given of the topographic position of the districts concerned. This was annotated by Prof. Chao and copies are available from the Editor of *Odonatologica*.

- (7069) D'ANTONIO, C., 1987. Gli odonati del lago di Falciano (Falciano del Massico, Caserta) e nuove catture di odonati in altre stazioni. *Boll. Soc. Natur. Napoli* 96: 165-175. (With Engl. s.).

— (Dipto Zool., Univ. Napoli, Via Mezzocannone 8, I-80134 Napoli).

16 spp. are listed from the lake of Falciano (Caserta, Campania, southern Italy). *Orthetrum nitidinerve* represents the first record of this sp. in Campania since 1928. 87.5% of the regional spp. are referable to the preglacial "Refugialfauna" of St. Quentin. — An annotated list of 34 spp., from 38 localities in southern Italy is appended.

- (7070) DAVID, S., 1987. Příspevek k poznání vážek (Odonata) okoli Lučence. — [Contribution to the knowledge of dragonfly fauna in the Lučenec area]. *Prehl. odbor. Výsl. XXII Tabora Ochrancov Prir.* pp. 151-158. (Slovak). — (Tekovské Muzeum, CZ-934 69 Levice).
The odon. fauna (19 spp.) of this region in southern Slovakia, Czechoslovakia, is listed. At 5 localities studied, 2 distinct odon. communities were discerned.

- (7071) KAPPES, E. & W. KAPPES, 1987. *Odonata Canada 29.6-25.7.1986 und 20.6-18.7.1987 in British Columbia und Alberta*. Stencil, 8 pp. Printed and circulated by the authors. — (Holstenstr. 157, D-2000 Hamburg-50/Atona, FRG).

Annotated list of 38 spp. collected or photographed.

- (7072) MACAGNO, M., 1987. Per una libellula. *Boll. Soc. paleontol. ital.* 26(1/2), 2 pp. (introductory part of the issue, no pagination) (Author's address not stated).

Personal reminiscences of the encounter with, and the odon. palaeontology work of the late Prof. Carlo Sturani (deceased Dec. 20. 1975). For his work cf. *OA* 6925.

- (7073) McNICOL, D.K., P.J. BLANCHER & B.E. BENDELL, 1987. Waterfowl as indicators of wetland acidification in Ontario. *Techn. Publ. Int. Council Bird Preserv.* 6: 149-166. — (Can. Wildl. Serv., Ontario Region, 1725 Woodward Drive, Ottawa, Ont. K1A 0H3, CA).

The paper summarizes current information on waterfowl-acid rain relationships in Ontario, identifies the advantages of using breeding waterfowl as indicators of wetland acidification,

and provides recommendations for the development of a biomonitoring protocol using waterfowl. The effects on waterfowl of ecological changes associated with lake acidification were studied in an acid-stressed (Wanapitei) and an unstressed (Ranger Lake) area of NE Ontario, Canada. The availability of food for some spp. has been influenced by acidification. In the stressed area, acid-sensitive organisms, such as certain fish, Ephemeroptera and Gastropoda, occurred infrequently in lakes where pH was below 5.5. Acid-tolerant organisms, including certain Odon. and nekton (Notonectidae, Corixidae and Dytiscidae), were common at low pH. Anisoptera were more abundant but less diverse on acidic lakes, because of the extreme abundance of *Leucorrhinia glacialis*. Nekton was most abundant in the absence of fish. Diets among non-piscivores (4 spp.) were more similar in acidic (pH < 5.5) compared to non-acidic habitats, due to a reliance on a few abundant insect taxa, particularly larval *L. glacialis*. Piscivores (2 spp.) produced fewer broods relative to the number of indicated nesting pairs observed in the stressed area. Because the Common Loon relies on a healthy fish population, the breeding success of this sp. is a good indicator of the effects of acidification on fish at moderately high pH (> 5.5). Non-piscivores integrate the combined effects of fish predation and acidity on major invertebrate prey under more stressful conditions (pH < 5.5).

- (7074) *ODONATOLOGICAL LIBRARY NEWS*. Published by the Kansai Research Group of Odonatology, Osaka. (Jap., with Engl. title). No. 1 (July 31, 1987), No. 2 (March 1, 1988), No. 3 (Dec. 4, 1988), No. 4 (Apr. 2, 1989), No. 5 (Dec. 3, 1989). — (Editor: Dr S. Tsuda, 17-9, Habikigaoka 7-chome, Habikino-shi, Osaka Pref., 583, JA; — for the Publisher: K. Tani, Jizo-cho 129, Nara, 630, JA; — for the distribution outside Japan: K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA). This is the bulletin of the Library of the Kansai Research Group of Odonatology, located at the Osaka Mus. Nat. Hist. (Librarian: Dr S. Tsuda). The subscription is included in the KRGO membership fees, Standing Donators

to the Library are receiving it free, subscriptions are accepted at the addresses indicated. — The bulletin regularly publishes the (computerized) accessions to the Library. So far bibliographic data were published of 866 publications by Japanese authors, and of 38 non-Japanese titles. The ultimate Library objectives are (1) to develop a regular abstracting service of Japanese odonatol. literature, and (2) to compile a complete Japanese odonatol. bibliography. Both projects are scheduled in conjunction with the SIO. A "side product" of the KRGO Library efforts are the production and updating of the distribution maps of the Odon. in Japan. — In view of the appreciable costs involved in these projects, the worldwide SIO membership are warmly requested to support the work by regularly providing reprints of their current papers to the KRGO Library, as represented by the Editor of this bulletin.

- (7075) SUZUKI, K. & H. KADOWAKI, 1987. Geographical distribution of Mnais damselflies (Odonata, Calopterygidae) in Shimane prefecture including Oki Islands Chûgoku district, Southwest Japan. (III). *J. Coll. liberal Arts Toyama Univ.* (nat. Sci.) 20(2): 49-61. (With Jap. s.). — (First Author: Dept Biol., Coll. Liberal Arts, Toyama Univ., 3190 Gofuku, Toyama-shi, 930, JA). Continuation of the series listed in OA 6103.

1988

- (7076) CHOCKALINGAM, S., K.P.S. JEYACHANDRAN & B. SHANTHY, 1988. Effect of sublethal concentrations of dairy effluent on the biochemical constituents in the nymph of dragonfly *Brachythemis contaminata*. *Poll. Res.* 7(1/2): 23-28. — (Zool. Res. Lab., Thiagarajar Coll., Madurai-625009, India). Results of the same research project as listed in OA 7077. The total sugar and protein content in the entire insect, i.e. in the cuticle, alimentary canal and in branchial baskets were found to be depleted in the presence of dairy effluent. The total lipid content in these tissues/organs, however, increased when the concentration of dairy effluent increased.

- (7077) CHOCKALINGHAM, S., K.P.S. JEYA-CHANDRAN & B. SHANTHY, 1988. Effect of sublethal concentrations of dairy effluent on the respiratory metabolism of dragonfly nymph *Brachythemis contaminata*. *Uttar Pradesh J. Zool.* 8(1): 12-17. — (Zool. Res. Lab., Thiagarajar Coll., Madurai-625009, India).
The effects of different sublethal concentrations of dairy effluent (2.5, 5.0, 7.5, 10.0 and 12.5%) on larval respiratory metabolism were examined. The oxygen consumption was indirectly proportional to the concentrations. A decreasing trend in the consumption was also noted when the duration of the exposure was prolonged.
- (7078) COPPA, G., 1988. Odonates des landes d'Oger et de Mesnil-sur-Oger (51-Marne). *Bull. Ent. champen.* 5(3): 101-103. — (Les vieilles Censes, Elan, F-08160 Flize).
List of 31 spp., with brief comments on 5 of them. The fauna of the 2 localities includes 55% of the spp. known from the Dept of Marne, but the Platynemididae, Calopterygidae and Cordulegastridae are lacking.
- (7079) COSTA, J.M., 1988. Descrição de *Oxygrion fernandoi* sp. n. e interpretação filogenética da nervura cúbito-anal (CAC) (Odonata, Coenagrionidae). *Bolm. Mus. nac. Rio de J.* (Zool.) 323: 1-7. (With Engl. s.). — (Depto Ent., Mus. Nac., Quinta da Boa Vista, São Cristóvão, BR-20960 Rio de Janeiro).
O. fernandoi sp. n. is described and figured from 4 ♂ (holotype ♂: Município de São Vicente, Rio São Lourenço, Mato Grosso, Brazil; 22-VII-1983). In the author's interpretation of the cubito-anals, the sp. is considered primitive.
- (7080) D'ANTONIO, C. & P. FIMIANI, 1988. Approccio ad un inventario entomofaunistico dell'Isola di Vivara (NA). Nota preliminare (1° contributo). *Annuar. Ist. Mus. Zool. Univ. Napoli* 26 [1983]: 155-170. (With Engl. s.). — (Second Author: Ist. Ent. Agrar., Univ. Portici, Via Università 10, I-80055 Portici).
Anax parthenope and *Sympetrum striolatum* are the sole odon. listed from the island of Vivara, Gulf of Naples, Italy.
- (7081) DAVID, S., 1988. Příspevek k rozšíření vážek (Odonata) v jihovýchodní části Podunajské pahorkatiny s poznámkami k výskytu vážky *Orthetrum brunneum*. — [Contribution to the knowledge of dragonfly occurrence (Odonata) in the SE part of the Podunajská pahorkatina hills, with notes on *Orthetrum brunneum*]. *Zbor. odbor. Prac V zapadoslov. Tabora Ochranov Prir.* 4: 62-68. (Slovak). — (Tekovské Muz., CZ-934 69 Levice).
The Odon. fauna (16 spp.) was surveyed at 2 localities in this area, SW Slovakia, Czechoslovakia. Of local interest is the occurrence of *Coenagrion pulchellum*, *Erythromma viridulum* and *Orthetrum brunneum*.
- (7082) DAVID, S., 1988. *Somatochlora flavomaculata* (van der Linden, 1825) nový druh pro faune vážek slovenska. — [*Somatochlora flavomaculata* (van der Linden, 1825), a new species for the dragonfly fauna of Slovakia]. *Vlastivedný Spravodaj iekov. Muz.* 12: 39-42, map excl. (Slovak). — (Tekovské Muzeum, CZ-934 69 Levice).
2 ♂ (7/8-VII-1987) are recorded from "Rošelinisko", Plavecký Peter, Záhorská lowlands, SW Slovakia, Czechoslovakia. The locality is described in detail and the record is discussed.
- (7083) GARRISON, R.W. & E. GONZALEZ-SORIANO, 1988. Population dynamics of two sibling species of neotropical damselflies, *Palaemnema desiderata* Selys and *P. paulitoyaca* Calvert (Odonata: Platystictidae). *Fol. ent. mex.* 76: 5-24. (With Sp. s.). — (First Author: 1030 Fondale St., Azusa, CA 91702-0821, USA).
Demographic parameters, incl. average life spans, average movements in meters per day, and average home ranges, are described for 2 sympatric populations of the 2 spp., from southern Veracruz, Mexico. Average daily population estimates showed *P. desiderata* to be about 8 times as abundant as *P. paulitoyaca*. Male *P. desiderata* were significantly more common than their females, but standard errors for *P. paulitoyaca* were too great, precluding reliable estimates of sex ratios.

Average life span was 7-10 days for *P. desiderata*, 3-7 days for *P. paulitoiyaca*. Maximum post-emergence adult lifespans probably average about 3 weeks. Significant differences in mean body length within each group, no evidence of disruptive selection for body length was observed, and strong site fidelity characterizes the populations studied. No quantitative evidence of reproductive isolation was detected. The genus is speciose, and current agricultural practices in the neotropics will only tend to encourage isolation among various populations, leading perhaps to race formation, assuming that local populations do not become extinct.

- (7084) HEYM, W.-D. & I. HIEKEL, 1988. Entwicklung, Vegetation und Libellenfauna älterer Restgewässer im westlichen Muskauer Faltenbogen. *Natur Landschaft Bez. Cottbus* 10: 36-58. — (Hallenser Str. 3, DDR-7500 Cottbus, GDR).

The odon. fauna (29 spp.) and its succession in the ponds of the abandoned opencast mining area in the districts of Spremberg and Forst, GDR, are recorded and discussed in terms of continuous changes in abiotic and vegetational features of the habitats, that were systematically followed during about 2 decades. Considerations relative to a tentative management of individual ponds are also included.

- (7085) HILL, L. & F.B. MICHAELIS, 1988. Conservation of insects and related wildlife. Report on the Australian National Parks and Wildlife Service survey of insect conservation needs. *Occ. Pap. aust. natn. Parks Wildlife Serv.* 13: 1-40. — (Second Author: Aust. Natn. Parks & Wildlife Serv., 3rd Floor, Construction House, 217 Northbourne Ave., Turner, A.C.T. 2601, AU).

