

ODONATOLOGICAL ABSTRACTS

1976

- (8296) DAWSON, N., 1976. *Dragonflies of Bedfordshire: a guide to their identification*. Bedfordshire Nat. Hist. Soc., Luton. 20 pp. — (Author: 2, Old House, Ickwell Green, Biggleswade, Bedfordshire, SG18 9EE, UK).
A well constructed, illustrated key for identification of the 28 spp. known at that time from Bedfordshire, UK. — For the first survey of the county fauna cf. R. Palmer, 1948, *Bedfordshire Naturalist* 2(1947): 30-33; the most recent review is given in the paper listed in OA 7624.

1978

- (8297) LIERATH, W., 1978. Die Verwandlung. *Tierfreund* 78 (7): 37-38. — (Author's address unknown).
A somewhat belletristic text, with photographs, on dragonfly metamorphosis.
- (8298) SIMON, U. & D. KLEINBÖHL, 1978. Wir bestimmen Libellen, um einen See zu retten. *Tierfreund* 78(7): 38-39. — (Authors' current addresses unknown).
General article, directed at the members of the German Youth Federation for Nature Study (DJN), emphasizing the importance of dragonfly faunistic inventarisations for conservancy work.

1981

- (8299) BREUER, M. & C. RITZAU, 1981. Die Libellenfauna der Sandgrube zwischen Hepstedt und Tarmstedt. *Faun. Jber. Bremervörde* 1980/1981: 2-5. — (Bauernweide 16, D(W)-2800

Bremen-21, FRG).

Commented list of 16 spp., Bremervörde, FRG.

1982

- (8300) BREGOVIĆ, A., 1982. *Gradski muzej Varaždin, entomološki odjel. Vodič stalnim postavom*. — [The Varaždin City Museum, Department of Entomology. A guide to the permanent exhibits]. Gradski muzej, Varaždin, 36 pp. (Croat., with Engl.s.). — (Gradski muzej Varaždin, CRO-42000 Varaždin, Croatia).
The odon. collection is briefly described on p. 32, and a photograph of a series of 14 local specimens of *Calopteryx splendens* and *C. virgo* is appended. The locality data are not stated.

1983

- (8301) CORDES, H., 1983. Exkursionsziel Hamberger Moor. *Exkursionsführer 13. Jtag. Ges. Ökol. Univ. Bremen*, pp. 17-28. — (Author's address not stated).
5, mostly tyrphophilous odon. spp. are mentioned from the Hamberger Moor, 20 km N of Bremen, Germany.
- (8302) GERKEN, R., 1983. Die Libellen des Altkreises Bremervörde. *Faun. Jber. Bremervörde* 1982/1983: 6-20. — (Author's address unknown).
Commented list of 37 spp., with grid distribution maps for the Bremervörde district, FRG. — (Cf. also OA 8307).

1984

- (8303) ACHENBACH, H., 1984. Zur Hydrobiologie des Wiesbachs (Rheinhausen). *Mainz. naturw.*

Arch. 22: 107-148. (With Engl.s.). — (Bahnhofstr. 2, D(W)-6501 Hahnheim, FRG).

The Wiesbach is an E. tributary of the Nahe R., in the Rhine-Hessen uplands, Germany. Its macrozoobenthos was studied during 1981-1982, at 15 sampling stations. *Cordulegaster bidentata* is the only odon. sp. encountered.

- (8304) JAHN, P., 1984. *Die Libellen des Landes Berlin: Bestandsentwicklung-Gefährdung-Schutz. Beitrag zum Artenschutzprogramm.* Landesbeauftragter für Naturschutz und Landschaftspflege, Berlin. iv+158 pp. — (Author: Schillerpromenade 30, D(W)-1000 Berlin-44, FRG). Monographic treatment of the odon. fauna (55 spp.) of the former Westberlin, with distribution maps, status data, etc. Habitat conservation of the threatened spp. is one of the main objectives of the work, hence considerable attention is paid to the analysis of the local aquatic habitats and to the management required.

- (8305) LENZ, L., 1984. Libellen-Odonata im Raum Mosel-Eifel, 1983. *Jber. Ornithol. NatSchutz Westerwald-Mittelrhein* 5: 148-153. — (Im Brühl 6, D(W)-5590 Cochem-Sehl, FRG). Annotated list of 22 spp:

- (8306) MÜLLER, W., 1984. Amphibien- und Libellenbeobachtungen aus dem Kiesgrubengebiet bei Sinzig. Kreis Ahrweiler. *Jber. Ornithol. NatSchutz Westerwald-Mittelrhein* 5: 154. — (Sinziger Str. 2, D(W)-5480 Remagen, FRG). Checklist of 16 spp., with statements on their local frequency.

1985

- (8307) GERKEN, R., 1985. Libellenbeobachtungen aus dem Altkreis Bremervörde 1984/85. *Faun. Jber. Bremervörde* 1984/1985: 24-32. — (Author's address unknown). Additions to the paper listed in OA 8302.

- (8308) LENZ, L., 1985. Faunistische Mitteilungen aus dem Bereich Mosel-Eifel-Hunsrück. *Jber. Ornithol. NatSchutz Westerwald-Mittelrhein* 6: 175-183. — (Im Brühl 6, D(W)-5590 Cochem-Sehl, FRG). Includes an annotated list of 17 odon. spp.

1987

- (8309) GRIMMER, F., 1987. Abteilung für Ökologie heimischer Libellen. *Natur & Mensch, Nürnberg* 1987: 22. — (Schedelstr. 94, D(W)-8500 Nürnberg-30, FRG).

Notice on the incorporation of the "Arbeitskreis Libellen/Mittelfranken" as a section of the Nürnberg Nat. Hist. Soc. The objectives are briefly outlined, and the meetings of the members are taking place monthly.

- (8310) GRIMMER, F., 1987. Fliessgewässer-Libellenarten in der Umgebung Nürnbergs. Erste Ergebnisse einer Untersuchung der Libellenarten an Fliessgewässern 2. Ordnung in Mittelfranken. *Natur & Mensch, Nürnberg* 1987: 15-22. — (Schedelstr. 94, D(W)-8500 Nürnberg-30, FRG).

Concise treatment of *Calopteryx splendens*, *C. virgo*, *Ophiogomphus caecilia* (= "serpentinus") and *Cordulegaster boltonii*, on some 2nd order streams in the systems of the Pegnitz, Rednitz and Regnitz rivers, central Franconia, Germany.

- (8311) HEDDERICH, B., 1987. *Auswertung faunistisch-ökologischer Bestandsaufnahmen an zwei Feuchtgebieten im Kreis Höxter als Grundlage für die Pflege und Entwicklungsplanung.* DiplArb. Univ. Paderborn. vi+180 pp. — (c/o Prof. Dr B. Gerken, Abt. Biol., Univ. Paderborn-Höxter, An der Wilhelmshöhe 44, D(W)-3740 Höxter, FRG).

The 2 wetlands studied are situated in the Upper Weserbergland, Paderborn, FRG, and show 80% similarity in their resp. odon. faunae. The differences in the distribution and abundance of various spp. are explained in terms of autecology, local hydrology and the impact of agriculture. Of particular interest are the observations on the phenology of *Lestes dryas*. Suggestions for management and conservation are outlined in considerable detail.

- (8312) RASSI, P. & R. VAISANEN, [Eds], 1987. *Threatened animals and plants in Finland. English summary of the report of the Committee for the Conservation of Threatened Animals and Plants in Finland.* Ministry of the Environment, Helsinki, 68 pp. — ISBN 951-46-7961-X.

The odon. are dealt with on pp. 57, 58-59. So far, 52 spp. are known from Finland, of which 2 spp. are considered vulnerable (*Coenagrion puella*, *Aeshna viridis*), and the status of 3 spp. needs further monitoring (*Nehalennia speciosa*, *Aeshna crenata*, *Somatochlora sahlbergi*). — For the recent status cf. OA 8398.

- (8313) VOGT, K., 1987. Chromophores of insect visual pigments. *Photobiochem. Photobiophys.* 1987 (Suppl.): 273-296. — (Inst. Biol. I, Univ. Freiburg, Albertstr. 21a, D(W)-7800 Freiburg/Br., FRG).

The odon. are the only animals where both chromophores (3-hydroxy-retinal as well as retinal) were found. The preliminary experiments on larvae indicate that there is no principal difference from adult eyes with respect to chromophore composition. From the point of view of phylogeny, the odon. cannot be considered the "missing link" between the rhodopsin and the xanthopsin animals, since this would mean casting doubt on the monophyletic origin of the neopteran orders and, in addition, on that of the holometabolic orders. Consequently, the occurrence of 3-hydroxyretinal in the odon. is tentatively considered an independent acquisition. — (cf. also OA 7260).

1988

- (8314) CHISHTI, M.J.K., 1988. *Odonate naiads of the Punjab province*. M.Sc. thesis, Univ. Agric., Faisalabad. vi+80 pp. — (Author's current address unknown).
Ultimate instars (mostly!) are described and illustrated of 20 spp., collected at 9 localities in Punjab, Pakistan. Of these only *Cordulegaster brevistigma*, *Anax parthenope*, *Gomphidia t-nigrum*, *Acisoma p. panorpoides*, *Brachythemis contaminata*, *Pantala flavescens*, *Rhyothemis v. variegata*, *Tramea basilaris burmeisteri* and *Copera marginipes* are identified to the species. *Hydrobasileus* sp. is said to be for the first time recorded from Pakistan. The identification of "Progomphus sp." is erroneous.
- (8315) COMONT, J., 1988. *Ischnura pumilio* (Scarce Blue-tailed Damselfly) in Bedfordshire. *Bedfordshire Naturalist* 42 [1987]: 59. — (Beds & Hunts Wildl. Trust, Priory Country Park, Ber-

kers Lane, Bedford, MK41 9SH, UK).

Records and brief field notes from 2 localities in Bedfordshire, UK.

- (8316) HUSSAIN, R., 1988. *Odonate naiads of the Sind province*. M.Sc. thesis, Univ. Agric., Faisalabad, Pakistan. vi+72 pp. — (Author's current address unknown).
Based on the collections from Sukkur, Shikarpur, Hyderabad, Mirpur Khas and Thatta, all in the Sind prov., Pakistan, ultimate instars of 7 identified spp. are very carefully described and illustrated (*Gomphidia t-nigrum*, *Anax parthenope*, *Acisoma p. panorpoides*, *Brachythemis contaminata*, *Rhyothemis v. variegata*, *Pantala flavescens*, *Tramea basilaris burmeisteri*). A similar treatment is presented of 8 other spp., identified to the genus only.
- (8317) LENZ, L., 1988. Tierwelt des Kreises (IV): Libellen. *Jb. Kreis Cochem-Zell* 1988: 45-47. — (Im Brühl 6, D(W)-5590 Cochem-Sehl, FRG). First part: commented list of 7 spp. For the second part cf. OA 8326.
- (8318) LINDEBOOM, M., 1988. *Beiträge zur Biologie der Gebänderten Prachtilibelle (Calopteryx splendens Harris, 1782)*. DiplArb. Univ., Freiburg, vi+74 pp. — (Inst. Biol. I, Univ. Freiburg, Albertstr. 21a, D(W)-7800 Freiburg/Br., FRG). The M.Sc. dissertation is based on fieldwork on the Hanfreezenbächle stream, Freiburg/Br. distr., southern Germany, and consists of 4 autonomous chapters, viz. "Longevity and territoriality" (pp. 6-16), "Pairing and oviposition" (pp. 17-35), "Significance of the oviposition substrate" (pp. 36-56), and "Effect of the increased water temperature on *C. splendens* and *C. virgo*" (pp. 57-62). Several appendages are added.
- (8319) REINHARDT, K., 1988. Vorkommen von Fliesswasser-Libellenarten im Bezirk Karl-Marx-Stadt (Odonata). *InfMat. Ent. Karl-Marx-Stadt* 17: 9-13. — (Irkutsker Str. 153, D(O)-9044 Chemnitz, FRG).
Records of and comments on *Calopteryx splendens*, *C. virgo* and *Cordulegaster boltonii* in the Chemnitz area (formerly "Karl-Marx-Stadt"), E Germany.