Archipetalia auriculata and *Hemiphlebia mirabilis* are stated as threatened in Australia, while, in addition, 11 spp. are listed that require attention as to their conservation status either as individual spp. or as members of threatened invertebrate communities.

- (7086) KAPPES, E. & W. KAPPES, 1988. *Canada: 4. naturkundliche Fahrt nach British Co-*

lumbia, 2.-31. Juli 1988. 96 pp. Privately published, Hamburg. — (Holstenstr. 157, D-2000 Hamburg-50/Altona, FRG).

Diary of the trip, with extensive notes on odon. field observations, and detailed checklists of odon. records.

- (7087) KAPPES, W., 1988. *Die Libellen von British Columbia und Yukon: Bestimmungsschlüssel.* II+34 pp. Deutscher Jugendbund für Naturbeobachtung, Hamburg. — Available also from the SIO Central Office, Bilthoven. — (Author: Holstenstr. 157, D-2000 Hamburg-50/Altona, FRG).

The small booklet (printed in 500 copies) solely contains a key to the adult stage of 83 spp. known to occur in British Colombia and Yukon, Canada. It is largely based on the handbook, listed in OA 2055. Unfortunately, it contains some errors (such as e.g. the spelling of "Aeschna"), and it is not updated (*Pantala hymenaea* is missing).

- (7088) RUFFO, S. & A.V. TAGLIANTI, 1988. Appunti per una storia delle ricerche entomologiche nell'Appennino centro-meridionale. *Atti XV Congr. naz. ital. Ent., L'Aquila*, pp. 7-30. — (First Author: Mus. Civ. Stor. Nat. Lungadige Porta Vittoria 9, I-37129 Verona). History of entomological research in the area of South-Central Apennines, Italy, is traced from 16th century to present. On p. 26, reference is made to the "Roman entomological school", represented by the odonatologists G. Carchini and C. Utzeri. Of general interest are the definitions and characterizations of the historical periods.

- (7089) SUZUKI, K. & H. KADOWAKI, 1988. Geographical distribution of *Mnais* damselflies (Odonata, Calopterygidae) in Tottori prefecture, Chûgoku district, Honshu, Southwest Japan. (I). *J. Coll. liberal Arts Toyama Univ. (nat. Sci.)* 21(1): 1-17, col. pls 1-2 incl. (With Jap. s.). — (Second Author: 176 Yamada, Daito-cho, Ohara-gun, Shimane-ken, 699-12, JA).

The work is based on 439 specimens, referable to *M. nawai*, *M. pruinosa* and an unnamed new sp., originating from 63 localities. *M.*

pruinosa ("Nankai group") and the new sp. occur parapatrically, with the N-S boundary approx. on the Sendai-gawa-Yoshii-gawa line. The occurrence of intermediate individuals suggests the existence of a narrow hybrid zone between the ranges of the 2 taxa.

- (7090) TAKAHASHI, Y., 1988. [*Dragonflies of Miyagi-ken*]. Bunanoki-shuppan, Yonezawa. VI+144 pp., 14 col. pls, soft cover, 13x18.5 cm. — ISBN 4-938557-04-5. (Jap.). — It is not available from the SIO. — (Publishers: Tōri-machi 5-5-11, Yonezawa-shi, Yamagata-ken, 992, JA). Price in Japan: Y 1200.).

Prefectural fauna, with annotations, detailed records and regional distribution maps.

- (7091) THOMAS, M., A.M. DANIEL & M. GLADSTONE, 1988. Studies on the food preference in three species of dragonfly naiads with particular emphasis on mosquito larval predation. *Proc. Bocovas* [= Int. Conf. biol. Control Vectors predac. Arthr.] 1: 34-41. — (Dept Zool., Madras Christian Coll., Tambaram, Madras-600059, India).

The variation in food preference in larval *Ictinogomphus rapax*, *Bradinopyga geminata* and *Brachythemis contaminata* is discussed in terms of the larval spatial distribution, and the availability of *Culex* and *Chironomus* larvae.

- (7092) VERSPUI, K., 1988. *Argia fumipennis: the mating system of a damselfly*. 40 pp. M. Sc. thesis, Univ. Utrecht (Dept Comp. Anim. Physiol.). — (Author: Westerkade 27 bis, NL-3582 CA Utrecht).

The main features of the *A. fumipennis* mating system are: male aggregation near the oviposition sites, short term localization of males, short duration of female availability, lack of courtship, long tandem period, and oviposition in tandem. *A. f. atra* (Gainesville, Florida) and *A. f. violacea* (Palmer R., Mass.) differ in the duration of sperm translocation and copulation, and in the length of the daily reproduction period. This is tentatively ascribed to differences in local climatic features.

- (7093) WALTZ, E.C. & L.L. WOLF, 1988. Alternative mating tactics in male white-faced drag-

onflies (*Leucorrhinia intacta*): plasticity of tactical options and consequences for reproductive success. *Evol. Ecol.* 2(3): 205-231. — (Dept Biol., 108 College Place, Syracuse Univ., Syracuse, NY 13244-1270, USA).

Alternative tactics used by males to obtain mates usually are associated with genetic and/or phenotypic differences between the behavioral morphs. This system of *L. intacta* alternatives is characterized by plasticity of tactical options for individual males. Males may act either as territorials, and defend small perch-centered territories on the study pond, or they act as transients, spending most of their time in vegetation surrounding the pond and sallying out at intervals in search of mates. The 2 tactics remain in constant proportions over a broad range of densities, so transients do not result only from a "filling in" of suitable territorial sites. Males adopt tactics independently from day to day, with no significant influences of phenotypic variation, priority of arrival at the breeding site, or prior success in a role. This system is interpreted as based on conditional, frequency-dependent choice of alternatives by a population of males not differing significantly in their abilities to employ one tactic or the other, but the possibility of mixed strategies cannot be excluded entirely. Average daily mating success is equal for territorial and transient males, supporting predictions of mixed and conditional ESS hypotheses. Males of each tactic obtain matings daily in proportion to their representation in the population for most data samples. Deviations from the expected mating success provide no information of use in selecting one or the other tactic on subsequent days. This system of alternatives is suggested to represent a conditional mating strategy, in which males adopt tactics based on the availability of perches relative to oviposition substrate and on interactions within and between tactics that are influenced by the relative frequencies of territorial and transient males.

- (7094) WOLF-E., M., U. MATTHIAS & G. ROLDAN-P., 1988. Estudio del desarrollo de los insectos acuáticos, su emergencia y ecología en tres ecosistemas diferentes en el

Departamento de Antioquia. *Actualidades biol.* 17(63): 2-27. (With Engl. s.). — (Third Author: Depto Biol., Univ. Antioquia, Medellín, Colombia).

From Apr. 1983 to March 1984, the emergence of taxa from 7 aquatic insect orders was studied in 3 areas, located at different altitudes in the Antioquia Dept, Colombia. These included representatives of 5 odon. families, but neither specific, nor generic names are stated. Only the representatives of 5 dipteran families emerged throughout the year, in all others emergence increased with increased precipitation. Aside from temperature and precipitation, other physical and chemical parameters do not seem to affect emergence in aquatic insects.

1989

- (7095) (Anonymous), 1989. *Rote Liste – Bedrohte Tier- und Pflanzenarten im Saarland*. Minister für Umwelt, Saarbrücken. 127 pp. ISBN none. With reference to the papers listed in *OA* 519 and 4415, the odon. chapter (pp. 46-49) was prepared by A. DIDION (Scheidter Str. 273, D-6602 Dudweiler) and J. GERSTNER 25 spp. are listed in diverse categories. The list is considered "preliminary", and it is emphasised that most of the riverine and moorland spp. have apparently become extinct prior to the first odon. inventarisation in Saarland (FRG) in 1973. (Cf. also *OA* 6629, 7114).
- (7096) *ADVANCES IN ODONATOLOGY*, Vol. 4 (148 pp.), Dec. 1989. Edited by J. Legrand, published by the Societas Internationalis Odonatologica (S.I.O.), Paris. Price: Hfl. 125,-. — (Orders to the SIO Central Office, P.O. Box 256, NL-3720 AG Bilthoven).
- Beena, S., A. Palavesam & J. Muthukrishnan*: Satiation time and predatory behaviour in the larva of *Lestes elata* Hagen (Zygoptera: Lestidae) (pp. 5-11); — *Desforges, J. & J.-G. Pilon*: Etude de la croissance postembryonnaire de *Libellula julia* Uhler en milieu contrôlé (Anisoptera: Libellulidae) (pp. 13-25); — *Johnson, D.M. & P.H. Crowley*: A ten year study of the odonate assemblage of Bays Mountain Lake, Tennessee (pp. 27) — *Joseph, K.J. & A.R. Lahiri*: The diel patterns of communal roosting behaviour in *Potamarcha* congener (Rambur) (Anisoptera: Libellulidae) (pp. 45-52); — *Lahiri, A.R.*: On the status of rare Indian odonate species (pp. 53-56); — *Miller, P.L.*: Possible functions of the sub-genital plates of female libellulid dragonflies (Anisoptera: Libellulidae) (pp. 57-71); — *Pilon, J.-G., D. Lagacé, L. Pilon & S. Pilon*: The odonate fauna of the northern regions of Quebec-Labrador: review and perspective (pp. 73-88); — *Rehfeldt, G.*: Female arrival at the oviposition site in *Platycypha caligata* (Selys): temporal patterns and relation to male activity (Zygoptera: Chlorocyphidae) (pp. 89-93); — *Schaller, F.*: Apport des odonates à l'endocrinologie des insectes: rétrospective historique (pp. 95-122); — *Thompson, D.J.*: Sexual size dimorphism in *Coenagrion puella* (L.) (Zygoptera: Coenagrionidae) (pp. 123-131); — *Utzeri, C. & L. Dell'Anna*, Wandering and territoriality in *Libellula depressa* L. (Anisoptera: Libellulidae) (pp. 133-147).
- (7097) ALTMÜLLER, R., M. BREUER & M. RASPER, 1989. Zur Verbreitung und Situation der Fließgewässerlibellen in Niedersachsen. *Informationsdienst NatSchutz Niedersachs.* 9(8): 137-176, fold. col. map (62x70 cm) excl. — (Fachbehörde f. Naturschutz, Niedersächs. Landesverwaltungsamt, Postfach 107, D-3000 Hannover-1, FRG). — Available also from the SIO, Bilthoven.
- This is a small "monograph" on the rheophilous odon. spp. of Lower Saxony, FRG, viz. *Calopteryx virgo*, *C. splendens*, *Platycnemis pennipes*, *Coenagrion ornatum*, *C. mercuriale*, *Gomphus flavipes*, *G. vulgatissimus*, *Ophiogomphus serpentinus*, *Onychogomphus forcipatus*, *Cordulegaster boltonii*, *C. bidentatus* and *Libellula fulva*. Regional distribution and status, habitat ecology and biology of each sp. are briefly dealt with. In addition to the sp. distribution maps, a large col. map is provided, showing the known occurrence of all the spp. on the selected streams in Lower Saxony.
- (7098) *ANNUAL REPORT OF THE INTERNATIONAL ODONATA RESEARCH INSTITUTE*, No. 2 (1987-1988), 1989. Soc. Int.

- Odonatol. (S.I.O.), Gainesville, FL, USA. VI+20 pp. — (Standing Orders to the S.I.O. Central Office, P.O. Box 256, NL-3720 AG Bilthoven; price: Hfl. 15.- net).
- Dunkle, S.W. & M.J. Westfall*: Annual report I.O.R.I. 1987-1988 (pp. 1-8; Introduction, Present facilities, Future facilities, Field research, Lodging, Visitors, Archives, Service to I.O.R.I., Donations from the I.O.R.I., Donations to the I.O.R.I. collection, Financial donations, Financial report). — Odonata species in the I.O.R.I. collection (pp. 8-16); — Primary Odonata type specimens in the Florida State Collections of Arthropods curated by the I.O.R.I. (pp. 17-20).
- (7099) AUE, N., D. DRESCHER & K. VO-WINKEL, 1989. Zoologische Untersuchungen auf rekultivierten Flächen des Braunkohlentagebaugesbietes Borken/Nordhessen. *Poster Verh. Ges. Ökol., Essen* 18: 67-71. (With Engl. s.). — (Il. Zool. Inst., Univ. Göttingen, Berliner Str. 28, D-3400 Göttingen, FRG). In the recently formed acidic ponds in the recultivation area of a brown coal mine, Borken, Northern Hesse, FRG, 15 odon. spp. were evidenced (but are not listed here), of which only 1 sp. appears autochthonous. Chemical parameters of the habitat are given in some detail.
- (7100) BANNING, M., 1989. Limnologische Untersuchung des Ehrbaches und seiner Nebenbäche im Hunsrück. *Fauna Flora Rheinland-Pfalz* 5: 567-580. (With Engl. s.). — (Schönecker Str. 31, D-5401 Gondershausen, FRG). Lists *Cordulegaster bidentatus* and *C. boltonii* (Rhineland-Palatinate, FRG).
- (7101) BATTIN, T., 1989. Überblick über die Libellenfauna der Insel Kreta (Insecta: Odonata). *Z. ArbGem. öst. Ent.* 41(1/2): 52-64. (With Engl. s.). — (Leopold-Ernst-Gasse 17/6, A-1170 Wien). The odon. fauna (29 spp.) of the Island of Crete, Greece, is reviewed; *Anax parthenope*, *Hemianax ephippiger*, *Sympetrum striolatum* and *Trithemis annulata* are reported for the first time. The taxonomic status of *Calopteryx splendens cretensis* Pongracz is discussed. In addition to the checklist of all known records, notes on the autecology of some spp. are provided and the complete regional bibliography is given.
- (7102) BECK, C.H., [Publisher], 1989. *Naturschutz, Naturschutzgesetze des Bundes und der Länder. Bundesartenschutzverordnung. Washingtoner Artenschutzübereinkommen*. (4th ed.). Deutscher Taschenbuch Verlag, München. XXXII+512 pp. ISBN 3-423-05528-6. — Price in FRG: DM 14.80 net. A complete collection of authentic texts of the international conventions relative to nature and species conservations as ratified by the FRG, and of German national and state legislation in this field. The introductory outline of the operation of the German conservancy legal system (by State Secretary A. Ebert; pp. ix-xxxi) and a subject index facilitate the use of the book. The odon. are listed on p. 150. The list of legally recognized specialists for various animal groups re the Washington Convention and the Federal Nature Conservancy Act ("Lists der anerkannten Sachverständigen") does not include a qualified odonatologist.
- (7103) BELYSHEV, B.F., A.Yu. HARITONOV, C.N. BORISOV, Z.D. SPURIS, G.A. MA-ZOHIN-PORSHNYAKOV, P.A. MOKRUSHOV, R.S. PAVLYUK, L.N. PRITYKINA, G.I. RYAZANOVA, E.S. SHALOPENOK, A.D. PISANENKO, G.A. SUHACHEVA, I.N. HARITONOVA, V.V. ZAIKA & L.I. FRANCEVICH, 1989. *Fauna i ekologiya strekoz*, — [*Fauna and ecology of dragonflies*]. Nauka, Novosibirsk. 206 pp., 7 pls excl. — ISBN 5-02-028931-0. — Price in the USSR (hard cover): Rb 3.70. — (Available from the SIO, Bilthoven). The SIO emblem appears on the cover of the book, which was edited by V.G. Mordkovich, and presents a review of the achievements of Soviet odonatology. Different fields of research are covered by the respective specialists. — *Haritonov, A.Yu.*: Preface (pp. 3-4; a brief outline of the odonatology in the USSR, with considerable emphasis on the SIO); — Part I: History of research, composition and genesis of the fauna: *Spuris, Z.D.*: The European USSR

- (pp. 6-11); — *Belyshev, B.F., A.Yu. Haritonov & S.B. Borisov*: The Asiatic USSR (pp. 6-31; arranged region-wise); — *Belyshev, B.F., A.Yu. Haritonov, I.N. Haritonova & S.N. Borisov*: The composition of the USSR fauna (pp. 31-43; with a checklist of all spp., annotated per region); *Pritykina, L.N.*: Dragonfly paleontology and evolution (pp. 33, 44-59, pls 1-7 excl.); — *Belyshev, B.F. & A.Yu. Haritonov*: Origin of the boreal fauna (pp. 59-66). — Part II: Ecology and behaviour: *Haritonov, A.Yu. & S.N. Borisov*: Dragonfly phenology (pp. 67-76); — The main rhythms in dragonfly activity (pp. 77-85); — *Ryazanova, G.I. & G.A. Mazohin-Porshnyakov*: Spatial organisation in larval populations (exemplified on the genus *Calopteryx*) (pp. 85-91); — *Mokrushov, P.A.*: The role of vision in dragonfly behaviour (pp. 92-108); — *Mokrushov, P.A. & L.I. Francevich*: Behaviour studies in the genus *Sympetrum* (pp. 108-118). — Part III: The role of dragonflies in biotic communities: *Pavlyuk, R.S.*: Dragonfly parasites (pp. 118-141); — *Sihacheva, G.A.*: A review of the available evidence on the dragonfly trophic relationships (pp. 142-148); — *Shalopenok, E.S. & A.D. Pisanenko*: An attempt at the evaluation of the role of dragonflies in the Byelorussian aquatic habitats (pp. 148-158); — *Zaika, V.V.*: Preliminary report on the dragonfly fauna in the West Siberian aquatic communities (pp. 158-160). — Bibliography (pp. 161-205; 887 titles). — This is an excellent presentation of Soviet odonatology. In its scope, the book is unique in odonatological literature, though, unfortunately, the title does not really cover the scope of the work.
- (7104) BENKEN, T., 1989. Der Einfluss der Renaturierungsmassnahmen auf die Libellenfauna des NSG Rotes Moor. *Telma* (Beiheft) 2: 121-147 (With Engl. s.). — (Milchstr. 7, D-7800 Freiburg, FRG).
The odon. fauna in the Rotes Moor, Hessen, FRG, was seriously threatened by peat cutting and drainage. In 1984, the ditches were dammed and several new stretches of water were created. The odon. community was investigated during 1987-1988. 18 spp. were recorded, mostly in the eutrophic marginal areas, incl. *Coenagrion hastulatum*, *Somatochlora arctica* and *Leucorrhinia pectoralis*. The previously small populations of *Aeshna juncea* and *Leucorrhinia dubia* greatly increased and spread over the new man-made habitats. The fauna is compared with the adjacent unaffected Schwarzes Moor.
- (7105) BOND, K.G.M., 1989. *Aeshna cyanea* (Müller) (Odonata: Aeshnidae) a dragonfly new to Ireland. *Ir. Nat. J.* 23(2): 73-74. — (Dept Zool., Univ. Coll., Cork, Eire).
A freshly dead ♀ was collected in Cork city on Oct. 17, 1988. The meteorological conditions on and close before that date were particularly favourable for insect migration to Ireland from the SE.
- (7106) BROOKS, S.J., 1989. The dragonflies (Odonata) of London: the current status. *Lond. Naturalist* 68: 109-131, 1 col. pl. excl. — (Dept Ent., Brit. Mus. Nat. Hist., Cromwell Rd, London SW7 5BD, UK).
The Odon. occurring within 20 mi of St Paul's Cathedral were surveyed during 1983-1988. Records were received from over 500 localities, representing about 33% of the survey area. 25 spp. were found to be breeding. Of these, 11 are common and widespread, but 10 are restricted to a few sites only. By comparing the results of the present survey with the last comprehensive London-area survey by C. Longfield (1949, *Lond. Naturalist* 28: 80-98) it has been possible to assess changes in the odon. distribution over the last 40 yr. Many of the nationally common spp. have remained static and some have even increased. However, most of the rarer spp. have declined and 2 have apparently become extinct.
- (7107) CAO, Y. & Z. ZHENG, 1989. A new species of the genus *Davidius* from Shaanxi (Odonata: Gomphidae). *Entomotaxonomia* 11(1/2): 1-4. (Chin., with Engl. s.). — (Dept Biol., Shaanxi Teachers' Univ., Xi'an, P.R. China).
D. qinlingensis sp. n. (holotype ♂: Shaanxi, Ningshaam, 15-VI-1983, ♀ allotype: same locality, 14-VI-1983, several paratypes of both sexes, all deposited in the authors' inst.) is described and figured. The features distinguishing it from *D. nanus* Sel. and *D. moiwanus*

Okumura are stated.

- (7108) CARL, M., 1989. Aquatische Insekten aus dem Irak: ihre Verbreitung und Lebensräume (Ephemeroptera, Odonata, Heteroptera, Coleoptera, Diptera). *NachrBl. bayer. Ent.* 38(1): 12-20. (With Engl. s.). — (Zool. Staatssammlung, Münchhausenstr. 21, D-8000 München-60, FRG).

Anax parthenope, *Crocothemis chaldaeorum* and *Orthetrum taeniolatum* are listed from a few localities in Iraq.

- (7109) CARL, M., 1989. The ecology of a wadi in Iraq with particular reference to colonization strategies of aquatic macroinvertebrates. *Arch. Hydrobiol.* 116(4): 499-515. — (Zool. Staatssammlung, Münchhausenstr. 21, D-8000 München-60, FRG).

Larvae of *Anax parthenope* are reported from a channel (containing water throughout the year), and those of *Crocothemis chaldaeorum* and *Orthetrum taeniolatum* from temporary pools in a wadi, located ca. 20 km NE of Baiji.

- (7110) CHAO, H.-f. & Z.-y. LIU, 1989. One new species of the genus *Lamelligomphus* (Odonata: Gomphidae). *Entomotaxonomia* 11(3): 177-179. (Chin., with Engl. s. & Engl. fig. captions). — (Biol. Control Res. Inst., Fujian Agric. Coll., PRC-350002 Fuzhou, Fujian).

L. choui sp. n. (holotype ♂: Huangshan, Anhui prov., alt. 750 m, 20-VIII-1964) is described and figured. The new sp. is probably closely related to *Nepogomphus hainanensis* Chao and *N. ringens* (Needham), but can be differentiated from both of them in lacking the posterior branch of the anterior hamulus.

- (7111) COMITÉ DE LA SOCIÉTÉ ENTOMOLOGIQUE SUISSE, 1989. Code de conduite pour les entomologistes suisses. *Bull. romand Ent.* 7(2): 87-92.

To the *Abstracter* it is not clear whether this is a proposed discussion draft, or the final "legal" text of a Swiss entomological "code of conduct". The recommendations are rather general and "moderate", and they are most certainly spontaneously practised by the vast majority of field workers. Provision 2.1

("Eviter de tuer les insectes faciles à identifier), however, will be contraproductive. As far as at all traceable, most of the mystifications in the literature concern "easy to identify spp.", specimens of which were not collected. The numerous other arguments against this provision cannot be listed here. On the other hand, it would be opportune to recommend that, basically, the publication of any sp. name be based on identifiable voucher specimens. As soon as published, these become plesiotypes, hence, whenever required, they must be available for re-examination. Consequently, the ultimate deposition of all published material in a public (institutional) collection should be endeavoured. Instead of general restrictions on collecting, the collectors should be put under "moral obligation" to immediately and properly label their material with adequate and legible locality data, insuring therewith the documentation value of each specimen. Such an obligation alone would in many cases automatically preclude excessive collection. The collectors should be also made aware of their moral obligation to make arrangements that no material gets lost or is destroyed when the original owner becomes unable to curate the collection. While the owner of any material should feel bound by the "code of ethics" to render assistance to any qualified bona-fide worker requiring material for examination, the *Abstracter* feels that at least some aspects of the commercial insect fairs should be put under a question mark. — In the appendices a directory is given of Swiss governmental conservancy institutions and the legally protected insect taxa are listed. Odon. collecting is free, save for the cantons of Schaffhausen and Vaud, where all spp. are under legal "protection". As demonstrated in the paper listed in OA 5137, the effect of this "protection" is nil.

- (7112) *CONTACTBLAD NEDERLANDSE LIBELLENONDERZOEKERS* — [*Newsletter of the Netherlands Dragonfly Workers*], No. 18 (Nov., 1989) (Dutch). — (c/o Miss K. Verspui, Westerkade 27 bis, NL-3582 CA Utrecht).

After almost 2 decades of odonatol. activities,

Mrs M. Verdonk has resigned from the coordination office of the Netherlands odon. recording scheme, operating in the framework of the European Invertebrate Survey. Her responsibilities were taken over by *M. Wasscher*, who is highlighting in the present issue (pp. 3-4) her numerous services to Dutch odonatology. She is a Charter Member of the SIO and her monograph on the status of the European odon fauna (cf. *OA* 6181) published jointly with Dr J. van Tol is a milestone in Europ. odon. conservation. The present setup of the *Contactblad* was also one of her numerous initiatives. — The issue contains the traditional book review (*M. Wasscher, H. Verhaar*) and records sections. The adult odon. season in the Netherlands lasted in 1989 from Apr. 18 (*Pyrrhosoma nymphula*) to Nov. 2 (*Aeshna mixta*, *Sympetrum vulgatum*). The novelty is a section presenting brief abstracts of 9 odonotol. M. Sc. dissertations, submitted at the Netherlands Universities since 1985, which was compiled by *H. Verhaar* (pp. 13-15).

- (7113) DAVID, S., 1989. Vážky (Odonata) dolní části nivy Ipl'u. — Libellen (Odonata) des unteren Teiles der Ipel'-Au (Slowakei). *Zbor. slov. nar. Múz.* (Prir. Vedy) 35: 51-74. (Slovak, with Ger. s.). — (Tekovské Múzeum, CZ-934 69 Levice).