- (8320) XIA, S., H. WU & Z. WANG, 1988. *Primary-colored iconograph of entomophagous insects in paddy fields*. Hunan Press Sci. & Technol. Hunan. iv+96 pp., 205 col. phot. incl. — ISBN 7-5357-0253-8. (Chin., with Engl. title, Introduction, taxon. & vernacular nomenclature). — (Authors: Biocontrol Lab., Plant Protection Inst., Hunan Acad. Agric. Sci., Hunan, P.R. China). — Available from the SIO, Bilthoven, at Hfl. 68,- net.

For the sake of coordination in the development of integrated management of rice insect pests, 205 spp. of most important entomophagous insects in the rice fields of the Hunan prov., China, were selected and are shown here in col. plates, with taxonomic, Engl. and (partly) Chinese names, along with comprehensive (Chin.) captions. These include 19 odon. spp., identified by Prof. H.-f. Chao. The Chinese vernacular names for *Crocethemis servilia* (= "*Chi-zu*"), *Pantala flavescens* (= "*Huang-yi*") and *Anax parthenope julius* (= "*Ma-dai-tou*") were not available previously in Latin transliteration.

1989

- (8321) BÁNKÚTI, K., 1989. Adatok a Dunántúl Odonata faunájához. — Data to the Odonata fauna of Transdanubia. *Folia hist.-nat. Mus. matr.* 14: 75-76. (Hung., with Engl.s.). — (Mátra Múzeum, Kossuth u. 40, HU-3200 Gyöngyös). Annotated list of 17 spp. from the Transdanubian region of Hungary, deposited in the Somogy Mus., Hungary.
- (8322) BÁNKÚTI, K., 1989. Adatok Magyarországi Odonata faunájához. I. — Data to the Odonata fauna of Hungary, part I. *Folia hist.-nat. Mus. matr.* 14: 77-79. (Hung., with Engl.s.). — (Mátra Múzeum, Kossuth u. 40, HU-3200 Gyöngyös). Annotated list of 35 spp., incl. several 1989 records of *Hemianax ephippiger*.
- (8323) BROCKHAUS, T., 1989. Zur Erfassung der Libellenfauna im Bezirk Karl-Marx-Stadt. *InfMat. Ent. Karl-Marx-Stadt* 18: 11-15. — (Markt 20/21, D(O)-9001 Chemnitz, FRG). Commented list of 48 spp. from the Chemnitz area (formerly "Karl-Marx-Stadt"), E Germany. For the district Red List cf. OA 8334.
- (8324) BUDIHNA, N. & A. OCVRK, 1989. Ihtiološke raziskave Bobovških jezerc. — [Ichthyological studies on the Bobovek ponds]. In: T. Trilar, [Ed.], *Ekološki tabori na Bobovku*, pp. 44-55, OK ZSMS, Kranj. ISBN none. (Slovene). — (Authors' addresses not stated; — for copies apply to the SIO National Agency in Slovenia, c/o I. Geister, Pokopališka pot 13, SLO-64202 Naklo, Slovenia). This is a rounded-off account of the fish fauna of a set of man-made ponds nr the village of Bobovek, Upper Carniola, Slovenia. In the stomachs of pike (*Esox lucius*), perch (*Perca fluviatilis*) and pumpkinseed sunfish (*Lepomis gibbosus*), odon. larvae were identified. Species names and quantitative data are not stated.
- (8325) HEITKAMP, U., 1989. Das Ökosystem Tümpel: strukturelle Merkmale des Lebensraums und Eigenschaften der Zooönose. *Götting. naturk. Schr.* 1: 25-46. (With Engl.s.). — (II Zool. Inst. & Mus., Univ. Göttingen, Berliner Str. 28, D(W)-3400 Göttingen, FRG). This is an important theoretical paper, attempting to define the features of a "pool". Its characteristic features are the basically inconstant abiotic conditions (astatics), to which the inhabitants have to adapt by evolving different strategies. Only a brief paragraph is devoted to the odon., in which the differences in faunal composition between the forest ponds and those in a open landscape are outlined.
- (8326) LENZ, L., 1989. Tierwelt des Kreises (V): Libellen, 2. Teil. *Jb. Kreis Cochem-Zell* 1989: 61-62. — (Im Brühl 6, D(W)-5590 Cochem-Sehl, FRG). Continuation from OA 8317; with annotations on 20 spp.
- (8327) [MULLER, R.A.], 1989. "Paradies" Philippinen in Gefahr. *St. Galler Tagblatt*, issue of March 10, 1 p. — (Rehetobelstr. 99, CH-9016 St. Gallen). A brief local daily's report on R. Müller's talk on the general nature conservation situation in the Philippines, given in the framework of the Plenary Business Meeting of the society "Freunde des Naturmuseums St. Gallen", March 7, 1989 and containing a passing reference to the Odon. Based on the author's evi-

dence, Dr. M. Hämäläinen presented a brief technical report also for the IUCN Species Survival Commission (Specialist Group Odonata) as mentioned in OA 8293. — For more information on R. Müller's odonatological work in the Philippines cf. also OA 8340, 8374.

- (8328) PIX, A. & P. BACHMANN, 1989. Libellen (Insecta: Odonata) im Reinhardswald (Nordhessen). *Götting. naturk. Schr.* 1: 47-69. (With Engl.s.). — (First Author: Mönchehofstr. 1, D(W)-3500 Kassel, FRG).
Analysis of the odon. fauna (34 spp.) in a highland area in northern Hesse, FRG. In comparison with the status of 1913, 7 spp. became extinct, and a shift in the faunal composition towards the increase of tyrophilous taxa is apparent. The latter is due to acidification, since there are no moors and peat bogs in the region.

- (8329) RAKONCZAY, Z., [Ed.], 1989. *Vörös könyv: A magyarországon kipusztult és veszélyeztetett növény - és állatfajok.* — [The Hungarian Red Data Book]. 359 pp. Akadémiai Kiadó, Budapest. — ISBN 963-05-5325-2. (Hung.).
The odon. section appears on pp. 118-181, listing *Coenagrion hastulatum*, *Aeshna juncea*, *A. viridis*, *Anax parthenope*, *Gomphus flavipes*, *Cordulegaster bidentata*, *C. boltonii*, *Somatochlora metallica*, *Sympetrum danae* and *Leucorrhinia caudalis*.

- (8330) SALEEM, P.M. & K.N. KHAN, 1989. Effect of temperature and pH on the odonates distribution of district Bannu (N.W.F.P.), Pakistan. *Sci. Khyber* 2(1): 145-151. — (Dept Zool., Univ. Peshawar, Peshawar, Pakistan).
The effects of temperature and pH on odon. distribution were investigated in 12 genera, but the taxonomic identification of most of these is erroneous, based on North American [identification] literature!

- (8331) SAMWAYS, M., 1989. Ecological landscaping at the Natal National Botanic Garden Pietermaritzburg. *Veld & Flora* 75: 107-108. — (Dept Zool. & Ent. Fac. Sci., Univ. Natal, P.O. Box 375, Pietermaritzburg-3200, SA).
A note on a dragonfly preserve, to be set up within the confines of the Natal National Botanic Garden, Pietermaritzburg, RSA.

- (8332) SRIVASTAVA, V.K. & B.K. SRIVASTAVA, 1989. Female internal genital organs of the damselfly *Pseudagrion rubriceps* Selys (Zygoptera: Odonata). *Folia morphol.* 37(2): 165-171. — (First Author: Dept Zool., C.M.P. Coll., Univ. Allahabad, 318 Alopi Bagh, Allahabad-211006, India).

The morphology, anatomy and histology of the adult were studied in detail. The paired, long, panoistic ovaries each lead posteriorly into an oviduct. The oviducts united to form a short common median oviduct leading into the "eighth complex" localized in the 8th abdominal segment. The "eighth complex" comprises the bursa copulatrix, spermatheca and vagina. A pair of prominent accessory reproductive glands, localized in the 9th segment, open into the vagina.

1990

- (8333) BROCKHAUS, T., 1990. Libellenbeobachtungen am Flusslauf der Zschopau (Odonata). *Inf-Mat. Ent. Karl-Marx-Stadt* 20: 4-5. — (Markt 20/21, D(O)-9001 Chemnitz, FRG).
Annotated list of 9 spp.; Erzgebirge, E. Germany.

- (8334) BROCKHAUS, T., 1990. Rote Liste der Libellen des Bezirkes Chemnitz und Massnahmen zum Biotopschutz. *NatSchutzArb. Sachsen* 32: 21-28. — (Markt 20/21, D(O)-9001 Chemnitz, FRG).

47 odon. spp. are known from the district of Chemnitz, E Germany, of which 43 are autochthonous, incl. 21 spp. that are not endangered. For a checklist cf. OA 8323.

- (8335) DÉVAI, G. & M. MISKOLCZI, 1990. The dragonfly (Odonata) fauna of Bátorliget, its chorological analysis and evaluation considering nature conservation. In: S. Mahunka, [Ed.], *The bátorliget nature reserves after forty years*, Vol. 1, [1991] pp. 279-293, Hung. Nat. Hist. Mus., Budapest, ISBN 963-7093-07-98. — (Ecol. Inst., Kossuth Univ., P.O. Box 14, HU-4010 Debrecen).

The history of odonatol. research in the Bátorliget nature reserve is traced from 1936 to present, the 34 recorded spp. are listed along with the annotations on habits and habitats, a careful

biogeographic analysis of the fauna is presented, and a statistical evaluation of the habitats is given.