The odon. fauna (33 spp.) of the lower part of the Ipel' backwaters, Slovakia, Czechoslovakia, is monographically treated. The biogeographic composition of the fauna is analysed, and several odon. communities, as revealed by a computer analysis, are defined. Structural features of the ultimate larval instars of *Gomphus vulgatissimus*, *G. similis*, *Onychogomphus forcipatus*, *Cordulia aenea* and *Orthetrum brunneum* are figured.

- (7114) DIDION, A., K. HANDKE & P. KALMUND, 1989. Die Gewässer im Bereich der Grube Heinitz, ein Lebensraum vieler gefährdeter Libellenarten. *Faun.-flor. Notiz. Saarland* 21(1/2): 17-30. (First Author: Marienstr. 23, D-6650 Homburg, FRG). The odon. fauna (34 spp.) of 14 ecologically diverse water bodies situated in the opencast

mining area of Heinitz nr Neunkirchen, Saarland, FRG, was studied systematically during 1982-1986. The faunal composition of various localities and different habitats is analysed. Of particular interest are locally rare spp. such as *Coenagrion mercuriale*, *Libellula fulva* and *Orthetrum coerulescens*.

- (7115) DONNELLY, T., 1989. 1989 collecting summary. Privately circulated, 1 p. — (2091 Partridge Lane, Binghamton, NY 13901, USA).

Deals with noteworthy records in New York, northern Pennsylvania, Tennessee, and Venezuela. The erroneous identifications of some gomphids in the New York State Museum are as follows: 2 "*Gomphus adelphus*" (Kenwood and Bethlehem) are *G. vastus*. The Bethlehem record of *G. plagiatus* is spiniceps, and a specimen without locality (but presumably from nr Albany) is close to *G. abbreviatus*, but might be a new sp.

- (7116) FERWER, W., 1989. Zur Libellenfauna von Gewässern der Stadt Bergisch Gladbach. *Verh. westdt. Ent Tag, Düsseldorf*, pp. 117-130. — (Römerfeld 10, D-5060 Bergisch Gladbach, FRG).

The odon. fauna of the city of Bergisch Gladbach, FRG (32 spp.) is listed and briefly discussed.

- (7117) FOX, A.D., 1989. *Ischnura pumilio* (Charpentier) (Odonata: Coenagriidae) — a wandering opportunist? *Ent. Rec. J. Var.* 101(1/2): 25-26. — (Wildfowl Trust, Slimbridge, Gloucester, GL2 7BT, UK).

Since *I. pumilio* rapidly colonises newly-formed biotopes, while the colonies tend to die out after a few years, it must be dispersive and, indeed, it is often recorded in areas far from the nearest known colonies. However, it has such weak flight that it seems an unlikely long-distance migrant. In this note, 3 observations are recorded, suggesting that the sp. may be able to cover substantial distances. In all cases, after a brief initial flight away from the water's edge, the dragonfly flew directly upwards very rapidly. On all 3 occasions the weather was similar: high midday temperature and little

- wind, leading to the development of strong thermal currents. It is suggested that the usual weak, erratic manner of flight may have adaptive significance in signalling to conspecifics its presence at small isolated pockets of suitable habitat. It seems that *I. pumilio* does possess a means of dispersal, taking advantage of hot still weather to leave a suitable habitat (having presumably first attempted to reproduce) and disperse elsewhere (not merely as newly emerged teneral, but also as full adults) by strong upward flight, taking advantage of the upward thermal currents.
- (7118) FRANKOVIĆ, M. & R. JUREČIĆ, 1989. Comparative cytogenetic analysis of karyotype morphology and organization in males of species *Libellula depressa* L. and *L. fulva* Müll. (Insecta: Odonata). *Period. Biol.* 91(1): 32-33. — (Dept. Anim. Physiol., Fac. Sci., Univ. Zagreb, Croatia).
A slightly enlarged and combined version of the notes listed in OA 5653 and 5923, with spermatocyte micrographs and idiograms of the 2 spp.
- (7119) FRASERIA. Newsletter of the S.I.O. Regional Office in Southern Asia, No. 17 (Dec. 1, 1989). — (c/o Dr B.K. Tyagi, SIO ROSA, Plot No. 155, Street 7, Milkman Colony, Jodhpur-342003, India).
Srivastava, V.K. & B.K. Tyagi: Tenth International Symposium of Odonatology: a report (pp. 73-75); — *Tyagi, B.K.*: The Third Indian Symposium (Erode, Tamilnadu; January 29-31, 1990) (p. 75); — New dragonfly books (pp. 75-76); — More references to the Nepalese Odonata in British Dragonfly Society Newsletter No. 16, 1889 (p. 76); — Indian Odonatology, vol. 2 is out (p. 76).
- (7120) FRIGG, J., 1989. Es begann am Spitzmeilen. *Terra plana* 89(4): 10-15. — (Höllstr. 3, CH-9425 Thal/SG).
Contains a portrait of, and a few biographic notes on the Swiss odon. collector H. Sperry-Jacob (1869-1907), dealt with in *Notul. odonatol.* 2(1985): 103.
- (7121) GEIGER, W., 1989. Bibliographie concernant la faune entomologique suisse, 1987. *Bull. romand Ent.* 7(2): 93-102. — (Inst. Zool., Univ. Neuchâtel, CH-2000 Neuchâtel).
Contains 8 odon. titles on Switzerland, 1 on Liechtenstein and 1 on the Middle East (!). — (For 1986, cf. OA 6590).
- (7122) GOLDAMMER, L., 1989. Die Libellen des Dudweiler Raumes. *Faun.-flor. Notiz. Saarland* 21(1/2): 30-36. — (Scheidterstr. 100, D-6600 Saarbrücken, FRG).
List of 25 spp., with comments, from 30 localities in the Dudweiler area, Saarland, FRG.
- (7123) GORB, S., 1989. Litayuchi drakoni. — [Flying dragons]. *Ridna Prir.* 89(3) 72: 32, 1 col. pl. excl. (Ukrainian). — (Inst. Zool., Biol. Fac., Lénin St. 15, USSR-252601 Kiev-30).
A nice presentation of dragonflies and odonatology, directed at the biologically interested Ukrainian reader. It contains references to the Japanese Aka Tombo tradition, to the German Species Conservation Act, to the SIO and some of the journals, etc.
- (7124) GRACILE. [Newsletter of Odonatology]. Published by the Kansai Research Group of Odonatology, Osaka, No. 42 (Dec. 1, 1989). (Jap., with Engl. titles). — (c/o K. Tani, 129 Jizo-cho, Nara, 630, JA; — outside Japan: c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA).
Shimura, S. & S. Kondoh: Egg stage duration and egg size of *Sympetrum* species (pp. 1-5); — *Kondoh, S.*: *Trigomphus interruptus* emerged from larvae caught in Awaji Island (pp. 6-7); — *Nishu, S.*: Report of the survey trip on the odonate fauna of Awaji Island, Hyogo Prefecture (7) in spring, 1989 (pp. 8-14); — Report of the survey trip on the odonate fauna of Awaji Island, Hyogo Prefecture (8) in summer, 1989 (pp. 15-19); — *Shimura, S.*: Report of the additional survey trip on the odonate fauna of Awaji Island, Hyogo Prefecture: *Sympetrum frequens* found (p. 20); — *Itoh, H.*: Male *Anaciaeschna martini* saved my brandy (pp. 21-22); — *Nishu, S.*: Report of the survey trip on the odonate fauna of Awaji Island, Hyogo Prefecture (9) in early autumn, 1989 (pp. 23-37); — *Inoue, K.*: *Sympetrum frequens* in Awaji

- Island, Hyogo Prefecture (pp. 38-40); — *Shimura, S. & S. Kondoh*: *Aeshna juncea* found at Mt Rokko, Hyogo Prefecture (pp. 40-41); — *Anaze, N. & F. Yamauchi*: *Ceragrion nipponicum* found at Wakayama City, Wakayama Prefecture (pp. 42-43); — *Shimura, S.*: *Ictinogomphus pertinax* collected at Yadogawa River, Osaka Prefecture (p. 43); — *Matsuki, K. & J.C. Lien*: Additional notes on the platycnemidid damselflies of Taiwan (pp. 44-49); — *Nagase, K.*: Reproductive competition in swimming pools among dragonfly species: what occurring in large cities (pp. 50-51).
- (7125) HAMILTON, J.D. & R.D. MONTGOMERIE, 1989. Population demography, and sex ratio in a neotropical damselfly (Odonata: Coenagrionidae) in Costa Rica. *J. trop. Ecol.* 5: 159-171. — (Dept Biol., Queen's Univ., Kingston, Ont., K7L 3N6, CA). Throughout the latter part of the dry season (Jan.-Apr., 1985, 1986), the demography of mature adults of a small population of *Argia chelata* was studied along a stream at Monteverde, Costa Rica. Males defended sunlit spots along the stream between 1030 h and 1400 h central standard time each day and females visiting these spots were soon mated. By individually marking all mature adults in the population it was found that there was no significant difference between the sexes in daily rates (0.85 for ♂, 0.86 for ♀). Lifetime mating success was positively correlated with longevity in both ♂ and ♀, but the ability of ♂ to obtain a mate appeared to be independent of age. Although the sex ratio at emergence was 1:1, that of mature adults at the stream was strongly ♂ biased (87% ♂), perhaps as a result of a longer or more risky prereproductive period in females related to the costs of egg formation. It is argued that the strongly ♂-biased sex ratio has important effects on the mating system of this sp. in that the ♂ contact-guards the ♀ for the entire oviposition period each day. Although this limits each ♂ to mating with 1 ♀ per day, it probably ensures that the ♂ will fertilize most of the eggs laid by the ♀ that day.
- (7126) IHSEN, G., E. KAPPES & W. KAPPES, 1989. *Florida: naturkundliche Reisenotizen, 25. Dezember 1988 – 6. Januar 1989. Zoologischer Teil.* 11+74 pp. Privately published, Hamburg. — (First Author: Heisterkamp 18, D-2000 Hamburg-63, FRG; — Copies available from: W. Kappes, Holstenstr. 157, D-2000 Hamburg-50/Altona, FRG). Brief diary of a Christmas trip to southern Florida, with extensive comments on, and photographs of 28 seasonal odon. spp., incl. the Asiatic *Crocothemis servilia*.
- (7127) INDIAN ODONATOLOGY. Journal of the South Asian Regional Office of the International Odonatological Society (S.I.O.), Jodhpur, Vol. 2 (Dec. 1, 1989). — (Orders outside India to: SIO Central Office, P.O. Box 256, NL-3720 AG Bilthoven, The Netherlands).
- Hämäläinen, M.*: Synonymic notes on some species of the genus *Mortonagrion* (Zygoptera: Coenagrionidae) (pp. 1-4); — *Kumar, A.*: Life history of *Tramea virginia* (Rambur) from Dehradun, India (Anisoptera: Libellulidae) (pp. 5-14); — *Mahato, M.*: Dragonflies of Kathmandu Valley, Nepal (pp. 15-20); — *Palavesam, A., S. Beena & J. Muthukrishnan*: Kinetic properties of phosphatases in the nymph of *Mesogomphus lineatus* Selys (Anisoptera: Gomphidae) (pp. 21-26); — *Srivastava, V.K.*: Internal genital organs of female *Copera marginipes* (Rambur) (Zygoptera: Platycnemididae) (pp. 27-35); — *Srivastava, V.K. & B.K. Srivastava*: External genital organs of female *Copera marginipes* (Rambur) (Zygoptera: Platycnemididae) (pp. 37-42); — *Basalingappa, S., M.R. Gandhi, K.S. Murlidhar & V. Modse*: Preliminary observations on total lipid changes in *Lestes elata* Hagen during different hours of the day (Zygoptera: Lestidae) (pp. 43-44); — *Bhargava, R.N.*: On a collection of Odonata from West Kameng district, Arunachal Pradesh (pp. 45-46); — *Prasad, M.*: A note on the seasonal fluctuation of some Odonata around a perennial pond at Calcutta, India (pp. 47-48); — *Thomas, M. & M. Gladstone*: Odonata occurring in the Madras Christian College Campus, South India (pp. 49-50).

- (7128) JÖDICKE, R., 1989. Die Bestandsituation von *Libellula fulva* Müller, 1764, in Nordrhein-Westfalen. *Verh. westdt. EntTag, Düsseldorf*, pp. 141-151. — (Happelter 15, D-4054 Nettetal-1, FRG).
The occurrence of *L. fulva* in Northrhine-Westfalia is traced from 1908 to present, a list of 31 current localities in the Nette and Niepekühlen areas is given, and it is stated that the distribution and abundance of this sp. in Northrhine-Westfalia did not decrease in the course of this century.
- (7129) JÖDICKE, R., 1989. Die Odonatenfauna im Naturpark Schwalm-Nette — Beispiel einer intensiven Flächenkartierung und Analyse der Bestandsentwicklung. *Verh. westdt. EntTag, Düsseldorf*, pp. 131-132. — (Happelter 15, D-4054 Nettetal-1, FRG).
Concise summary of the monograph listed in OA 7009. The latter has a more general title and a different authorship.
- (7130) KAPPES, E. & W. KAPPES, 1989. *Canada: 5. naturkundliche Fahrt nach Canada und USA (Alberta, Idaho, Washington, British Columbia), 15. Juli - 13. August 1989*. 58 pp. Privately published, Hamburg. — (Holstenstr. 157, D-2000 Hamburg-50/Altona, FRG).
Diary of the trip, with annotated checklists of odon. records.
- (7131) KEIM, C., 1989. Les gravières du Verney. *Bull. Ligue valais. Protect. Nat.* 23: 1-15. (Bilingual: Fr. & Germ.). — (c/o L.V.P.N., rue de la Cotzette 4, CH-1950 Sion).
20 odon. spp. were recorded from the gravel pits of Verney, nr Martigny, Valais, Switzerland, of which *Lestes virens*, *Sympetma paedisca* and *Sympetrum depressiusculum* are mentioned (pp. 10-11).
- (7132) KELSEY, L.P., 1989. 100 years of contributions to the science and literature of entomology through the pages of Entomological News. *Ent. News* 100(5): 195-199. — (Author deceased).
In the first 100 vols of *Ent. News*, 66 new odon. spp. were described.
- (7133) KRÜNER, U., 1989. Zur Verbreitung, Biologie und Ökologie der Späten Adonislibelle, *Ceragrion tenellum* (Odonata: Coenagrionidae) in Nordwesteuropa, insbesondere im Gebiet zwischen Maas und Rhein. *Verh. westdt. EntTag. Düsseldorf*, pp. 133-140. — (Gelderner Str. 39, D-4050 Mönchengladbach-4, FRG).
The current distribution of *C. tenellum* in NW Germany, GDR, Belgium and in the Netherlands is mapped on 10x10 km grids and analysed. The ecological requirements within its northern range are described, and the emergence process at a heath locality in northern Germany is evidenced in some detail (cf. also OA 7003).
- (7134) KUHN, J., 1989. Spermi konkurrenz bei mitteleuropäischen Zygoptera: ein Überblick. *Verh. westdt. EntTag, Düsseldorf*, pp. 174-201. (With Engl. s.). — (Abt. Wickler, Max-Planck Inst. Verhaltensphysiol., Seewiesen D-8130 Starnberg-1, FRG).
Morphological clues to sperm displacement ability are shown in scanning electron micrographs of male genitalia in *Calopteryx splendens*, *Lestes sponsa*, *L. dryas*, *Ischnura elegans*, *I. pumilio*, *Coenagrion puella*, *C. pulchellum* and *C. mercuriale*. The ability to remove and/or reposition sperm of previous males from the storage organs of females prior to inseminating them requires further investigation in *Platycnemis pennipes*. Phenomena, consequences and unsolved problems of zygopteran sperm competition are briefly reviewed. Zygoptera penis morphology probably involves valuable taxonomic and phylogenetic potentials.
- (7135) LATZMAN, M., 1989. How to make a fossil insect: reconstruction of a fossil odonate *Meganeura monyi* Brongniart. *Quart. young Ent. Soc.* 6(4): 18-19. — (Author's address not stated).
The natural size model made for the Moravian Mus., Brno, Czechoslovakia is described and photographs of it are shown.
- (7136) LATZMANN, M. & J. ŘÍHA, 1989. Ne-tradiční paleontologická rekonstrukce. — [An

untraditional paleontological reconstruction]. *Věda & Život* 89(8): 52-53. — (Czech.). — (Authors' addresses not stated).

A note on the same subject as in OA 7135, but the spelling of the first author's name is different here!

- (7137) LIU, Z.-y., 1989. Description of a new species of the genus *Sinogomphus* from China (Odonata: Gomphidae). *Acta ent. sin.* 32(4): 459-461. (Chin., with Engl. s.). — (Shanghai Inst. Ent., Acad. Sinica, Chungkin Rd (S) 225, Shanghai, P.R. China).

S. shennongjianus sp. n. is described and figured from a series of both sexes (holotype ♂, allotype ♀: China, Hubei prov., Shennongjia, Sonbai, 8-VIII-1983 and 5-VIII-1983, resp., deposited in the author's institution). The new sp. is compared with *S. scissus* (McL.).

- (7138) LUTZ, H., 1989. Die fossile Insektenfauna von Rott. In: W. von Koenigswald, [Ed.], Fossilagerstätte Rott bei Hennef am Siebengebirge, pp. 33-46, Rheinlandia Verlag, Siegburg. — (Adelungstr. 50, D-6100 Darmstadt).

For the description of the complete monograph cf. OA 7179. — This is a review of the insect and arachnid fauna, based on an evaluation of all published and unpublished material, incl. the large collection of G. Statz, now in Los Angeles. Odon. are represented by 11.37% of the known fossils, making the Upper Oligocene thanatocoenosis of Rott one of the most important European Tertiary odon. assemblages. The immature stages are particularly well represented: in one site, close to 100 larvae were recovered from a surface of ca 192 cm². Of particular interest is the discovery of a leaf with inserted zygopteran eggs. For bibl.data on the primary odon. papers on this locality cf. OA 7179.

- (7139) MACHADO, A.B.M., 1989. *O menino e o rio*. — [*The boy and the river*]. 120 pp. Editora Lê, Belo Horizonte. ISBN none. (Port.). — (Publishers: Av. Pedro II, C.P. 2585, BR-30730 Belo Horizonte).

[Slightly modified from Author's personal communication to the Editor of *Odonatologica*].

ologica, dated Feb. 12, 1990]: "In Sept. 1989 this book was presented at the IVth Int. Book Fair in Rio de Janeiro. At the stand of my publisher on the Fair, I maintained an aquarium with all the aquatic insects mentioned in the book, incl. several dragonflies, which were seen by about 800 children. The book is now in its 3rd ed., 8000 copies having been sold in 4 months, which may be regarded a success according to the Brazilian standards. After the Fair, there followed a series of press interviews, TV programs and discussions about the book with children in the schools where it had been adopted. Since a green *Aeshna* has an important role in the story, these activities led to a tremendous increase in the awareness of people, especially children, about dragonflies and their biology. In some of the schools that I visited, the children prepared for me an exhibition of posters, containing drawings, pictures and texts about dragonfly biology. Although primarily aimed at children, the book is being appreciated by the adults too. It tells the story of a boy and a marmoset, his friend, who wander about the world in search of the single clean river that still exists. They come across a "travelling poet", who is also looking for a clean river in order to regain his inspiration to write poems, and a fisherman, who is trying to get a fish. After several adventures, leading them to become acquainted with the main ecological problems of rivers, they are about to die of thirst and pollution — when a green *Aeshna* appears and guides them finally to a clean river. The concept of a clean river is defined in terms of the rich riverine fauna of aquatic insects, inc. *Hetaerina* and *Argia*. While swimming in the river, the boy decides to return to the city to initiate a campaign to clean the rivers of the world, and the final message of the book is positive". — (*Abstracter's Note*: The book is a literary masterpiece and the first of this "dragonfly kind" ever published. An Engl. translation of the text is in preparation and attempts are being made by SIO to mediate its publication in various other languages. The problems of water pollution in general, and the conservation of the Brazilian rain forest in particular are "hot topics" of nature conservation worldwide, the-

refores this "literary" approach is more than opportune alone. — *Mutatis mutandis*, the role played by the dragonfly in this book is very similar to that in the Zuni Indian myth, listed in OA 6990).

- (7140) MACHADO, A.B.M., 1989. Studies on neotropical Protoneuridae. 8. *Neoneura desana* sp. n. from the Amazonian region (Odonata, Zygoptera). *Revista bras. Ent.* 33(2): 225-228. — (Depto Zool., Inst. Cien. Biol., Univ. Fed. Minas Gerais, C.P. 2486, BR-31270 Belo Horizonte, MG).

The new sp. is described and figured from a series of ♂, all from Igarapé Japu, between the Desan village and the Uaupés R., at the Colombian border, Amazonas, Brazil; holotype in author's coll., ♀ unknown. Structurally it is related to *N. waltheri* Sel.

- (7141) MAIBACH, A., G. VONWIL & H. WILDERMUTH, 1989. Nouvelles observations de *Hemianax ephippiger* (Burm.) (Odonata, Anisoptera) en Suisse avec évidence de développement. *Bull. Soc. vaud. Sci. nat.* 79(4): 339-346. (With Engl. & Germ. s's). — (First Author: Mus. zool., C.P. 448, CH-1000 Lausanne-17).

After more than a century, in May 1989 a mature ♂ was again recorded in Switzerland (Wallis). In Aug. of that year, a massive emergence of hundreds of individuals took place in the Reusstal, canton Aargau. It is hypothesized that the insects immigrated from northern Africa and have given rise to a local "population".

- (7142) MARTENS, A., 1989. Aggregation of tandems of *Coenagrion pulchellum* (Van der Linden, 1825) during oviposition (Odonata: Coenagrionidae). *Zool. Anz.* 228(1/2): 124-128. — (Zool. Inst., Techn. Univ. Braunschweig, Pockelsstr. 10a, D-3300 Braunschweig, FRG).

It is experimentally demonstrated by using dead mounted specimens, that the presence of a tandem pair of *C. pulchellum* attracts other pairs to the same spot.

- (7143) MARTINIA. Bulletin de liaison des Odonato-

logues de France, No. 14 (Dec., 1989). — (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois d'Arcy).

Dommanget, J.-L.: Editorial (pp. 85-86); — *Boudet, J.-P.*: Modifications apportées à la faune odonatologique d'un cours d'eau par la construction du barrage de la Rouvière (Gard) (pp. 87-89); — *Balança, G. & M.-N. de Vischer*: Observation de la ponte en tandem d'*Anax imperator* Leach, 1815 dans l'Hérault (34) (Odonata, Anisoptera: Aeshnidae) (p. 90); — *Coppa, G.*: Aménagement de biotopes à odonates sur des tourbières de moyenne altitude dans les Ardennes (08) (pp. 91-95); — *Grand, D.*: Sur la présence de *Somatochlora arctica* (Zetterstedt, 1840) dans le département de la Savoie (73) (Odonata, Anisoptera: Corduliidae) (pp. 95-96); — *Brunel, C., J.-L. Dommanget, C. Dutreix, E. Male-Malherbe & G. Tiberghien*: Les odonates du lac de Grand-Lieu, Loire-Atlantique (44) (pp. 97-104); — *Francez, A.-J.*: Odonates du Massif Central: ou en est l'atlas? (pp. 105-108); — *Dommanget, J.-L.*: Rubrique bibliographique (pp. 109-111); — Analyse d'ouvrage (111-112).

- (7144) McPEEK, M.A., 1989. Differential dispersal tendencies among *Enallagma damselflies* (Odonata) inhabiting different habitats. *Oikos* 56: 187-195. — (Kellogg Biol Stn & Dept Zool., Michigan St. Univ., Hickory Corners, MI 49060, USA).

The propensity and mechanism of dispersal for adults of several nearctic *Enallagma* spp., whose larvae are differentially able to survive in fishless and fish-containing lakes, were examined. 2 spp., found as larvae in fishless lakes, and 2 spp., found as larvae in lakes supporting well-developed fish faunas, dispersed very few adults to adjacent lakes (≤ 1 km apart). Another sp. found in winterkill lakes that periodically cycle between the fish-containing and fishless condition, dispersed large numbers of adults to adjacent lakes. The results of mark-release experiments suggested that the spp. inhabiting fishless lakes cannot discriminate between fishless and fish-containing lakes. Species differences in the propensity to disperse are attributed to the constancy of the fishless and fish-containing con-

dition of the lakes inhabited by species. The mechanisms causing species differences in movement between lakes appear to be differences in their propensity to leave natal lakes, and not active selection of different lake types.