- (8336) DONATH, H., 1990. Die Libellen der nordwestlichen Niederlausitz (Teil 4). *Biol. Stud. Luckau* 19: 49-56. — (Umweltzentrum, Hauptstr. 21, D(O)-7960 Luckau, FRG).
Deals with 8 spp. of Gomphidae, Cordulegastridae and Corduliidae. — For the previous parts cf. OA 6121, 6478, 6971.
- (8337) DONATH, H., 1990. Zur Entomofauna von Tagebaurandzonen in der nordwestlichen Niederlausitz. *Abh. Ber. NaturkMus. Görlitz* 64(1): 69-72. — (Umweltzentrum, Hauptstr. 21, D(O)-7960 Luckau, FRG).
8 odon. spp. are listed as characteristic of different, specified marginal habitats in the marginal zone of the open-cast mining areas in Lower Lusatia, eastern Germany. No locality is specified.
- (8338) HODAR, J.A., I. RUIZ & I. COMACHO, 1990. La alimentación de la rana común (*Rana perezi* Seone, 1855) en el sureste de la Península Ibérica. *Misc. zool.* 14: 145-153. (With Engl.s.). — (Depto Biol. anim., Fac. Cien., Univ. Granada, ES-18001 Granada).
Contains statistical data on adult and larval odon., without further taxonomic specification, encountered in the stomachs of *Rana perezi* at 5 localities in SE Andalusia, Spain.
- (8339) KAUSHIK, S., S. SHARMA, M.N. SAXENA & D.N. SAKSENA [sic!], 1990. Habitat ecology of anisopteran nymphs in certain water bodies of Madhya Pradesh. *Acta hydrochim. hydrobiol.* 18(4): 443-447. — (First Author: Sch. Stud. Zool., Jiwaji Univ., Vidya Vihar, Gwalior-474011, India).
21 spp. were identified from different types of lentic and lotic habitats, data are presented on temperature amplitude, O₂, pH, Cl(mg/l), and on structure of all habitats, and the vertical distribution (205-1067 m) is stated for most spp.
- (8340) [MÜLLER, R.A., &] U. SCHÄR, 1990. Philippinen - ein land der Inseln, ein Land der Träume. Eindrücke des Libellen-Forschers Roland Müller. *St Galler Nachr. Monats-Mag.* 1990(2): 1-3, 2 portraits incl. — (c/o R.A. Müller, Rehetsbelstr. 99, CH-9016 St Gallen).
Swiss monthly's interview with R. Müller, mainly on his odonatological exploration of the Philippine Isls, but containing also some other biographic information on the life and work of this significant Swiss odon. worker. — For more information cf. OA 8327, 8374.
- (8341) NOBI INSECT RESEARCH CLUB, 1990. Insect fauna of the Nobi area, Yokosuka City, Kanagawa Prefecture. *Scient. Rep. Yokosuka City Mus.* 38: 61-80. (Jap., with Engl.s.). — (c/o Mr N. Ohba, Yokosuka City Mus., Fukadadai, Yokosuka, 238, JA).
Contains an annotated list of 27 odon. spp., and it is stated that Nobi is one of the areas where the natural environment is well preserved, though long-term conservation measures are required.
- (8342) PAVLOV, A.M. & I.M. ZUBINA, 1990. Zavisi-most' massy ot lineynih razmerov u lichinok strekoz. — [The correlation between the mass and linear size in dragonfly larvae]. *Gidrobiol. Zh.* 26(5): 83-85. Russ., with Engl.s.). — (Zool. Inst., St. Petersburg St. Univ., Universitetskaya nab. 7/9, RUS-199034 St Petersburg).
Equations are given for body weight dependence on linear size in 8 spp. of 2 suborders.
- (8343) REINHARDT, K., 1990. Libellenbeobachtungen im Süden der oblast Tjumen (West-siberische Tiefebene, UdSSR) im Spätsommer. *Ent. Nachr. Ber.* 34(6): 281. — (Irkutsker Str. 153, D(O)-9044 Chemnitz, FRG).
Commented records of 11 spp.
- (8344) REUBEN, R., D.R. RAO, A. SEBASTIAN, P.S. CORBET, N. WU & C. LIAO, 1990. Biological control methods suitable for community use, In: C.F. Curtis, [Ed.], *Appropriate technology in vector control*, pp. 146-158, CRC Press, Boca Raton, Fla, ISBN 0-8493-4755-6. — (Fourth Author: Dept Zool., Univ. Edinburgh, West Mains Rd, Edinburgh, EH9 3JT, Scotland, UK).
The odon. section (pp. 142-145) deals with the same periodic augmentative release of *Crocotthemis servilia* larvae in Burma as reported originally in OA 7421 (cf. also e.g. OA 8151).

- (8345) SANTAMARINA, J., 1990. Alimentación del mirlo acuático (*Cinclus cinclus*) en ríos de Galicia. *Misc. zool.* 14: 207-215. (With Engl.s.). — (Area Ecol., Depto Biol. fundamental, Fac. Biol., Univ. Santiago de Compostela, ES-15071 Santiago de Compostela).

The feeding habits of the dipper in the rivers of NW Spain were studied by means of analyses of regurgitated pellets and faecal samples. Statistical data are presented on the representation of unidentified Anisoptera, and of the Gomphidae and Aeshnidae.

1991

- (8346) ALCOCK, J., & D.T. GWYNNE, 1991. Evolution of insect mating systems: the impact of individual selectionist thinking. In: W.J. Bailey & J. Ridsdill-Smith, [Eds], Reproductive behaviour of insects: individuals and populations, pp. 10-41, Chapman & Hall, London-New York-Tokyo-Melbourne-Madras, ISBN 0-412-31280-8. — (First Author: Dept Zool., Arizona St Univ., Tempe, AZ 85287-1501, USA). A comprehensive review, with emphasis on the odon.
- (8347) BAZZANTI, M., 1991. Sandy bottom macroinvertebrates in two moderately polluted stations of the river Treia (central Italy): structural and functional organization. *Annls Limnol.* 27(3): 287-298. (With Fr.s.). — (Dipto Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma). The fauna was sampled at 2 stations (alt. 180 & 40 m. resp.; moderate velocity, moderate pollution from domestic sewage and agricultural nutrients: Sabatini Mts, N of Rome). As far as the odon. are concerned, only *Calopteryx* sp. was recorded, from the upper station only.
- (8348) CHAM, S.A., 1991. Dragonflies (Odonata). Report of the Recorder. *Bedfordshire Naturalist* 45 [1990]: 71-74. — (45 Weltmore Rd, Luton, Beds, LU2 2TN, UK). The Author is Regional Recorder (of the British Odonata Recording Scheme) for Mid-East England. This is the 1990 report, containing annotations on 19 spp.
- (8349) CHAM, S.A., 1991. Further notes on the discovery of the Scarce Blue-tailed Damselfly (*Ischnura pumilio*) in Bedfordshire. *Bedfordshire Naturalist* 45 [1990]: 75. — (Weltmore Rd 45, Luton, Beds, LU2 2TN, UK). This is a sequel to the Author's paper listed in OA 7845.
- (8350) CHAO, H.-f., 1991. A comparison of the gomphid dragonfly fauna of Fujian and Taiwan (Odonata, Gomphidae). *Wuyi Sci. J.* 8: 9-13. (Chin., with comprehensive Engl.s.). — (Biol. Control Res. Inst., Fujian Agric. Coll., Fuzhou, Fujian-350002, P.R. China). The 2 faunae have been fairly thoroughly investigated (60 spp. in 25 gen. and 21 spp. in 15 gen., resp.). All the Taiwanese gen. are common on both sides of the Taiwan Strait, and so are 15 of the 21 spp. known from Taiwan. Only 6 Taiwanese spp. are endemic, though close congeners of those from the mainland. Consequently, the Taiwanese fauna is dominated by constituents of southern Chinese origin. The affinities between the Japanese and Fujian-Taiwanese gomphid faunae are also outlined. The Indo-Chinese subregion of the Oriental Region (incl. Fujian and Taiwan) appears to be the centre of abundance of the gomphid fauna in E. Asia.
- (8351) D'ANDREA, M. & S. CARFÌ, 1991. Spines on the wing veins in Odonata: are they aerodynamic? In: G. Lanzavecchia & R. Valvassori [Eds], Form and function in zoology [Selected Symposia and Monographs U.Z.I., Vol. 5], pp. 281-290, Mucchi. Modena. — (Dipto Biol. Anim., Univ. Firenze, Via Romana 17, I-50125 Firenze). The odon. wing vein spines show primitive and secondary characters, which distinguish the Zygoptera from the Anisozygoptera and Anisoptera, confirming the generally accepted classification even on the lower levels, such as families and subfamilies. The distinctive distribution of these spines on the nodal and cubito-anal fields (leading and trailing wing edges) and zone immediately behind the pterostigma indicate the importance of these areas. The spines along the forewing border are known to act as turbulators, altering the boundary-layer flow around the wing, and it can be hypothesized that also the spines within the dihedral may have an aerody-

- namic function, perhaps during different phases of the wing beat. The sexual differentiation in spine distribution, known so far in Calopterygoidea and Lestoidea, requires an in vivo investigation in order to determine whether the aerodynamic needs of the females differ from those of the males, for example during the complex reproductive procedure.
- (8352) D'ANTONIO, C. & M.T. DE MAJO, 1991. Reperti: Odonata, Aeshnidae. *Boll. Ass. romana Ent.* 45 [1990]: 131-132. — (First Author: Via A. Falcone 386/B, I-80127 Napoli). Several Hemianax ephippiger have been seen in Napoli, and 2 ♂ were collected in Napoli (25-IX-1990) and Lago Patria (Caserta, Campania; 17-XI-1990), Italy.
- (8353) DAVID, S., 1991. Vážky (Odonata) Kotlin, Štiavnické vrchy. — Dragon-flies (Odonata) of Kotliny in the Štiavnické Vrchy Mts. *Stredné slovensko* (Priř.) 10: 267-278. (Slovak, with Engl.s.). — (Tekovské Muz., P.O. Box 69, CZ-934 69 Levice). 15 spp. were evidenced during the 1987-1988 surveys, incl. *Leucorrhinia pectoralis*, which has been hitherto known in Slovakia (Czechoslovakia) solely from the E. Slovakian lowlands (cf. M.Trpiš, 1969, *Acta Rer. nat. Mus. natn. Slov.* 12: 433-449).
- (8354) [DE MARMELS, J.], 1991. El valor biológico de la quebrada "La Toma" en Rancho Grande. *Sorocua, Rancho Grande* 3(31): 2. — (Inst. Zool. Agric., Fac. Agron., Univ. Central Venezuela, Aptdo 4579, Maracay 2101-A, Venezuela). *Sciotropis cyclanthorum*, *Palaemnema melanostigma* and an undescribed *Neocordulia* sp.n. are listed from a locality in Rancho Grande, Venezuela.
- (8355) DOMMANGET, J.-L., 1991. Un piège lumineux pour estimer la richesse des milieux aquatiques. *Insectes. Opie* 83: 17-19. — (7 rue Lamartine, F-78390 Bois d'Arcy). A detailed technical description of a subaquatic light trap. It is said to be surprisingly effective for the assessment of larval odon. populations (Lestidae, Coenagrionidae, Aeshnidae, Libellulidae).
- (8356) DONATH, H., 1991. Die Libellen der nordwestlichen Niederlausitz (Teil 5). *Biol. Stud. Luckau* 20: 31-40. — (Umweltzentrum, Hauptstr. 21, D(O)-7960 Luckau, FRG). Deals with 18 libellulid spp. — For the previous part cf. OA 8336.
- (8357) DONATH, H., 1991. Neue Naturschutzgebiete und Flächennaturdenkmale im Landkreis Luckau. *Biol. Stud. Luckau* 20: 3-10. — (Umweltzentrum, Hauptstr. 21, D(O)-7960 Luckau, FRG). 23 nature reserves in the Luckau district, eastern Germany, are listed and briefly described. Some odonotol. information is provided for some of them.
- (8358) DREYER, W., 1991. Das tolle Liebesleben der Libellen. *Magazin für Natur* 1991 (Sept.): 22-28. — (Zool. Mus., Hegewischstr. 3, D(W)-2300 Kiel-1, FRG). A narrative on odon. reproductive behaviour, by a well known German odonatologist, directed at the general reader.
- (8359) EHMANN, H., 1991. Erstnachweis der Zwerglibelle, *Nehalennia speciosa* (Charpentier, 1840), für Oberösterreich. *Öko-L* 13(4): 12-13. — (Hirschenhöfstr. 25, A-5450 Werfen). *N. speciosa* is recorded from Ibmer Moor nr Ibm, Upper Austria.
- (8360) ENDERSBY, I., 1991. An ornithologist's insect. *News! victorian Wetlands Trust, Melbourne* 3(4): 6-7. — (56 Looker Rd, Montmorency, Vic. 3094, AU). A general presentation of dragonfly biology in a local society periodical, with an appeal to the readers to send in their own field observations.
- (8361) ESQUIVEL, C., 1991. Clave para identificar las familias de libelulas (Insecta: Odonata) presentes en Mexico y America central. *Brenesia* 34: 15-26. (With Engl.s.). — (Esc. Cien. Biol., Univ. Nac., Heredia, Costa Rica). Illustrated family key to the adults of the Central American fauna.
- (8362) GORB, S.N., 1991. *Funkcional'naya morfologiya sistemy arretra u strekoz.* — [Functional morphology of the head fixation system in dra-