- (7145) MÉTAYE, R., 1989. Odonates observés en 1988 dans le département de l'Aube. *Bull. Ent. champen.* 5(3): 95-100. — (307 rue du Fbg-Croncels, F-10000 Troyes).
With reference to the paper listed in OA 6768, an annotated list is presented of 19 spp., 10 of which were not previously recorded from the département (France).
- (7146) NAUMANN, C.M., 1989. [Buchbesprechung]. Askew, R.R., The dragonflies of Europe. *Mitt. münch. ent. Ges.* 79: 148. — (Author's address not stated).
Extensive book review of the volume listed in OA 6357. The publication of a "Central European", i.e. German edition is advocated, and concern is expressed about the ever increasing number of misidentifications caused by the use of widespread popular picture "field guides" on European dragonflies. — (The *Abstracter* certainly agrees with the latter view, though, in addition to the inadequacy of identification by means of col. photographs, legal restrictions and occasionally also still widespread [but at present probably decreasing] "personal reservations" re specimen collecting are likewise responsible for the numerous identification errors in the literature. The rather "aggressively" advocated use of vernacular "nomenclature" is also likely to be counterproductive where taxonomic precision is required).
- (7147) NEUMANN, D., 1989. Teiche als Sonderbiotope in forstlicher Rekultivierungen. *Natur & Landschaft* 64(10): 459-461. — (Zool. Inst., Univ. Köln, Weyertal 119, D-5000 Köln-41, FRG).
4 odon. spp. are listed from the recent recultivation ponds in the opencast mining area of Hambach nr Köln, FRG.
- (7148) ONSLOW, N., 1989. Unusual pairing in Odonata at Hothfield Common Nature Reserve, Kent. *Ent. Rec. J. Var.* 101(5/6): 137. — (1 Windmill Close, Willesborough, Ashford, Kent, TN24 0AU, UK).
An interspecific tandem (both ♂!), *Sympetrum striolatum* carrying *Orthetrum coerulescens*, is briefly described. The pair continued in tandem for at least 3 min, the *Orthetrum* remaining motionless, while the *Sympetrum* repeatedly dipped the other's abdomen into the shallow waters of the mire.
- (7149) PETERS, B., 1989. Die Libellenarten (Odonata) der Fließgewässer in Bayern und ihre Eignung als Indikatoren für die Saprobität. *Lauterbornia* 2: 3-12. (With Engl. s.). — (Herzog-Johann-Str. 20, D-8000 München-60, FRG).
The indicator value for saprobity is tentatively assessed in 13 more or less rheophilic spp. (Bavaria, FRG).
- (7150) POR, F.D., 1989. *The legacy of Tethys. An aquatic biogeography of the Levant*. Kluwer, Dordrecht. 216 pp. — ISBN 0-7923-0189-7. — Price Hfl. 150.- net. Available also from the SIO, Bilthoven. — (Author: Dept Zool., Hebrew Univ., Jerusalem, Israel).
The paper listed in OA 1596 may represent the inception of the idea from which this monograph has ultimately developed. In the 1950s, in his native Romania, the author was actively involved in odonatol. research, but upon his immigration into Israel he very much expanded the scope of his activities in aquatic biology. Consequently, in the present work, most of the considerations on the odon. are mainly based on the primary research of H.J. Dumont and W. Schneider.
- (7151) RIDLEY, M., 1989. The incidence of sperm displacement in insects: four conjectures, one corroboration. *Biol. J. Linn. Soc.* 38(4): 349-367. — (Dept Anthropol. & Biol., Emory Univ., Atlanta, GA 30322, USA).
4 hypotheses explaining why the degree of sperm displacement differs in different insect spp. are tested and 8 odon. spp. are also considered among the 57 spp. of various orders studied. Though the conclusions are to be considered provisional, the evidence suggests that

the differences are mainly related to the female's natural mating frequency, rather than to the spermathecal shape, or the incidence of mating plugs or paternal investment.

- (7152) RÜPPELL, G. & O. FINCKE, 1989. *Mecistogaster ornatus* (Pseudostigmatidae): Flugverhalten und Nahrungserwerb. *Publ. wiss. Filmen* (Biol.) 20(7): 3-15. (With Engl. & Fr. s's). — (First Author: Zool. Inst., Techn. Univ. Braunschweig, Pockelsstr. 10a, D-3300 Braunschweig, FRG).

Explanatory text for film No. E-2975 (Inst. Wiss. Film, Göttingen; no voice, 16 mm, colour, 7 min). The geographic distribution and general biology are outlined, and the foraging flight is described and analysed in considerable detail. A detailed description of the film and a comprehensive bibliography on the behaviour of this sp. are also provided.

- (7153) RÜPPELL, G. & O. FINCKE, 1989. *Megaloprepus coerulatus* (Pseudostigmatidae): Flug- und Fortpflanzungsverhalten. *Publ. wiss. Filmen* (Biol.) 20(10): 3-20. (With Engl. & Fr. s's). — (First Author: Zool. Inst., Techn. Univ. Braunschweig, Pockelsstr. 10a, D-3300 Braunschweig, FRG).

Explanatory text for film No. E-2976 (Inst. Wiss. Film, Göttingen; Engl. or Germ., 16 mm, colour, 10.5 min). A general note on biology is followed by a detailed description and analysis of flight behaviour and the alternative reproductive strategies. A detailed description of the film and a comprehensive bibliography on the behaviour of this sp. are also provided.

- (7154) RÜPPELL, G., R. RUDOLPH & H. HADRY, 1989. *Perithemis tenera* (Libellulidae): Fortpflanzungsverhalten. *Publ. wiss. Filmen* (Biol.) 20(8): 3-10. (With Engl. & Fr. s's). — (Zool. Inst., Techn. Univ. Braunschweig, Pockelsstr. 10a, D-3300 Braunschweig, FRG).

Explanatory text for film No. E-3000 (Inst. Wiss. Film, Göttingen; silent, 16 mm, colour, 14 min). The geographic distribution and habitats ecology are stated, and the reproductive and flight behaviour are described and analysed. A detailed description of the film is

also provided.

- (7155) SANT, G.J. & T.R. NEW, 1989. Behaviour of last instar *Austrolestes psyche* (Selys) larvae (Odonata: Lestidae). *Aust. ent. Mag.* 16(3): 63-68. — (Dept Zool., La Trobe Univ., Bundoora, Vic., 3083, AU).

The behaviour of single and paired larvae was analysed from videotape records, and the repertoires of postures and movements compared with those recorded of other Zygoptera. 13 distinct postures or motions were found, 4 of which did not occur in isolated larvae. Several elaborate body movements may be agonistic displays. "Labial strike" is presumed to be aggressive and was commonly followed by the retreat response of swimming.

- (7156) SCHALLES, J.F. & D.J. SHURE, 1989. Hydrology, community structure, and productivity patterns of a dystrophic Carolina bay wetland. *Ecol. Monogr.* 59(4): 365-385. — (First Author: Biol. Dept, Creighton Univ., Omaha, Nebraska 68178, USA).

A shallow, 5.4 ha dystrophic Carolina bay wetland was studied (1974-1978) to test the premise that biomass and production are constrained by the stagnant hydrology and dilute, acidic chemistry of bay wetlands. The autotroph biomass and production were low and so was the secondary production. Animal biomass was dominant in insects (especially odon., of which 6 spp. are listed) and salamanders. High turnover of prey (largely midge larvae and microcrustaceans) was implied by the predator-dominant community structure.

- (7157) SCHELL, V.A. & J.J. KERKES, 1989. Distribution, abundance and biomass of benthic macroinvertebrates relative to pH and nutrients in eight lakes of Nova Scotia, Canada. *Water Air Soil Pollut.* 46: 359-374. — (Bedford Inst. Oceanogr., P.O. Box 1006, Dartmouth, Nova Scotia, B2Y 4A2, CA).

The lakes investigated ranged widely in pH (3.6-6.3), total phosphorus (3.3-33.1 $\mu\text{g l}^{-1}$) and calcium (0.35-6.30 $\mu\text{g l}^{-1}$). Generally, macroinvertebrate diversity decreased with increased acidity, but the abundance and

biomass appear controlled by nutrient availability. 9 odon. genera are considered (spp. names not stated). Since these are not adapted to coexist with fish populations, it was assumed earlier that odon. may become more abundant with the reduction of fish predation in acidified lakes. In the present study, they occur in higher densities relative to other macroinvertebrates in the acidic lakes than in the slightly acidic habitats. Their distribution, as determined by the availability of food in addition to predation and some abiotic conditions may be limited by the overall production of the system.

- (7158) SCHMIDT, E., 1989. Odonaten im NSG Stallberger Teiche bei Siegenburg: Chancen von Schutz- und Sanierungsmassnahmen und Konflikte mit der Teichwirtschaft im Staatsforst. *Verh. westdt. EntTag, Düsseldorf*, pp. 153-172. — (Biol. Didaktik, FB 9, Univ. GHS Essen, Postfach 10-3764, D-4300 Essen, FRG).

Analysis of the habitat and the odon. fauna of the Stallberg Fishponds nr Bonn, FRG, with detailed considerations on the reconstitution of the mesotrophy and odon. conservation.

- (7159) SCHMIDT, E., 1989. Projekt Regenrückhaltebecken Rodderfeld in Rheinbach: Bericht für 1989. In: K. Schwarzlose et al., [Eds], *Aus der Tätigkeit für Rheinbach 1989*, pp. 21-26. Ver. Natur- & Umweltschutz, Rheinbach. — (Publisher: Roidestr. 25, D-5308 Rheinbach, FRG; — Author: Biol. Didaktik, FB 9, Univ. GHS Essen, Postfach 10-3764, D-4300 Essen, FRG).

Progress report on the project reported in *OA* 6777. *Coenagrion lunulatum* is the 1989 addition to the odon. assemblage of this locality.

- (7160) SCHMIDT, E., 1989. Schluchtsee und Heider Bergsee im Braunkohlenrekultivierungsgebiet der Ville bei Köln: Sekundärbiotope vom Charakter der Flussaltarme im Konflikt mit Freizeitnutzungen. *Verh. westdt. EntTag, Düsseldorf*, pp. 103-116. — (Biol. Didaktik, FB 9, Univ. GHS Essen, Postfach 10-3764, D-4300 Essen, FRG).

The 2 artificial lakes nr Köln, FRG, originated

in former coal mining activities, and exhibit at present the features of a natural backwater habitat. Their odon. fauna is analysed with special reference to the impact of recreation.

- (7161) SCHMIDT, E., 1989. Zur Odonatenfauna des Hechtmoores in Angeln/Schleswig. *Drosera* 89(1/2): 31-42. (With Engl. s.). — (Biol. Didaktik, FB 9, Univ. GHS Essen, Postfach 10-3764, D-4300 Essen, FRG).

A thoroughly annotated list of 27 spp., with a discussion of tentative management measures (Angeln, Schleswig, FRG).

- (7162) SCHORR, K., 1989. Erster Fund der Schabrackenlibellen *Hemianax ephippiger* (Burmeister, 1839) in Rheinland-Pfalz. *Pfälzer Heimat* 1989(4): 173-174. (With Engl. s.). — (Im Engelstal 9, D-6750 Kaiserslautern, FRG). The appearance of *H. ephippiger* at Kaiserslautern, Rhineland-Palatinate, on Aug. 13, 1989 is reported. This is said to represent the 5th record of this migratory sp. in Germany.

- (7163) SCHREMMER, F., 1989. Überwinterungsstrategie unserer Tiere — Bekanntes und weniger Bekanntes. *Öko-L, Linz* 11(4): 3-12. — (Seidengasse 13, A-1070 Wien).

Pp. 8-9 contain a chapter on *Sympecma fusca*, including a brief note on its behaviour in late-summer habitats (here given as "dry alpine grasslands"). The author's statement on "2 generations" of this sp. (in Austria) is of course wrong.

- (7164) SHERRATT, T.N. & I.F. HARVEY, 1989. Predation by larvae of *Pantala flavescens* (Odonata) on tadpoles of *Phyllomedusa trinitatis* and *Physalaemus pustulosus*: the influence of absolute and relative density of prey on predator choice. *Oikos* 56: 170-176. — (Second Author: Dept Biol. Sci., Univ. Dundee, Dundee, DD1 4HN, Scotland, UK). The Elton-Greenwood model was used to analyse prey selection behaviour. *P. flavescens* larvae showed a frequency-independent preference for *P. pustulosus* tadpoles over *P. trinitatis* tadpoles that increased with prey density, but not significantly so. There was no consistent frequency-dependent preference.

More tadpoles were eaten early in the study, and at night. Prey selection behaviour was the same during day and night, but, at low total density of prey, the larvae were less selective in a trial.