- gonflies]. ii+17 pp. [Autoreferat Diss. Kand. Biol. Nauk], Inst. Zool., Akad. Nauk Ukr., Kiev. (Russ.). — (Dept. Insect Physiol., Schmalhausen Inst. Zool., Ukrain. Acad. Sci., Lenin St. 15, UKR-252001 Kiev, Ukraine).
Public university edition of the summary of the dissertation listed in OA 8108.
- (8363) HUISMAN, J. & J. VAN TOL, 1991. Dragonflies and caddisflies (Odonata & Trichoptera) from waters around the Danum Valley Field Centre. *Sabah Soc. J.* 9 [1989] (1): 90-109. — (Second Author: Natn. Mus. Nat. Hist., P.O. Box 9517, NL-2300 RA Leiden).
A brief characterisation of the history of odonatology research in Borneo is followed by an account of the odon. fauna of 4 localities in the area of the Centre, Sabah, northern Borneo, Malaysia. A fairly exhaustive, but incomplete regional bibliography is appended.
- (8364) [JARZEMBOWSKI, E.A.] (Anonymous), 1991. Dr Ed may lose his job in cash cuts. *Evening Argus, Brighton*, issue of Oct. 25, with a portrait. — (Editors: 89 North Street, Brighton, UK).
Contains a brief evaluation of manyfold scientific work of Dr Jarzembowski, odon. palaeontologist, and (then) Principal Keeper Natural Sciences, Booth Mus., Brighton. He has now accepted a new position at the Brighton Town Hall, as the Council's "green" officer.
- (8365) JARZEMBOWSKI, E.A., 1991. The fossil dragonflies of Dorset. In: E.D.V. Prendergast, The dragonflies of Dorset, pp. 59-62, 70-71 [references], Dorset Nat. Hist. & Archaeol. Soc., Dorchester. — (Booth Mus. Nat. Hist., Dyke Rd, Brighton, BN1 5AA, UK).
This is a chapter in the book listed in OA 8378, giving a review of the 14 odon. spp. recovered from the Lower Jurassic through Middle Eocene beds in the Dorset area, and evaluating their significance. *Mesogomphus* sp. from the Lulworth Formation (Upper Jurassic) is here brought on record for the first time.
- (8366) KOCHETOVA, N., 1991. Protection des insectes en Russie. *Insectes, Opie* 83: 23-24. — (Author's address not stated).
The article contains a table summarizing the data from the 1984 ed. of the official USSR Red Data Book (cf. OA 5090). Of the odon., 1 sp. is considered "vulnerable" and 10 spp. are assessed as "rare".
- (8367) KÜHNE, C., 1991. Das neue NSG "Grosser Weidenteich" und seine Libellenfauna. *Mitt. sächs. Ent.* 22: 7-8. — (Am Hochmoor 1, D(O)-9656 Tannenbergesthal, FRG).
Annotated list of 23 spp. from a locality nr Plauen, Saxonian Vogtland, E. Germany.
- (8368) LAISTER, G., 1991. Erstnachweise der Schabrackenlibelle, *Hemianax ephippiger* (Burmeister, 1839), für Oberösterreich und Salzburg. *Öko-L* 13(4): 8-11. — (Naturk. Stat. Linz, Rosseggerstr. 22, A-4020 Linz).
Freshly emerged individuals and/or exuviae of *H. ephippiger* are recorded from the Salzach backwaters N of Salzburg (28-VIII-1990) and from the Danube backwaters at Pulgarn, E of Linz (17-IX-1990, 21-IX-1990, 23-X-1990), Austria. At the latter locality, during the 3 visits, 79 exuviae of *Sympetrum fonscolombei* were also counted.
- (8369) LETARDI, A. & F.D. D'AURIA, 1991. Reperti: Odonata, Gomphidae, Libellulidae. *Boll. Ass. romana Ent.* 45 [1990]: 131. — (Authors' addresses not stated).
Onychogomphus forcipatus unguiculatus and *Crocothemis erythraea* are recorded from the nature reserve of Serre Persano, Salerno, Campania, Italy, rising the status of the local odon. fauna to 17 spp. (cf. OA 5789).
- (8370) LOPAU, W., 1991. *Libellenbeobachtungen auf Lesbos/Gr. 1988-1990*. Privately published by the author, ii+48 pp. — (Kuhstedtermoor 26, D(W)-2742 Gnarrenburg, FRG).
22 spp., from 35 localities on the island of Lesbos, Greece, are habitat-wise listed and their distribution mapped. *Calopteryx splendens balcanica* is among the more interesting taxa. The work is the result of 3 yrs of vacation surveys, it is very carefully prepared, and the earlier literature on the island is also considered.
- (8371) MICHIELS, N.K. & A.A. DHONDT, 1991. Characteristics of dispersal in sexually mature dragonflies. *Ecol. Ent.* 16: 449-459. — (Res.

Gr. Zool., Dept SBM, Limburgs Univ. Centrum, B-3590 Diepenbeek).

(1) The population dynamics of a natural population of *Sympetrum danae* was studied by means of a mark-release-recapture method, to find indications of dispersal by mature adults. Additional information on orientation and the influence of phenotype (including age), density and weather was obtained by observations under natural conditions and in a large outdoor field cage. — (2) 80% of all mature adults caught around the natural pond were estimated to be immigrants. Considerable immigration was confirmed by the abdomen length of unmarked matures which did not accord with that expected from the locally emerged population. Total numbers captured and the minimum number known to be alive fell sharply at the time when most individuals were mature. At the same time new matures continued to enter and disappear from the study area at an increasing rate. — (3) Dispersive behaviour (escape flights) in the field enclosure was primarily age dependent in both sexes: it occurred from an age of 25-30 days onwards. This coincides with the time-lag between the emergence peak and increased dispersal in the field. Secondary effects on escape flights suggested that males tended to abandon low density areas. — (4) Males flew relatively more southward than females.

- (8372) MOORE, N.W., 1991. Dragonflies - unusual insects. In: E.D.V. Prendergast, The dragonflies of Dorset, pp. 6-15, 70 [references]. Dorset Nat. Hist. & Archaeol. Soc., Dorchester. — (Farm House, Swavesey, Cambridge, CB4 5RA, UK). This is the introductory chapter of the book listed in OA 8378, presenting a concise outline of the odon. biology with special reference to the Dorset fauna. Though brief, the text contains a wealth of masterly organised information. To those, who for "philosophical" or other reasons refrain from taking voucher specimens, adopting the capture-identify-release method instead, it will be of interest to read here that when the adult dragonfly moves from the horizontal, the inertia in the head relative to the body is picked up by the sense organs in the neck. If the insect is caught in a net this delicate mechanism is often damaged by the sudden blow and its ability to fly may be impaired or

totally lost. (Likewise, the capability of *Zygoptera* to survive during underwater oviposition may be lost by handling the caught individuals for identification or marking purpose).

- (8373) MOORE, N.W., 1991. Odonata Specialist Group. *Species* 17: 60. — (Farm House, Swavesey, Cambridge, CB4 5RA, UK). Advance summary of the report listed in OA 8293.

- (8374) [MÜLLER, R.A. &] W. KAMBER, 1991. 2 Libellen namens rolandmuelleri. *Neues Wiler Tagblatt*, issue of July 24, p. 2, portrait incl. — (c/o R.A. Müller, Rehetobelstr. 99, CH-9016 St Gallen).

With reference to the Philippine endemics *Risocnemis rolandmuelleri* Hämäl. (cf. *Odonatologica* 20 1991: 151-194) and *Gynacantha rolandmuelleri* Hämäl. (cf. OA 7840), the life and work of R.A. Müller (born Jan. 9, 1936, Thal/SG, Switzerland; formerly Curator of the Nat. Hist. Mus., St Gallen, Switzerland) is briefly outlined, and emphasis is laid on his monumental work on the odonatological exploration of the Philippine Isls. The paper has been reprinted in *Pfalz-Brief, St Gallen* 2 (1991): 10-12, where the reproduction of the photographs is better.

— For some other newspaper articles on his odonotol. work cf. also OA 8327, 8340. — (*Abstracter's Note*: R. Müller is at present certainly one of the most prolific odon. collectors on the world scale, and he is specialised on the Philippine fauna. On his annual expeditions to the Archipelago, and with the aid of several local professional collectors in his permanent pay, he brought together (1985-1992) an absolutely unmatched collection of over 20,000 specimens, pertaining to over 200 spp., incl. 19 holotypes and almost 40 still undescribed spp./sspp., from 24 islands, viz. Basilan, Bohol, Bongoa, Busuanga, Cebu, Dinagat, Homonhon, Leyte, Luzon, Marinduque, Masbate, Mindanao, Mindoro, Negros, Palawan, Panaon, Panay, Samar, Sanga-Sanga, Siasi, Sibutu, Sibuyan, Tablas, and Tawi-Tawi. He is working in conjunction with other specialists on the fauna of that part of the world and in collaboration with the relevant institutions in Europe and North America. The collection is completely computerised, with it go the field diaries and an unusually

detailed documentation on the habitats, etc., which enhance additionally the priceless scientific value of this material. For the time being, R. Müller is the sole Swiss odon. taxonomist of world class, his collection is by far the largest odon. collection in Switzerland and, needless to say, the largest and most complete collection of the Philippine taxa in existence. So far he did never enjoy any financial or technical support from any Swiss or foreign institution; most of his holotypes are scheduled for final deposition in the SMF, Frankfurt/Main).

- (8375) NEL, A., 1991. Description de quelques Siebloisiidae fossiles nouveaux (Odonata, Zygoptera, Lestoidea). *Nouv. Revue Ent.* (N.S.) 8(4): 367-375. (With Engl.s.). — 8 av. Gassion, F-13600 La Ciotat.
In addition to 1 unnamed Siebloisiidae sp. and 1 unnamed Stenolestes sp., *S. hispanicus* sp.n. is described and illustrated from the Upper Miocene (Vallesien) of Cerdana, Spain. Holotype No. IPM-R 10376, in MNHN, Paris.
- (8376) PAULUS, S., F. PLAISIER & C. RITZAU, 1991. Die Libellen des Landkreises Ammerland (Insecta: Odonata). *Oldenburg. Jh.* 91: 221-237. — (Terrest. Okol., FB 7 Biol., Univ. Oldenburg, Postfach 2503, D(W)-2900 Oldenburg, FRG). Treatment of the odon. fauna of the district of Ammerland, W of Oldenburg, Lower Saxonia, FRG (99 localities, 39 spp., of which 31 autochthonous).
- (8377) PILS, G., 1991. Das Kleine Granatauge (*Erythromma viridulum*) — eine für Oberösterreich neue Libellenart im Augebiet südöstlich von Linz. *Öko-L* 13(4): 3-7. — (Karl-Renner-Str. 4/47, A-4040 Linz).
E. viridulum is reported from Grosse Weikerlsee, SE of Linz, Austria, and the habitat is described.
- (8378) PRENDERGAST, E.D.V., 1991. *The dragonflies of Dorset*. Dorset Natural History and Archaeological Society, Dorchester. 73 pp. — ISBN 0900341327. — Price: £ 2.95 net. Available from: the Publisher, c/o Dorset County Mus., Dorchester, Dorset, DT1 1XA, UK. — (Author: Manot House, Bagber, Sturminster Newton, Dorset, DT10 2EY, UK).