- (7165) *SIOJA*. [Information Bulletin of the SIO National Office in Japan], Osaka, 1989, No. 1 (Dec. 10). (Jap.). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA). The few standard administrative items are followed by a comprehensive account on the Tenth Int. Symp. Odonatol. (Johnson City, TN, USA). A voluminous commercial supplement is appended to the issue.
- (7166) SPURIS, Z.D., 1989. [Recenzijas]. R.R. Askew, The dragonflies of Europe. *Latv. Ent.* 32: 127-128. (Russ.). — (Miera iela 19-6, USSR-229021 Salaspils, Latvia). Book review of the volume listed in *OA* 6357, with corrective notes on the distribution of *Coenagrion johanssoni*, *Ischnura pumilio*, *Lestes virens*, *Sympetma annulata*, *Aeshna isosceles*, *A. mixta*, *Anax imperator*, *Gomphus flavipes*, *G. vulgatissimus*, *Onychogomphus forcipatus*, *Epiheca bimaculata*, *Somatochlora arctica*, *S. flavomaculata*, *Leucorrhinia albifrons*, *L. caudalis*, *L. pectoralis*, and *Libellula fulva*.
- (7167) SPURIS, Z.D., 1989. [Recenzijas]. H. Bellmann, Libellen beobachten-bestimmen. *Latv. Ent.* 32: 126-127. (Russ.). — (Miera iela 19-6, USSR-229021 Salaspils, Latvia). One of the most thorough reviews yet published of the title listed in *OA* 6111. The publication of a Russian edition is recommended.
- (7168) SPURIS, Z.D., 1989. [Recenzijas]. A. Maibach & C. Meijer, Verbreitungsatlas der Libellen der Schweiz. *Latv. Ent.* 32: 129-130. (Russ.). — (Miera iela 19-6, USSR-229021 Salaspils, Latvia). Comprehensive descriptive and informative review of the work listed in *OA* 6134, 6135.
- (7169) SPURIS, Z.D., 1989. [Recenzijas]. A. Pinratana, B. Kiauta & M. Hämäläinen, List of the Odonata of Thailand. *Latv. Ent.* 32: 130. (Russ.). — (Miera iela 19-6, USSR-229021 Salaspils, Latvia). Descriptive review of the title listed in *OA* 6178. It is regretted that the locality data are not mentioned in the captions of the species portraits.
- (7170) SPURIS, Z.D., 1989. [Recenzijas]. J. van Tol & M. Verdonk, The protection of dragonflies (Odonata) and their biotopes. *Latv. Ent.* 32: 128. (Russ.). — (Miera iela 19-6, USSR-229021 Salaspils, Latvia). Descriptive review of the volume listed in *OA* 6181.
- (7171) STOBBE, H., 1989. Herbstbeobachtungen in Südf Frankreich: Libellen. Beobachtungen aus der Camargue und den Alpillen. *Naturk. Rundbrief* 3: 7-8. — (Holthusenstr. 4a, D-2000 Hamburg-67, FRG). Annotated list of 8 spp. Of interest is the late seasonal record of *Calopteryx haemorrhoidalis* (several individuals on 21-X-1989, Canal de Vergière, Crau), and the record of *Hemianax ephippiger* (Phare de la Glacholle).
- (7172) STÖCKMANN, A., K. STROSCHE & H. KLUGKIST, 1989. Naturschutzgebiet Holz-wäldchen — Gestaltung einer Abgrabung im Siedlungsbereich nach tierökologischen Gesichtspunkten. *Poster Verh. Ges. Ökol., Essen* 18: 637-639. (With Engl. s.). — (Second Author: Inst. Allg. & Spez. Zool., Univ. Giessen, Stephanstr. 24, D-6300 Giessen, FRG). A brief account is presented of the results of the succession management in a man-made habitat nr Krofdorf-Gleiberg, Giessen, FRG. The locality has been brought under nature conservancy in 1983. So far, 21 odon. spp. were evidenced (but are not listed here), of which *Erythronma viridulum*, *Ischnura pumilio* and *Orthetrum brunneum* are considered characteristic.
- (7173) STRAKA, V., 1989. Anotovaný prehľad vážok (Odonata) Písecka. — [Annotated review of the dragonflies (Odonata) of Písek]. *Sbor. johožes. Muz. Čes. Budějovicích* (Prir.) 29: 51-54. (Czech). — (Turčianske Muz.,

Engelsova 2, CZ-036 01 Martin).

Checklist of 34 spp., with annotations on some of them, as recorded from the district of Pisek, Czechoslovakia.

- (7174) TITTIZER, T., F. SCHÖLL, M. SCHLEUTER & H. LEUCHS, 1989. Beitrag zur Kenntnis der Libellenfauna der Bundeswasserstrassen und angrenzender limnischer Bereiche. *Verh. EntTag, Düsseldorf*, pp. 89-102. — (Bundesanst. Gewässererk., Kaiserin-August-Anlagen 15-17, D-5400 Koblenz, FRG). The odon. fauna of the (German) federal waterways and the adjacent limnic habitats is analysed, with detailed locality data for 22 spp., of which 13 occur in the waterway habitats (rivers, canals), while 9 spp. are peculiar to the adjacent backwaters, ponds and gravel pits. The list includes 6 spp. from the German Red List.
- (7175) TOMBO. *ACTA ODONATOLOGICA*. Published by the Society of Odonatology, Tokyo. Vol. 32, Nos 1/4 (Dec. 25, 1989). — (c/o Dr S. Asahina, Takadanobaba 4-4-24, Shinjuku-ku, Tokyo, 169, JA).
Eda, S.: A pair of *Sympetrum pedemontanum* elatum laying eggs into the mud close to the water (p. 1; frontispiece col. phot.); — *Asahina, S.*: A list of the Odonata recorded from Thailand. Part XX. Libellulidae-2 (pp. 2-14); — *Libellula quadrimaculata* Linné and its intraspecific forms (pp. 15-28); — *Matsuki, K.*: Description of the possible larva of *Planaeschna ishigakiana ishigakiana* Asahina (Aeshnidae: Odonata) (pp. 29-32); — *Miyakawa, K.*: Observations on *Sympetrum frequens* Selys inhabiting the forest canopies in lowland Sayama Hills during summer (pp. 33-38); — Record of dying matured dragonflies in the field (pp. 38-40); — *Inoue, K.*: Discovery and description of andromorphic females of *Mortonagrion hirosei* (pp. 41-42); — *Inoue, K. & M. Aiura*: Distribution records of dragonflies of Tsushima island, Nagasaki prefecture (pp. 43-45); — *Asahina, S.*: Candidate species of the Odonata to be listed in the Red Data Book of Japan (pp. 45-46); — *Arai, Y.*: Notes on the oviposition and early larval stage of *Aeschnophlebia anisoptera* (Selys) (pp. 47-48); — *Naraoka, H.*: Embryonic development and larval growth of *Aeschna mixta soncharai* Asahina (1989) (pp. 49-53); — *Kato, T.*: First record of *Sympetrum fonscolombei* (Selys) from Shizuoka prefecture, central Japan (p. 53); — *Watanabe, K.*: Some dragonfly species expanding their range in the Ryukyus (pp. 54-56). — The issue also contains notes on the SIO (p. 28) and on the 1989 Annual meeting of the Tokyo Soc. Odonatol. (p. 57, with a phot.).
- (7176) TROCKUR, B., 1989. Erstnachweis des Zweiflecks (*Epitheca bimaculata* Charpentier 1825, Insecta: Odonata), einer bundesweit vom Aussterben bedrohter Falkenlibelle, für das Saarland. *Faun.-flor. Notiz. Saarland* 21(1/2): 1-16. — (Schulstr. 4, D-6695 Tholey-Scheuern, FRG).
 A standing population of *E. bimaculata* is reported from a backwater locality of the Saar R., E of Rehlingen, Saarland, FRG. The biol., ecol., habitat selection, etc. are described in considerable detail, and the author's observations are compared with evidence published previously. The appended bibliography relative to this sp. in central Europe is appreciable.
- (7177) TRUEMAN, J.W.H., 1989. *A preliminary study of the eggs and second instar larvae of some Australian dragonflies, with reference to problems of libelluloid higher taxonomy (Odonata: Anisoptera)*. Thesis Graduate Dipl. Sci., Austr. Natn. Univ., Canberra. X+105 pp. — (Dept Zool., Austral. Natn. Univ., Canberra, A.C.T. 2601 AU).
 The objective of this work is to describe and compare eggs and early instar larvae of Australian Anisoptera with a view to making inferences concerning phylogenetic relationships, especially so between the corduline subfamilies and "lower" Libellulidae. The preliminary impressions, gained from egg and second instar data, are summarised as follows: (1) Phenetic distances between Aeshnoidea, Gomphidae, and Libelluloidea (incl. Cordulegastridae) are roughly equal. — (2) Libelluloidea is almost certainly monophyletic. — (3) Amongst the subfamilies examined, the Tetrathemistinae, Sympetrinae and Libellulidae

form an unresolved triad, the sister group to which is Corduliinae. — (4) Amongst the subfamilies examined, the Synthemistinae is an outgroup to the Corduliinae+Cordulephynae+Libellulidae. — (5) On the limited evidence available, the Synthemistinae is most probably a sister group to Cordulegastridae, and the Synthemistinae+Cordulegastridae is a sister group to the remainder of the Libelluloidea. — If these preliminary findings could be confirmed, appropriate taxonomic changes would include recognition of Carle's superfamily Gomphoidea, and restoration of the Synthemistinae to the family status.

- (7178) VARZINSKA, R., 1989. Constituent assembly of Odonatological Section. *Vestis latv. Zinat. Akad.* 1989(12): 127. (Russ., with Latvian & Engl. title). — (c/o Dr Z. Spuris, Miera iela 19-6, USSR-229021 Salaspils, Latvia).

The Odonatological Section was set up in the Latvian Ent. Soc. on June 13, 1989. It is headed by Dr Z. Spuris (address above) and has an All-Union character, with members from European and Asiatic republics of the USSR. Membership is open to all, and there are no special fees. In the periodical *Latvijas Entomologs* a number of pages will be reserved for publications by members. The Charter contains the provision that the Head Office could move to any other Soviet Republic, when considered opportune, and the objective is expressed to develop the Section into the USSR National Chapter of the S.I.O.

- (7179) VON KOENIGSWALD, W., [Ed.], 1989. *Fossilagerstätte Rott bei Hennef am Siebengebirge. Das Leben an einem subtropischen See vor 25 Millionen Jahren.* Rheinlandia Verlag, Siegburg. 82 pp. — ISBN 3-925551-10-7. — (Available from the S.I.O., Bilkthoven, at Hfl. 35.-).

A popular monograph on geology and paleontology of the renowned Upper Oligocene lake at Rott, FRG. The chapter on insects contains a brief review of the odon. (cf. *OA* 7138) which were worked out by C.G. Giebel (1856, *Fauna der Vorwelt*, Vol. 2, pp. 273-289, Brockhaus, Leipzig) and H.A. Hagen (1863,

Palaeontographica 10: 247-269, 3 pls excl.). The excellent photograph of *Celithemis celulosa* (Hag.) was published previously by G. Statz (1937, *Natur am Niederrhein* 13: 1-16). In the concluding chapter, brief biographic notes and portraits are given of all primary research workers on the Rott material.

- (7180) WALKERIA. Newsletter of the Canadian National Office of the International Odonatological Society, Vol. 4, No. 2 (Dec. 1, 1989). — (c/o Dr S. Cannings, Dept Zool., Univ. British Columbia, 6270 University Blvd, Vancouver, B.C., V6T 2A9, CA).

Cannings, R.: The Dragonfly Society of America (pp. 5-6); — House N.: The ecology of *Leucorrhinia hudsonica* (Libellulidae) in Newfoundland bog pools (pp. 6-7).

- (7181) WHITE, D.S. & O.J. SEXTON, 1989. The Monarch butterfly (Lepidoptera: Danaidae) as prey for the dragonfly *Hagenius brevistylus* (Odonata: Gomphidae). *Ent. News* 100(3): 129-132. — (First Author: Hancock Biol. Stn, Murray St. Univ., Murray, KY 32071, USA). *H. brevistylus* was shown to prey on an aposematic model, *Danaus plexippus*, when the butterfly's densities were high. The mode of prey capture and feeding, where the butterfly's thorax and abdomen are eaten first, avoids the highest concentrations of cardenolide poisons stored in the wings and exoskeleton. The feeding mode is virtually identical to that of the known vertebrate predators of *Danaus*.

- (7182) WIESMATH, I., 1989. Faunistisch-ökologische Untersuchungen über Libellen (Odonata: Zygoptera und Anisoptera) an Gewässern im Raum Tübingen. *Jh. Ges. Naturk. Württ.* 144: 297-314. (Rossbergstr. 52, D-7400 Tübingen, FRG).

The odon. fauna of 11 stagnicolous habitats in the Tübingen area, southern Germany, was studied during 1986-1987. To the 25 previously known spp., *Gomphus pulchellus* is added. The exuviae sex ratios in various spp. are discussed. Based on cluster analysis an attempt is made to define the composition of the odon. assemblages of various habitats. Some conservation problems are also briefly considered.

- (7183) [WILDERMUTH, H.], 1989. Flugkünstler und Umweltbarometer. In: C. Schnieper, Unsere Wildtiere: mit schweizer Forschern unterwegs, Vol. 2, pp. 24-43, Mondo-Verlag, Vevey. ISBN 2-88168-128-X. — (Author: Mythenweg 20, CH-8620 Wetzikon).

Based on interviews with the renowned Swiss odon. ecologist and population biologist, the biology of dragonflies is outlined, partly exemplified by the results of Dr Wildermuth's current research. — This is a chapter in a 2-vol. work on current research of Swiss field zoologists, directed at the general readership.

- (7184) ZEEGERS, T., 1989. Zes zomerse insektenkampen in de Famenne (B.) met een poging tot indeling naar habitat. — Six summer insect camps in the Famenne (Belgium) — an attempt at classifying into habitats. [sic]. *Stridula* 13(3): 83-103. (Dutch, with Engl. s.). — (Weegschaalstraat 207, NL-7521 CH Enschede).