This is yet another volume in the increasing literature on the British county dragonfly faunae. It is organised into 5 main chapters, and it certainly is among the best works in this field. The introductory general presentation of the Order was contributed by Prof. N.W. MOORE (cf. OA 8372), and a chapter on the fossil dragonflies of Dorset, by Dr E.A. JARZEMBOWSKI (cf. OA 8365). It was certainly a good idea to reprint also the BDS "Code of practice" (cf. OA 6580) and the BDS instructions for construction of dragonfly ponds (cf. OA 6581). The rounded-off species "monographs" constitute the bulk of the book, covering 28 out of the 38 British spp., presenting for each of them a brief description of structural features, habitat, behaviour, a county distribution map and 1 or more excellent ink drawings (of both sexes, where appropriate). The bibliographic references are organised chapter-wise. — A novelty is the attempt to introduce an orthographic distinction between the Anisoptera (= "dragon-flies") and the odon. in general (= "dragonflies"). This looks a bit unusual, but it does indicate the confusion created in the "modern" literature by the separation of the 2 main extant suborders into "damselflies" (Zygoptera) and "dragonflies" (Anisoptera), retaining the latter name also for the denomination of the order as a whole. One would wonder as to the "vernacular" name for the Anisozygoptera! In W.J. Lucas's *British dragonflies* (1900) all odonates were still "dragonflies" and in his 1917 *The biology of dragonflies* R.J. Tillyard stated in passing that "the small Agrionidae are known as 'damselflies' ". J.G. Needham & H. Butler Heywood, in their *Handbook of the dragonflies of North America* (1929) extended the name "damselflies" to all Zygoptera, and this was followed by C. Longfield in the first (1937) edition of her *Dragonflies of the British Isles*. In the *Encyclopaedia britannica* treatments, in the 1910 edition, for R. McLachlan & G.H. Carpenter all odon. were "dragonflies", while in the 1974 edition P.S. Corbet has "damselflies" for the Zygoptera, and no vernacular name for the Anisoptera. In short, this nomenclature is of comparatively recent date and certainly rather unfortunate. In the early years of the S.I.O., the Editor of *Odonatologica* was trying to abandon the "damselflies" altogether,

but he was unable to withstand the pressure, forthcoming mostly from the American workers. It remains to be seen whether or not the present suggestion of a hyphen in the Anisoptera denomination is to be accepted. Its principal weak point lies in the circumstance that the hyphen has been generally used in the old English orthography. Whatever the case, Colonel Prendergast is to be congratulated for bringing the problem in discussion again. And his slim volume should not be lacking in any serious odonatological library!

- (8379) RAHMANN, H., K. ZINTZ & A. KÖNIG, 1991. Faunistische Aspekte als Grundlage für geplante Renaturierungsmassnahmen im Wur-zacher Ried (Landkreis Ravensburg/Ober-schwaben). *Verh. Ges. Ökol.* 20: 301-313. (With Engl.s.). — (Inst. Zool., Univ. Höhenheim, Gar-benstr. 30, D(W)-7000 Stuttgart-70, FRG).
The Wur-zacher Ried, Upper Swabia, SW Ger-many, is one of the largest still intact raised bogs in the pre-alpine region of central Europe. It harbours 40 odon. spp., but these are not listed here. — Cf. also OA 7931.
- (8380) ROHDENDORF, B.B., [Ed], 1991. *Fundamen-tals of paleontology*, Vol. 9. *Arthropoda, Tra-cheata, Chelicerata*. Smithsonian Instn Libr. & Natn. Sci. Found., Washington. xxxii+894 pp., 22 pls incl. — ISBN none.
Engl. ed. of this classical Russian work. Odon.: pp. 81-100.
- (8381) SCHMIDT, E., 1991. Biotopbewertung durch "Repräsentative Spektren der Odonatenarten (RSO)". *Verh. 12. Inst. Symp. Entomofaunistik Mitteleur.*, Kiev [1988], pp. 383-388. — (Biol. Didaktik, FG 9, Univ. Essen, Postfach 10 3764, D(W)-4300 Essen-1, FRG).
For the original paper cf. *Odonatologica* 14 (1985): 127-133.
- (8382) SCHMIDT, E., 1991. Das Nischenkonzept für die Bioindikation am Beispiel Libellen. *Beitr. Landespf. Rheinland-Pfalz* 14: 96-117. — (Biol. Didaktik, FB 9, Univ. Essen, Postfach 10 3764, D(W)-4300 Essen-1, FRG).
Elaboration on the principles outlined originally by the Author in *Odonatologica* 14 (1985): 127-133.
- (8383) SNELDER, F., 1991. Odonata mechanica. *In*: S. Sales, [Ed.], *De kunst is het vliegen*, pp. 36-41. AKI, Enschede. (Dutch). — (Author: Z.E. weg 11, NL-7227 DE Toldijk; — Publisher: Akademie voor Beeldende Kunst, Roessinghs-bleekweg 155, NL-7522 AH Enschede).
Fantasy sketches, by a graduate class student of a school of figurative arts, on the theme "dragonfly flight mechanics". The project was executed in the framework of a graduate work-shop on figurative art presentation of the princi-ples of flight and mechanics of flying machines.
- (8384) SRIVASTAVA, V.K. & B.K. SRIVASTAVA, 1991. Examinations of the sperm material in the male primary genital organs of *Ischnura rufo stigma* Selys (Insecta: Odonata). *Bioved* 2(1): 21-28. — (First Author: Dept Zool., C.M.P. Coll., Univ. Allahabad, 318 Alopī Bagh, Allahabad-211006, India).
A pair of multilobular testes, extending through the posterior half of the 7th and the whole of the 8th abdominal segment, produce sperm in its lobules. The sperm is mostly in the form of groups or bundles with a few isolated strands. The lobules are capable of giving rise to several sets of sperm groups or bundles during life, which are passed into a common lateral duct running lengthwise in the testis. The common lateral duct communicates posteriorly with the vas deferens of its side. Both the lateral ducts and the vasa deferentia are secretory in nature, and produce a seminal fluid which gets inter-spersed with the sperm. The sperm material is stored in the vasa deferentia and a median sperm sac, into which the vasa deferentia open distally. A small, ventral ejaculatory duct connects the sperm sac with the gonopore localized in the middle of the 9th abdominal venter. The stored sperm material of the sperm sac is released through the ejaculatory duct and gonopore, and translocated to the vesicula seminalis of the secondary copulatory apparatus (the secondary genitalia). In *I. rufo stigma* the male accessory glands are altogether absent from the system, and spermatophores are not at all formed.
- (8385) STOCKMANN, A., 1991. Limnologische Un-tersuchungen an der Ise, einem ausgebautem Heidefluss im Landkreis Gifhorn, Niedersach-sen. *Erweit. Zusammenfass. Jtag. dt. Ges. Lim-*

nol., Mondsee, pp. 391-395. — (Aktion Fischotter-schutz, D(W)-3122 Hankensbüttel, FRG). *Gomphus vulgatissimus*, *Ophiogomphus serpentinus* and *Cordulegaster boltonii* are recorded from the middle and lower course of the Ise R., Lower Saxony, Germany.

- (8386) TEMBHARE, D.B. & R.J. ANDREW, 1991. Hormonal influence on the haemolymph trehalose concentration in the dragonfly *Tramea virginia* (Rambur) larva. *Entomon* 16(2): 165-166. — (Dept Zool., Nagpur Univ., Univ. Campus, Nagpur-440010, India).
Trehalose is the major haemolymph sugar in some dragonflies. In the larval *T. virginia*, its concentration reaches a peak on the 24th day after the ultimate moult, whereafter it depletes rapidly with the onset of the final metamorphosis. Experimental studies revealed the hypertrehalosemic nature of the intrinsic hormones of the corpora cardiaca.
- (8387) TENNESSEN, K., 1991. The rare dragonflies of Alabama: at risk or unstudied? *J. Alab. Acad. Sci.* 62(2/3): 59 [Abstract only] — (1949 Hickory Ave., Florence, AL 35630, USA).
[Verbatim]: 3 odon. spp. on the proposed Federal Endangered Species list are known to occur in northern Alabama: *Gomphus consanguis* in Blount County, *G. septima* in Tuscaloosa Co., and *Ophiogomphus incurvatus alleghaniensis* in Blount and Tuscaloosa Co. Several other spp. of possible concern of the state level include *Arigomphus maxwelli*, *Gomphus modestus*, *G. viridifrons*, *Stylurus amnicola*, *S. notatus*, and *Somatochlora georgiana*. Most of these spp. require relatively undisturbed small to large streams or undisturbed wetlands to complete their life cycles. Several historic records are from sites greatly altered by damming or pollution. Whether any of these spp. are truly endangered within the state is unknown, as very little effort has been devoted to their study.
- (8388) WEHR, H., 1991. Zur Ökologie und zum Dispersionsverhalten der Libellen aus der Gattung *Leucorrhinia* (Odonata: Libellulidae). *DiplArb.* Friedrich-Alexander-Univ., Erlangen-Nürnberg, v+83 pp., 2 maps excl. — (Hugenottenpl. 7, D(W)-8531 Wilhelmsdorf, FRG).
Habitat selection, population ecology, dispersal

and longevity of *L. dubia*, *pectoralis* and *rubicunda* in the district of Erlangen-Höchststadt, FRG, were studied in considerable detail. Special attention is paid to life history, metamorphosis, reproductive behaviour, spider predation and the weather impact on *L. dubia*. Some habitat management measures are also suggested.

1992

- (8389) AMBRUS, A., 1992. Odonatológusok nemzetközi társasága (SIO). — [The XIth International Symposium of Odonatology (SIO)]. *Rovarász Híradó* 9: 4. (Hung.). — (Jurisich u. 16, HU-9495 Kópháza).
A brief report on the Author's contributions to the various programme items at the 11th Int. Symp. Odonatol. (Trevi, Perugia, Italy, Aug. 1991).
- (8390) ARGIA. The news journal of the Dragonfly Society of America, Vol. 4, No. 1 (March 15, 1992). — (c/o Dr C. Cook, 469 Crailhope Rd, Center, KY 42214, USA).
Emmel, T.C.: Conservation of the tropical rain forest and its rich odonate faunal diversity in Rondonia, Western Brazil (pp. 1-2); — [*Cook, C.*]: Questions and answers about tropical rainforests (pp. 2-7); — *Orr, R.L.*: The Northeastern Odonata Collectors' Meeting, Patuxent Wildlife Research Center, May 23-24, 1992 (7-8); — *Gonzales, E. & R. Novelo*: Second neotropical Odonatologist Meeting: second and final announcement (pp. 8-9); — *Cook, C.*: The Dragonfly Society of America's Third Annual Collectors Meeting, Meriwether Lewis Monument-Laurel Hill Wildlife Area, Tennessee (pp. 9-10); — *Michalski, J.*: A collectors' gathering in Trinidad? (p. 10); — *Donnelly, T.W.*: Taxonomic problems (?) with *Tetragoneuria* (pp. 11-12, figs pp. 13-14); — *Michalski, J. & C. Michalski*: Reminiscing 1991: adventures of the Michalski's (pp. 12, 15); — *Daigle, J.J.*: The continuing saga of Spur Lake Road, or "The Great Bear story" (p. 15); — *Garrison, R.W.*: Research update and call for help (pp. 15-16); — *Bechly, G.*: A cladistic study of Odonata (pp. 16-17); — *Cook, C.*: From the Editor's desk (p. 17); — *Notices* (p. 18).