Contains a list of 13 odon. spp. and a brief discussion of these. The material was collected and the observations carried out in July, 1982-1989, in the Bure-Tellin area, S. of Rochefort, Luxemburg prov., Belgium.

1990

- (7185) BERNARDES, A.T., A.B.M. MACHADO & A.B. RYLANDS, 1990. *Fauna brasileira ameaçada de extinção*. — *Brazilian fauna threatened with extinction*. 66 pp. Fund. Biodiversitas Conserv. Diversidade Biol. & Inst. Brasil. Meio Ambiente Recursos Natur. Renováveis (Ibama), Belo Horizonte. ISBN none. (Bilingual: Port. & Engl.). — (For copies apply to the Second Author: Depto Zool., Inst. Cien. Biol., Univ. Fed. Minas Gerais, C.P. 2486, BR-31270 Belo Horizonte, MG).

This booklet is the result of the initial stage of an investigation of the status of the threatened Brazilian fauna that is at present being carried out by the Fundação Biodiversitas, and which, linked with the Biodiversity Conservation Data Bank (CDSB), will eventually result in the first Brazilian "Red Data Book". The IUCN classification is slightly modified: as "threatened" are considered all the taxa that

can be categorized as "endangered", "vulnerable", "rare" or "indeterminate" and also those that are probably extinct. On the "Official list of fauna threatened with extinction in Brazil" are *Leptagrion dardanoi* Santos, *L. siqueirai* Santos, *Mecistogaster asticta* Sel. and (probably extinct) *M. pronoti* Sjöst. The insufficiently known odon. spp. are *Acanthagrion taxaensis* Santos, *Chalcopteryx seabrai* Santos & Machado and *Mecistogaster amalia* Burm. — Prof. A.B.M. Machado is the President of the Fundação Biodiversitas and the Coordinator of the Brazilian Zool. Soc. Worker Group on Threatened Species. He is also responsible for the inclusion of the odon. taxa listed.

- (7186) BICK, G.H. & J.C. BICK, 1990. *Polythore neopicta* spec. nov. from Peru (Odonata: Polythoridae). *Opusc. zool. flumin.* 49: 1-7. — (1928 SW 48th Avenue, Gainesville, FL 32608, USA).

Polythore specimens, designated *P. picta* (Rambur) by G.H. BICK & J.C. BICK (1985, *Odonatologica* 14: 1-28), differ from the *P. picta* (Rambur) holotype and from recently (1988-1989) collected topotypes from French Guiana. The Bick specimens belong to a new sp., *neopicta* sp. n., from Campamiento, Santipo, and Tingo Maria, Peru (holotype ♂, allotype ♀: Tingo Maria; deposited in FSCA). *P. picta* and *P. neopicta* are compared, the penis of each is figured, and a key is given to the 7 spp. now included in the *picta* group.

- (7187) CORBET, P., 1990. Tenth International Symposium of Odonatology. *Antenna* 14(1): 24. — (The Old Manse, 45 Lanark Rd, Edinburgh, EH14 1TL, Scotland, UK).
A review of the activities (Johnson City, TN, USA; Aug. 6-12, 1989). Cf. *OA* 6841.

- (7188) DE MARMELS, J., 1990. Key to the ultimate instar larvae of the Venezuelan odonate families. *Opusc. zool. flumin.* 50: 1-6. — (Inst. Zool. Agric., Fac. Agron., Univ. Central Venezuela, Apdo 4579, Maracay-2101-A, Venezuela).

A key to ultimate instar larvae of the 14 odon. families found in Venezuela is presented. The

recognized families are: Gomphidae, Aeshnidae, Corduliidae, Libellulidae (incl. Macrodiplacinae), Rimanellidae, Calopterygidae, Heliocharitidae, Polythoridae, Platystictidae, Lestidae (Lestinae and Perilestinae), Megapodagrionidae, Protoneuridae, Pseudostigmatidae and Coenagrionidae. — The characters used in the key are taken from published descriptions, or are based on reared material preserved in the collection of the Instituto de Zoología Agrícola, Facultad de Agronomía, Universidad Central de Venezuela, Maracay.

- (7189) HERMANS, J.T., 1990. Cercion lindenii Selys, 1840 (Insecta, Odonata) weer in Limburg gevonden. — Cercion lindenii Selys 1840 (Insecta, Odonata) found again in Limburg. *Natuurh. Maandbl.* 79(1): 5-8. (Dutch, with Engl. s.). — (Hertestraat 21, NL-6067 ER Linne).

Between 1950-1985 the sp. has been recorded from 3 localities in the Netherlands, since 1985 2 more localities were added. Contrary to the previously held view (e.g. *OA* 4101), in the Netherlands the sp. inhabits large ponds, records from the streams refer to incidental allochthonous individuals only. An original map of the European distribution is also included.

- (7190) LABHARDT, F., 1990. Libellen mit Superteile. *Fotografie draussen* 21(1): 14-15. — (Brunderholzstr. 26, CH-4103 Bottmingen).

The author is working on a children's dragonfly book, and gives here a note on his *Onychogomphus forcipatus* trip to the Doller R., W of Mulhouse, Alsace, France.

- (7191) *LINDENIA*. Notiziario dell'Ufficio Nazionale Italiano della Società Odonatologica Internazionale, Roma, No. 13 (Jan. 1, 1990). — (c/o Prof. Dr C. Utzeri, Dipt Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma).

In addition to the usual administrative items, the issue contains the following (anonymous) notes: "II X International Symposium of Odonatology" (pp. 55-56); — "LXI International Symposium of Odonatology: incarico ufficiale

all'Italia" (pp. 56-57); — "Notizie dalla Germania: libellule causano "paura e orrore" a Torino" (p. 57; with reproduction of the note listed in *OA* 6839); — "Distribuzione regionale odonati italiani: aggiornamento" (p. 58).

- (7192) MONTALVERNE, G., 1990. Libélula: guerreiro magnifico. *Intercidades* 3(26): 26-28. — (Author's address not stated).

A general article, in a Portuguese on-rail magazine, containing some factual errors and 3 moderate photographs. Cf. also *OA* 7022.

- (7193) *PROGRAMME, ABSTRACTS & SOUVENIR [OF THE] THIRD INDIAN SYMPOSIUM OF ODONATOLOGY*, 29-31 January, 1990, Post-Graduate and Research Department of Zoology, Chikkaiah Naicker Coll., Erode. Edited by Dr G. Varadaraj. VI+38 pp. (interleaved). — (Orders from S Asia to the SIO Regional Office in Southern Asia, Dr B.K. Tyagi, Plot 155, Street 7, Milkman Colony, Jodhpur-342003, India; all others: SIO Central Office, P.O. Box 256, NL-3720 AG Bilthoven).

Basalingappa, S., M.R. Gandhi, M.A. Hooli & S.B. Mathapathi: Probe studies on the odonate fauna of the selected areas of the Western Ghats in Karnataka state (p. 1); — *Suri Babu, B. & B.K. Srivastava*: Life history of *Ceriagrion coromandelianum* (Fabr.) (Zygoptera: Coenagrionidae) with special reference to seasonal regulation (p. 3); — *Kumar, V. & S.P. Ray*: Seasonal variations in the calorific contents of certain odonatan larvae of a freshwater pond at Bhagalpur (Bihar) (p. 5); — *Paul, S.F., M. Gladstone & A.M. Daniel*: Comparative studies on the morphological variation of the rectal gills in some species of dragonfly naiads (Anisoptera: Odonata) (p. 7); — *Thomas, M., M. Daniel & M. Gladstone*: Impact of prey density on the predatory efficiency of three species of dragonfly naiads (p. 9); — *Ebenezer, V., A.M. Daniel & M. Thomas*: The interaction between the prey size versus the predator size with reference to mosquito larval predation in *Diplacodes trivialis* (R.) (Anisoptera: Odonata) (p. 13); — *Srivastava, V.K. & B.K. Srivastava*: Female accessory glands of *Chloroneura quadrima-*

- culata (Rambur): structure and function (p. 15); — *Tembhare, D.B. & R.J. Andrew*: Neuroendocrine system during development of the ultimate larva of *Tramea virginia* (Anisoptera: Libellulidae) (p. 17); — *Varadaraj, G., M.A. Subramanian & S. Viswanathan*: Variations on the haemolymph free aminoacids during flight in both sexes of *Macromia cingulata* (Rambur) (Anisoptera: Libellulidae) [sic!] (p. 19); — *Subramanian, M.A.*: Variations in the haemolymph volume, trehalose and free amino acids during flight in both sexes of *Macromia cingulata* (Rambur) (Anisoptera: Libellulidae) [sic!] (p. 21); — *Roy, S.P.*: Use of odonate larvae to evaluate water quality of fresh water ponds (p. 23); — *Thilagavathy, D. & U. Kesavan*: Toxic effect of tannery effluent upon odonate nymphs (p. 23); — *Varadaraj, G., M.A. Subramanian & R. Subramanian*: Oxygen uptake in the nymphs of dragonfly *Macromia cingulata* (Rambur) (Anisoptera: Libellulidae) [sic!] after exposure to industrial effluents (p. 25); — *Varadaraj, G., M.A. Subramanian & S. Jayasuriya*: Sublethal effects of industrial effluents on the biochemical constituents of the haemolymph in the nymphs of the dragonfly *Macromia cingulata* (Rambur) (p. 27); — *Subramanian, M.A. & G. Varadaraj*: The effects of industrial effluents on moulting in the nymphs of the dragonfly *Macromia cingulata* (Rambur) (Anisoptera: Libellulidae) [sic!] (p. 29); — *Baskaran, P., S. Palanichamy & D. Moni*: Impact of pesticides on some biochemical parameters in the dragonfly nymph *Brachythemis contaminata* (pp. 31-33); — *Subramanian, M.A., R. Chandrasekaran, B.M. Ali & G. Varadaraj*: Toxicity of pesticides to the nymphs of dragonfly *Macromia cingulata* (Rambur) (Anisoptera: Libellulidae) [sic!] (p. 35); — *Subramanian, M.A., K. Kannan, V. Vivekandan & G. Varadaraj*: Changes in the rate of oxygen consumption in pesticide treated nymphs of the dragonfly *Macromia cingulata* (Rambur) (Anisoptera: Libellulidae) [sic!] (p. 37).
- (7194) RETTIG, K., 1990. Herbst-Beobachtungen 1989 in der Umgebung des Chiemsees / Oberbayern. *Beitr. Vogel- Insektenwelt Ostfrieslands* 38: 25-31. — (Danziger Str. 11, D-2970 Emden, FRG).
- 4 common odon. spp. are listed (Sept. 23 - Oct. 7, 1989), Upper Bavaria, FRG.
- (7195) TAYLOR, J., 1990. Damselflies in a Pilbara monsoon. *Geo* (Australia) 11(4): 44-55. — (Author's address not stated).
- The former Lecturer in Zoology at the Univ. of Western Australia relates his encounter with February dragonfly life in the Pilbara, Western Australia. The discovery of an isolated population of blue *Nososticta liveringa* in the Knox and Dalas Gorges, which was hitherto only known from the Kimberley region and adjacent areas of the Northern Territory (where it is apple green!), is of particular interest. Several other spp., localities and habitat situations are mentioned, and magnificent large-scale phot. are provided of *N. liveringa*, *N. pilbara*, *N. solida*, *Hemianax papuensis* (name not stated) and *Ictinogomphus dobsoni*.
- (7196) [TYAGI, B.K.], 1990. International Odonatological Society. *Souvenir Int. Symp. Environ. Influences on Seed & Germination Mechanisms*, Jodhpur, p. 45. — (Plot 155, St. 7, Milkman Colony, Jodhpur-342003, India).
- A brief outline of the organisational set up and the objectives of the SIO, with special reference to the SIO Regional Office in Southern Asia.
- (7197) VONWIL, G. & H. WILDERMUTH, 1990. Massenentwicklung von *Hemianax ephippiger* (Burmeister, 1839) in der Schweiz (Odonata: Aeshnidae). *Opusc. zool. flumin.* 51: 1-11. (With Engl. s.). — (First Author: Oberdorf, CH-6042 Dietwil; — Second Author: Mythenweg 20, CH-8620 Wetzikon).
- In 1989 *H. ephippiger* was found breeding in Central Europe for the first time (cf. *OA* 7141). Emergence of several hundred specimens was observed in a small nature reserve of the Reuss valley, 14 km SW of Zürich. Details on the emergence period and the daily rhythm of emergence are presented. Larval development took place in shallow astatic pools which were partly overgrown by vegetation consisting mainly of vertical stems. It is assumed that mature individuals were drifted by a strong air current from North Africa to Central Europe

in early May and that larval development was completed within 3 months. In total 405 exuviae could be collected, female larvae prevailing. The development of a new generation,

comprising approximately 1000 individuals, is considered as a solitary event for Central Europe, due to extraordinary weather conditions in 1989.