- (8391) BAUERFEIND, R. & H. KOMNICK, 1992. Lipid-loading and unloading of lipophorin in the midgut epithelium of dragonfly larvae (*Aeshna cyanea*). A biochemical and immunocytochemical study. *J. Insect. Physiol.* 30(2): 147-160. — (Second Author: Inst. Cytol., Univ. Bonn, Ulrich-Haberland-Str. 61a, D(W)-5300 Bonn-1, FRG).
Radioactive oleic acid orally infused into larvae was recovered in the haemolymph in the esterified form as diacylglycerol which was transported by lipophorin. Radioactive diacylglycerol was released in vitro into the surrounding medium from the isolated, ligated midgut which had been preloaded in vivo with radiolabelled oleic acid. The release was largely dependent on the temperature and the presence of haemolymph in the incubation medium. On the other hand, the ligated midgut isolated from fasting larvae, was also able to absorb radioactive diacylglycerol from the haemolymph and to further esterify it to triacylglycerol. These results demonstrate that the midgut epithelium cannot only release but also absorb diacylglycerol at the basal side, which strongly suggests that both lipid-loading and unloading of lipophorin occur in the midgut probably in dependence of physiological conditions. Lipophorin penetrated across the basal lamina into the basolateral intercellular clefts of the midgut epithelium as evidenced by immunocytochemistry on the light and electron microscopic level, using affinity-purified polyclonal antibodies against lipophorin. The apicolateral intercellular clefts, i.e. the sites of the smooth septate junctions, and the intercellular clefts between the undifferentiated cells of the regeneration nidi remained unlabelled by antilipophorin. Incubation experiments with fluorescently labelled lipophorin suggested that lipophorin of the intercellular clefts was exchanged with lipophorin of the circulating haemolymph. — Although the enterocytes showed clear endocytotic activity at the basolateral plasma membranes when incubated with horse radish peroxidase, lipophorin was not detected inside the cells by immunocytochemistry. Consequently, indications of lipophorin secretion and internalization were lacking. — These results support the conclusion that lipid-loading and unloading of lipophorin occur extracellularly along the basolateral plasma membranes of the differentiated absorptive enterocytes.
- (8392) BELLE, J., 1992. The Odonata of the Azores. *Ent. Ber., Amst.* 52(5): 63-65. — (Onder de Beumkes 35, NL-6883 HC Velp).
Only 4 spp. are indigenous to the archipelago, viz. *Anomalagrion hastatum*, *Ischnura pumilio*, *Anax imperator* and *Sympetrum fonscolombei*. The latter has been described by A.E. Gardner (1958, *Ann. Mag. nat. Hist.* (XIII) 1: 791-792) as a separate ssp., *azorensis*, but the present Author examined the type specimens and considers their melanistic features do not merit a subspecific rank. The *I. pumilio* specimens are smaller than those from Europe. The parthenogenetic reproduction in the Azorean *A. hastatum*, hypothesized in the paper listed in OA 7617, is restated. The occurrence of the 4 spp. on 9 islands of the archipelago is shown in a table.
- (8393) BEUK, P.L.T., 1992. Kan Prikkebeen niet meer? Over de noodzaak van verzamelen. — About the necessity of collecting. *NieuwsBr. Europ. Invert. Surv. Ned.* 21: 13-16. (Dutch, with Engl.s.). — (Postbus 9517, NL-2300 RA Leiden).
The usefulness and necessity of collecting is emphasized for 3 main reasons, viz. (1) the collected specimens represent a first basis for faunistic, systematic and ecological research. — (2) they enable the confirmation of identification, — and (3) serve for confirmation of published records. Based on his sense of responsibility, the entomologist should draw his own limits as to what is acceptable while collecting. — One of the examples of confusion caused by non-collecting voucher specimens is taken from odonatology, viz. Renema, Jödicke & Krüner, as listed in OA 7494.
- (8394) BISCHOF, A., 1992. Ein später Flug von *Sympetrum striolatum* (Charpentier) im Domleschg, Graubünden, Schweiz (Odonata: Libellulidae). *Opusc. zool. flumin.* 85: 1-6. — (Heckenweg 4, CH-7000 Chur).
Detailed circumstantial evidence is presented on long-term systematic observations at the Nature Reserve Monté nr Cazis (alt. 640 m). After a substantial snowfall and prolonged low tem-

peratures in mid Nov., the sp. has been noticed on 26/27 Nov., ovipositing on the ice covering the ponds (thickness 1-8 mm). After W. Genge (cf. OA 5475) and I. Geister (1992, *Proteus, Ljubljana* 54, in the press), this is the third known record of this behaviour in this sp. — The literature data on the phenology of *S. striolatum* in Switzerland are summarized, and a brief reference is made to the phenological and related behavioural features of the New World *S. vicinum* Hag.

- (8395) BROCKHAUS, T., 1992. Beurteilung von Gewässern in der Stadt Chemnitz auf der Grundlage der Bioindikation. *Natur & Landschaft* 67(3): 91-99. — (Markt 20/21, D(O)-9001 Chemnitz, FRG).
The paper deals largely with odon., the indicative value for the habitat quality is stated for 8 spp.; Chemnitz, E. Germany.

- (8396) BULLETIN OF AMERICAN ODONATOLOGY. Journal of the Dragonfly Society of America, vol. 1, No. 1 (March 1992). Edited by Dr T.W. Donnelly (2091 Partridge Lane, Binghamton, NY 13906, USA); — published by the Dragonfly Society of America (c/o Dr C. Cook, 469 Crailhope Rd, Center, KY 42214, USA), where subscription orders are to be sent. Subscription for 1992: US \$ 22.75 (postage incl.), special discount for DSA members.

The journal is scheduled to appear at irregular intervals (frequency not stated) and it is devoted to studies on the New World Odon., (faunal synopses, behavioural and ecological studies, etc.), but it will not consider publishing new names at any taxonomic level. — The first issue consists of a single paper (catalogue), viz. *Donnelly, T.W.*: The Odonata of New York state (pp. 1-27).

- (8397) CLAUSEN, W., 1992. Die Vogel-Azurjungfer *Coenagrion ornatum* Sélys — nur ein Vermehrungsgast in Ostwestfalen? *Natur & Heimat, Münster* 52(1): 23-26. — (Oppenwehe 459, D(W)-4995 Stemwede-3, FRG).

The habitat and population of *C. ornatum* at an isolated locality (Lever Wald/Mehner Bruch) in Lower Saxonia, Germany, are described and discussed, and protective measures are suggested. — Cf. also OA 7709.

- (8398) COMMITTEE FOR THE MONITORING OF THREATENED ANIMALS AND PLANTS IN FINLAND, 1992. *Uhanalaisten eläinten ja kasvien seurantatoimikunnan mietintö. — Betänkande av kommissionen för övervakning av hotade djur och växter. — Report on the monitoring of threatened animals and plants in Finland*. [Committee Report 1991: 30; date of publication: Feb. 19, 1992]. Ministry of the Environment, Helsinki, 328 pp. — ISBN 951-47-5265-1. (Finn., with Swed. & Engl. titles and s's on pp. 4 & 5, resp.).

This is the updated edition of the Finnish Red Data Book (cf. OA 5684). It contains an overview of the protection and monitoring in 1986-1990, discusses new legislation, international cooperation, research and monitoring, and the protection and management of habitats of threatened spp. The previous categories are maintained, and the categories "out of danger" and "reclassified" are introduced. The odon. are dealt with on pp. 101, 102-103. Out of 52 Finnish spp., *Coenagrion puella*, *Aeshna viridis* and *Libellula fulva* are considered "vulnerable", and *Nehalennia speciosa* ("inadequately known"), *Aeshna crenata* ("declining") and *Somatochlora sahlbergi* ("rare") are considered "in need of monitoring". The report is mainly based on the advice of Dr M. Hämäläinen and Dr P. Valtonen, though in the case of *S. sahlbergi* (which should be actually removed from the list), the classification is not entirely in agreement with the suggestions of the 2 leading Finnish odon. authorities.

- (8399) CORDES, U., H. PUNDT, A. REMKE & U. STREIT, 1992. Untersuchung zur DV-unterstützten ökologischen Bewertung von Fließgewässern. *Wasser & Boden* 1992(3): 157-164. (With Engl.s.). — (Inst. Geogr., Univ. Münster, Robert-Koch-Str. 26-28, D(W)-4400 Münster, FRG).

Calopteryx splendens and *Enallagma cyathigerum* are listed from the Eltingmühlenbach rivulet, Ostmünsterland, Westfalia, Germany.

- (8400) DAVID, S., 1992. K výskytu vážky *Libellula fulva* (Müller, 1764) [sic!] (Odonata: Libellulidae) na Slovensku. — On the occurrence of the dragonfly *Libellula fulva* (Müller, 1764) [sic!] (Odonata: Libellulidae) in Slovakia. *Zbor. tekov.*

Muz. 1: 111-115. (Slovak, with Engl.s.). — (Tekovské Muz., P.O. Box 69, CZ-934 69 Levice). A ♀ is recorded for the first time from Slovakia, Czechoslovakia (Levice, 22-V-1985) and it is suggested to include the sp. in the Red Data Book of Czechoslovakia.

- (8401) DAVID, S., 1992. Vášky (Odonata) Semerovského potoka. — Dragonflies (Odonata) in the Semerov Brook. *Zbor. tekov. Muz.* 1: 117-143. (Slovak, with Engl.s.). — (Tekovské Muz., P.O. Box 69, CZ-934 69 Levice).

29 spp. were recorded from the artificially meliorated section of the brook (Ipel Hills, W. Slovakia, Czechoslovakia), incl. *Coenagrion ornatum*, *Somatochlora flavomaculata*, *Orthetrum brunneum* and *Crocothemis erythraea*, which are of particular local interest. The succession and composition of the fauna subsequent to the melioration are described (1986-1988) and its biogeographic character is analysed.

- (8402) DAVID, S., 1992. Vášky (Odonata) v okolí Mochovcu. — Libellen (Odonata) in der Umgebung von Mochovce (Südslowakei). *Zbor. slov. nar. Muz. (Priř.)* 38: 43-65. (Slovak, with Germ.s.). — (Tekovské Muz., P.O. Box 69, CZ-934 69 Levice).

The odon. fauna of the surroundings of the Nuclear Power Station of Mochovce, southern Slovakia, Czechoslovakia has been studied during 1983-1988. 29 spp. were evidenced, incl. a larva of *Crocothemis erythraea*. The species and biogeographic composition of the odon. communities is analysed.

- (8403) DONATH, H., 1992. [Buchbesprechung]. Arnold, Wir beobachten Libellen. *Ent. Nachr. Ber.* 36(1): 67. — (Umweltzentrum, Hauptstr. 21, D(O)-7960 Luckau, FRG). A comprehensive book review of the work listed in OA 7774.

- (8404) EDA, S., 1992. Chronicle of Japanese odonatology in 1991, with supplemental notes of 1990. *Nature & Insects* 27(3): 16-23. (Jap., with Engl. title). — (3-4-25 Sawamura, Matsumoto, Nagano, 390, JA). Continuation of the series as listed in OA 7834.

- (8405) FINCKE, O.M., 1992. Consequences of larval

ecology for territoriality and reproductive success of a neotropical damselfly. *Ecology* 73(2): 449-462. — (Dept Zool., Univ. Oklahoma, Norman, OK 73019-0235, USA).

Male territorial behavior and female oviposition behavior of *Megaloprepus coerulatus*, a damselfly that develops in water-filled tree holes, is interpreted in light of its larval ecology. Sexual selection favors large males because they win more territorial contests than do smaller males, and females mate only in the vicinity of defended tree holes (i.e., passive female choice). Small males behave as territory holders until displaced, and/or act as subordinate satellites at large territories. Females are more predictably found in forest light gaps, even though they oviposit in both gap and understory tree holes. Males defended only 14% of the sites used by ovipositing females. — Large tree holes are relatively rare, but support a greater number of emerging adults per season and produce larger adults than tree holes containing ≤ 1 l of water, which rarely produce more than one individual per season. By defending only large tree holes in gap areas, a male increases his chances of mating, and of producing multiple offspring and reproductively successful sons. Results from a field experiment suggest that both mate acquisition and procurement of superior larval habitats have been selective pressures in the evolution of male territory choice. Because even large holes are inadequate to support a female's entire clutch, and the presence of conspecific and heterospecific odonate larvae makes offspring survival uncertain, selection favors a female that partitions her clutch among multiple tree holes.

- (8406) FINCKE, O.M., 1992. Interspecific competition for tree holes: consequences for mating systems and coexistence in neotropical damselflies. *Am. Nat.* 139(1): 80-101. — (Dept Zool., Univ. Oklahoma, Norman, OK 73019-0235, USA). Male mating strategies of pseudostigmatid damselflies that breed in tree holes vary from resource defense to nonlocalized mate searching. Because females were most predictably found in forest light gaps and oviposited randomly with respect to tree-hole volume, morphology, and tree condition, the spatial distribution of neither females nor oviposition sites sufficiently accounted for differences in male mating strate-

gies. Tree holes over 1 l in volume were the best larval habitats because they supported multiple cohorts per season. The 2 largest spp. emerged from larger tree holes than did the 2 smaller guild members. A laboratory experiment demonstrated that in large holes, small individuals of *Megaloprepus* eventually killed larger individuals of the 2 smaller *Mecistogaster* spp., whereas *Mecistogaster* survived to emergence in small holes if they were the first to hatch there. A field experiment demonstrated that *Mecistogaster* colonized tree holes earlier in the wet season than did the 2 larger guild members, thereby gaining the head start in growth critical to its survival. The inferior competitive ability of its larvae countered any advantage that *Mecistogaster* adult males might otherwise derive from defending tree holes and resulted in seasonal clumping of emerging adults. In contrast, by defending large tree holes, male *Megaloprepus coerulatus* increased their chances of producing multiple offspring and sons of high quality.

review is given of the known fossil cordulid spp., and the phylogenetically advanced position of the 2 new taxa is briefly discussed.

- (8407) GEISTER, I. & A. SOVINC, 1992. *Sympetrum fonscolombei* (Selys) in Slovenia (Odonata: Libellulidae). *Opusc. zool. flumin.* 86: 1-5. — (First Author: Pokopališka pot 13, SLO-64202 Naklo, Slovenia; — Second Author: Pod Kostanji 44, SLO-61000 Ljubljana, Slovenia). In 1989-1991 the sp. was recorded from 3 localities, viz. (1) Radensko Polje nr Grosuplje, alt. 224 m, a periodically flooded karst basin in central Slovenia, — (2) Škocjanski Zatok nr Koper/Capodistria, a brackish pond in a polder at sea level in the mediterranean littoral province, — and (3) Bobovek nr Kranj, alt. 406 m, an abandoned clay pit in the subalpine western Slovenia. The habitat conditions are analysed and the environmental microclimate is considered the principal common denominator of the structurally very different habitats.
- (8408) GENTILINI, G., 1992. Two new species of *Epitheca* from Lower Messinian of central Italy (Odonata Cordulidae). *Boll. Soc. ent. ital.* 123(3): 201-208. (With ital.s.). — (Via Nazionale Adriatica 78, I-47046 Misano Adriatico/Forlì). *E. miocenica* sp. n. and *E. annae* sp. n. are described and illustrated from the Lower Messinian, Upper Miocene, of Monte Castellaro. A review is given of the known fossil cordulid spp., and the phylogenetically advanced position of the 2 new taxa is briefly discussed.
- (8409) *GOMPHUS*. Mededelingenblad van de belgische libellenonderzoekers — Bulletin de liaison des odonatologues belges, Vol. 8, No. 1 (May, 1992). (Dutch & Fr.). — (c/o Ms A. Anselin, KBIN, 29 rue Vautier, B-1040 Bruxelles). With reference to the work listed in OA 5434, A. Anselin is presenting a review of the 1986-1991 achievements in the mapping of the Belgian fauna (pp. 2-13; with a tab., showing the province-wise distribution of 52 spp.). In another paper, A. Anselin also discusses the forthcoming activities and priorities in the Belgian mapping scheme (pp. 14-18). — Other papers: *Ide, J., C. Brenu & M. Paquay*: Une observation de *Cordulegaster bidentatus* en Ardenne (pp. 20-21); — *Percy, C.*: Création de mares: quelques livres de référence (pp. 22-24). — (*Abstracter's Note*: The journal is devoted entirely to the work on the Belgian fauna. It does not report on numerous other odonatological research projects, conducted by a number of Belgian workers, associated mostly with various universities).
- (8410) *GRACILE*. [Newsletter of odonatology]. Published by the Kansai Research Group of Odonatology, Osaka. No. 47 (March 29, 1992). (Jap., with Engl. titles). — (Distribution outside Japan: c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA). *Inoue, K., K. Tani & T. Hirake*: On the report of the faunal survey of Hatsutani River, Osaka Prefecture (pp. 1-8); — *Kondoh, S.*: Breeding report of *Aeshnophlebia* [sic!] *longistigma* and *A. anisoptera* (pp. 8-10); — *Anaze, N.*: New localities of *Sympetrum gracile* Oguma found at the South of Hidaka River in Wakayama Prefecture (pp. 10-11); — *Miyake, R.*: Rediscovery of *Ictinogomphus pertinax* in Nishinomiya City, Hyogo Prefecture (p. 12); — *Matsuki, K.*: On the moulting line of some coenagrionid larvae (pp. 13-14); — *Aoki, T.*: Additional survey records to the odonate fauna of Kobe City, Hyogo Prefecture (pp. 15-16); — *Fujimoto, K.*: Report of the survey trip on the odonate fauna of Shiga Prefecture (1) in spring, 1991 (pp. 16-19); — (2) in summer, 1991 (pp. 20-23); — *Inoue, K.*

- & S. Nishu: Report of the field meeting at Aonogahara, Hyogo Prefecture, carried by the Society of Odonatology, Tokyo (pp. 24-27); — *Nishu, S.*: Report of the survey trip on the odonate fauna of North Hyogo (6) in late autumn, 1991 (pp. 28-30); — *Tabata, O.*: A trip to Haskui City, Ishikawa Prefecture, in search of *Aeshna mixta* (pp. 30-31); — *Hisashige, K.*: Report of the survey trip for *Orthetrum poecilops miyajimaensis* (pp. 32-33); — *Anaze, N., S. Oka, T. Kimura & F. Nakatsuji*: Report of the survey tour for Iriomote and Ishigaki Islands (pp. 33-36); — *Tsuda, S., S. Nishu & T. Takeuchi*: Correction of the data of "Mesh code of dragonflies of Kinki district, 1984" (p. 37).
- (8411) HANCOCK, E.G., 1992. Some records of terrestrial invertebrates from Rum National Nature Reserve 1990. *Glasg. Nat.* 22(2): 169-189. — (Art Gallery & Mus., Kelvingrove, Glasgow, G3 8AG, Scotland, UK).
Annotated list of 9 odon. spp.; Scotland, UK.
- (8412) HIEKEL, I., 1992. *Sammlung von Libellen unter mitteleuropäischen und tropischen Bedingungen und deren Präparation zu wissenschaftlichen und Demonstrationszwecken*. Abschluss-Arb. Fachschul-Fernstud. Präparation, Mus. Naturk., Humboldt-Univ., Berlin. ii+59 pp. — (Anne-Frank-Str. 26, D(O)-7513 Cottbus, FRG).
This is a fairly good review of various methods of specimen preparation, colour conservation, etc., based on literature and on the author's experience in Germany and in the Philippines. The non-European literature and the techniques used in North America and Japan are not considered.
- (8413) HILTON, D.F.J., 1992. Odonata from the Magdalen Islands, Quebec, Canada. *Entomologist* 111(2): 102-108. — (Dept Biol. Sci., Bishop's Univ., Lennoxville, Que., J1M 1Z7, CA).
After E.B. Williamson (1902, *Ent. News* 13: 144-146; 6 spp.) and a few subsequent, incidental records, this is only the second treatment of the odon. fauna of this small archipelago in the Gulf of St Lawrence. The 22 known spp. are typical of boreal and northern mixed-forest environments and the composition of the fauna may be similar to any odon. fauna that might have occurred in the islands (Iles de la Madeleine) when they represented a refugium during the Pleistocene glaciations.
- (8414) INOUE, K. & M. OGAWA, 1992. On a small dragonfly collection from the Engadine, Switzerland, with two new taxa for the regional fauna (Odonata). *Opusc. zool. flumin.* 87: 1-7. — (First Author: 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA; — Second Author: 14-32, Aoki-cho, Nishinomiya, Hyogo Pref., 662, JA).
A commented list is given of 18 spp., evidenced during Aug. 11-13, 1991 at 4 localities in the Tarasp (alt. 1404 & 1544 m) and in the St. Moritz area (alt. 1809 & 1820 m). *Calopteryx* s. cf. *splendens* (Harr.) and *C. virgo* (L.) had not yet previously been recorded from the Engadine.
- (8415) IWAHASHI, J., [Ed.], 1992. *A pictorial of Japanese fauna facing extinction*. viii+190 pp., 248 col. phot. incl. Jpn Independent Communications Corporation, Tokyo. — ISBN 4-7966-0305-0. (Jap., with Engl. title & Latin nomenclature). — (Publishers: JICC, 5-5-5 Kojimachi, Chiyoda-ku, Tokyo, JA).
Contains "ecological photographs" (= field portraits) and brief texts (incl. the statements on the status in the IUCN categories) of 22 odon. spp., in Dr S. Asahina's nomenclature and not in taxonomic sequence.
- (8416) JOURNAL OF THE BRITISH DRAGONFLY SOCIETY. Vol. 8, No. 1 (Apr., 1992). — (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK).
Bailey, M.P.: The White-Faced dragonfly *Leucorhina dubia* (Vander Linden) at Chartley Moss National Nature Reserve, Staffordshire (pp. 1-3); — *Fox, A.D., T. Jones & S.C. Holland*: Habitat preferences of dragonflies in the Cotswold Water Park (pp. 4-9); — *Brownnett, A.*: Feeding behaviour of *Aeshna mixta* Latreille in the maturation period (pp. 10-13); — *Paine, A.*: Notes and observations [Mixed pairings, Odonata caught in light traps, Unusual ovipositing sites, Predation, Behaviour, Last dates, Life-cycle, Range expansion] (pp. 14-18); — [Book Review]: *Silsby, J.*: The dragonflies of Dorset, by E.D.V. Prendergast (pp. 18-19); — *Recent*

odonatological publications (p. 20).

- (8417) **KIMMINSIA**. Newsletter of the United Kingdom National Office of the International Odonatological Society (SIO). Vol. 3, No. 1 (May 1, 1992). — (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK).
The traditional and very informative sections, "News from members" (pp. 1-2), "News from universities" (pp. 2-3), "Conservation news" (p. 3) and "Visitors to Natural History Museum" [= BMNH] (p. 3), are followed by the following articles: *Miller, P.*: Visit to East Africa (pp. 3-4); — *Butler, S.*: Observations on Andalusian dragonflies in 1991 (pp. 4-5); — *Silsby, J.*: Separating *Chlorolestes* in southern Africa (pp. 5-6), and *Vick, G.*: A spring break to Florida in April 1992 (pp. 6-7).
- (8418) **KÖNIG, A. & F. RENNER**, 1992. *Libellen - Edelsteine der Lüfte*. 4 pp. Naturschutzzentrum, Bad Wurzach. — (Publisher: Mühltorfstr. 3, D(W)-7954 Bad Wurzach).
Brochure for a dragonfly exhibit under this title, Bad Wurzach, May 22-June 26, 1992.
- (8419) **LEGRAND, J.**, 1992. Un nouveau zygoptère de Madagascar *Tatocnemis virginiae* n. sp. (Odonata, Megapodagrionidae). *Revue fr. Ent.* (N.S.) 14(1): 25-28. (With Engl.s.). — (Lab. Ent., Mus. natn. Hist. nat., 45 rue Buffon, F-75005 Paris).
The new sp., closely related to *T. emarginatipennis* Fraser, 1960, and previously identified by R. Martin as "*T. malgassica*(?)" is described and illustrated from a unique ♂ in the Martin coll., MNHN: "Madagascar", no exact locality). Lectotypes are designated for *T. crenulati-pennis* Fraser, 1952 and *T. emarginatipennis* Fraser, 1960.
- (8420) **LIBELLULA**. Mitteilungsblatt der Gesellschaft deutschsprachiger Odonatologen (GdO), Vol. 10(3/4). (March 1992). — (c/o Mrs U. Krüner, Gelderner Str. 39, D(W)-4050 Mönchengladbach-4, FRG).
Schmidt, E.: Die Siberische Azurjungfer *Coenagrion hylas freyi* (Bilek, 1954) — eine Herausforderung für Odonatologen und Libellenschutz in Mitteleuropa (pp. 77-88); — *Maier, M. & H. Wildermuth*: Oekologische Beobachtungen zur Emergenz einiger Anisopteren an Kleingewässern (pp. 89-104); — *Burmeister, E.-G.*: Die Blaugrüne Mosaikjungfer *Aeshna cyanea* (Müller, 1764) bereits vor 2000 Jahren am Chiemsee (Anisoptera: Aeshnidae) (pp. 105-114); — *Heinrich, D. & R. Mauersberger*: Liste der Libellenarten des Kreises Templin/Mark Brandenburg (pp. 115-122); — *Laister, G.*: Mitteilung zur Exuvienbestimmung von *Sympetrum sanguineum* (Müller, 1764), *S. vulgatum* (Linnaeus, 1758) und *S. striolatum* (Charpentier, 1840) (Anisoptera: Libellulidae) (123-130); — *Gerken, B., K. Dörfer & M. Buschmann*: Aspekte der Wirbellosen- und Fischfauna an Auengewässern der Oberweser (NRW, Nds, FRG) — ein Zwischenbericht (pp. 131-150); — *Holzinger, W.H.*: *Nehalennia speciosa* (Charp., 1840), Wiederfund für die Steiermark (Zygoptera: Coenagrionidae); — *Kunath, G.*: Interessante Fehlkopplungen bei Kleinlibellen (Zygoptera) (pp. 155-156); — *von Hagen, H.*: *Selysiothemis nigra* (Vander Linden, 1825) in Mallorca (Anisoptera: Libellulidae) (pp. 157-158); — *Seidenbusch, R.*: Flügel-Abnormitäten bei *Gomphus similimus* Selys, 1840, und *Sympetrum pedemontanum* (Allioni, 1766) (Anisoptera: Gomphidae, Libellulidae) (pp. 159-160).
- (8421) **MARTENS, A.**, 1992. Egg deposition rates and duration of oviposition in *Platycnemis pennipes* (Pallas) (Insecta: Odonata). *Hydrobiologia* 230: 63-70. — (Wilhelm-Bode-Str. 50, D(W)-3300 Braunschweig, FRG).
It deposits eggs into plant tissues at or just below the water surface. On a number of different plant spp. egg deposition rates were found to be similar, while oviposition duration varied. Eggs were not always found on the substrate after a ♀ had probed it by ovipositor. Actual oviposition took place only during longer stays.
- (8422) **MARTINIA**. Bulletin des odonatologues de France. Vol. 8, No. 1 (March, 1992). — (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois d'Arcy).
Dommanget, J.-L.: Vitesse de croisière? (p. 1); — *Machet, P.*: Les odonates du sud-ouest du département de l'Orne, région d'Alençon/Domfront: résumé bibliographique et données actuelles (pp. 3-6); — *Votat, P.*: Les odonates du

centre-nord de la Mayenne et du sud-ouest de l'Orne: notes sur quelques espèces remarquables ou rares (pp. 7-13); — *Grand, D.*: Les odonates du département du Rhône (pp. 15-28); — *Dommanget, J.-L.*: Analyses d'ouvrages (pp. 29-30); — *Machet, P.*: Nouvelles philatéliques (pp. 31-32).

- (8423) MICHIELS, N.K., 1992. Consequences and adaptive significance of variation in copulation duration in the dragonfly *Sympetrum danae*. *Behav. Ecol. Sociobiol.* 29(6): 429-433. — (Res. Gr. Zool., Dept SBM, Limburgs Univ. Centrum, B-3590 Diepenbeek).

The effect of variation in copulation duration on sperm precedence (P_2) of the last male was investigated in a non-territorial libellulid using irradiated-male techniques and observations in a large field enclosure. Copulation duration varied between 6 min and more than 1 h ($\bar{x} = 23.19 \text{ min} \pm 12.74$). In the clutch deposited immediately after the copulation, most copulation durations resulted in high sperm precedence for the last male. Several experimentally interrupted short matings still resulted in 100% precedence. However, most interrupted copulations of 10 min or less resulted in a low P_2 . After long, uninterrupted copulations, P_2 remained high in clutches that were collected up to 9 days after the mating. After interrupted short copulations, P_2 fluctuated or remained at a low level from the first clutch onwards. This indicates that sperm mixing probably starts within 24 h and that after a long copulation virtually no rival sperm is left in the female's sperm storage organs. As most natural copulations are long, complete removal of rival sperm seems to be common in *S. danae*. Only 3 of 17 variables investigated explained a significant amount of the variation in copulation duration. Copulations shortened with increasing temperature and for each additional mating of the male. The strongest effect however, was due to time of day: early morning copulations lasted longer than midday copulations. Adjustment of the copulation duration to the decreasing chance of obtaining additional matings was found to be the most likely of five explanatory hypotheses that were evaluated.

- (8424) MILLER, P.L., 1992. The effect of oxygen lack

on egg hatching in an Indian dragonfly, *Potamarcha congener*. *Physiol. Ent.* 17(1): 68-72. — (Dept Zool., Univ. Oxford, South Parks Rd, Oxford, OX1 3PS, UK).

During oviposition, the females hover over water and face towards the margins of temporary pools. They repeatedly scoop up drops of water with the posterior end of the abdomen and flick them together with eggs towards the bank. Embryonic development is complete in 7-8 days at 28°C but hatching can be delayed for up to 80 days if the eggs are kept in air at 100% r.h. Hatching is triggered by oxygen lack. In the laboratory, perfusion with gases containing oxygen at partial pressures below 5.3 kPa causes hatching without submergence in water. Eggs exhibit considerable variability of hatching threshold: this is partly due to age but it also occurs regardless of age among the eggs of a single clutch and probably has adaptive value. The eggs of 2 other spp. tested, *Pantala flavescens* and *Orthetrum pruinosum*, show no hatching response to oxygen lack.

- (8425) MOKRUSHOV, P.A., 1992. Zritel'nye stimuly v povedenii strekoz. 5. Raspoznavanie podvizhnykh osobey svoego vida u strekoz roda *Lestes*. — Visual stimuli in behaviour of dragonflies. 5. Recognition of moving conspecific individuals in *Lestes* damselflies. *Vest. Zool.* 1992(1): 39-45. (Russ., with Ukrain. & Engl.s.). — (Schmalhausen Inst. Zool., Ukrain. Acad. Sci., Lenin St. 15, UKR-252000 Kiev-30, Ukraine). In field experiments with moving damselfly models, *Lestes* males were able to discriminate between the sexes of their own sp. using optical signs. They appear to be able to recognize the conspecific female by tiny details. Even a slight modification of the shape and colour of the model triggered an erroneous reaction. — For the earlier pts of this series cf. OA 335, 671, 1549, 7856.

- (8426) MOORE, N.W., 1992. Dragons of the ponds. *Country Life* 1992 (issue of 9 Jan.): 50-52. — (Farm House, Swavesey, Cambridge, CB4 5RA, UK).

This is an almost "autobiographic" narrative on the author's 20-yr experience with the odon. population dynamics and succession at the 20 UK Nature Conservancy dragonfly ponds in

the Woodwalton Fen National Nature Reserve, Cambridgeshire, UK. His findings yielded pioneer information on how conservationists can help to protect odon. The basic principles are outlined in this paper, directed at a motivated general reader.

A. McGeeney is nominated for the office of the President, and Mr D. Tagg is to serve as the journal Editor. Dr M. Rothschild accepted the invitation to become the first Patron of the Society. Among the numerous activities, there is a list of 18 field trips scheduled for the 1992 season.

- (8427) NEL, A. & M. PAPAŽIAN, 1992. Redescription de *Calopteryx sannoisiensis* Meunier, 1914, odonate fossile de l'oligocène terminal d'Aix-en-Provence (Odon., Calopterygidae). *Entomol. gall.* 3(1): 10-12. (With Engl.s.). — (First Author: 8 av. Gassion, F-13600 La Ciotat). The sp. is redescribed, illustrated, and placed in *Sapho*. The affinities with the fossil and extant spp. of the genera *Sapho* and *Umma* are discussed.
- (8428) NÉMETH, L., 1992. Hazai odonatólógusok szervezkedése. - [The odonatological field meeting]. *Rovarász Híradó* 9: 6. (Hung.). — (Berzsenyi D.u. 56, HU-8300 Tapolca). Brief report on the 3rd field meeting of the Hungarian SIO Chapter (MOBK), Zalaszentmihály, Hungary, July 19-23, 1991, devoted to the investigation of the odon. fauna in the W Hungarian frontier area.
- (8429) NÉMETH, L., 1992. Szitakötös táborozás. *Rovarász Híradó* 9: 5. (Hung.). — (Berzsenyi D.u. 56, HU-8300 Tapolca). A notice on the formal formation of the Hungarian Fraternity of Odonatologists (MOBK) as a Hungarian National Chapter of the SIO (Jan. 26, 1991). There are 17 Charter Members, the aims are briefly outlined, and all persons interested to join are invited to get in touch with the (national) Secretary, Mr G. Szilágyi (Hortobágy National Park, P.O. Box 216, HU-4002 Debrecen). In addition to the usual SIO publication, the members are receiving also the national bulletin, VIZIPÁSZTOR.
- (8430) NEWSLETTER [OF THE] BRITISH DRAGON-FLY SOCIETY, No. 21 (Spring, 1992). — (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK). On 9 pp., there are listed 33 items, incl. changes to Constitution and By-laws. Prof. P.S. Corbet was appointed Honorary Member. The Society has 896 members, a rise of 23% from 1991; Mr
- (8431) O'DONNELL, B., 1992. On dragon's wings. *Quar. Young Entomologists' Soc.* 9(1): 14-19. — (1509 Pennsylvania Ave, 1 Miami Beach, FL 33139, USA). General presentation of the order, directed at young readers.
- (8432) OLSVIK, H. & M. HÄMÄLÄINEN, 1992. Dragonfly records from the Maldive Islands, Indian Ocean (Odonata). *Opusc. zool. flumin.* 89: 1-7. — (First Author: N-6598 Foldfjorden; — Second Author: Tullilaboratorio, Tekniikantie 13, SF-02150 Espoo). *Pantala flavescens*, *Tamea basilaris burmeisteri*, *T. limbata similata* and *Tholymis tillarga* are reported from the Male Atoll. The previous records of Maldivian dragonflies are discussed and a list of the 8 spp. known from the archipelago is presented.
- (8433) PAPAŽIAN, M., 1992. Contribution à l'étude des migrations massives en Europe de Hemianax ephippiger (Burmeister, 1839) (Odon., Anisoptera Aeshnidae). *Entomol. gall.* 3(1): 15-21. (With Engl.s.). — (23 blvd de Roux-Prolongé, F-13004 Marseille). The 1990 massive immigration of the sp. into the Provence, France, enabled the Author to study systematically the gregarious behaviour of young individuals, and the technique of the minimal-effort flight in this migratory sp.
- (8434) PILON, J.-G., L. PILON & D. LAGACÉ, 1992. Les odonates de la zone froide du Québec: anisoptères. *Soc. int. odonatol. rapid Comm.* (Suppl.) 14: vi+63 pp. (With Engl.s.). — (Dép. Sci. biol., Univ. Montréal, C.P. 6128, Montréal, Que., H3C 3J7, CA). A crossreferenced list is presented of the regional records, referable to the 94 anisopteran spp. inhabiting the cold temperate zone of Quebec, Canada. It is based on more than 100 papers published from 1875 to 1990. The topographic

positions of the localities are given in the introductory chapter.

- (8435) REGIERUNG DES KANTONS GRAUBÜNDEN - IL GOVERNO DEL CANTONE DEI GRIGIONI - LA REGENZA DEL CANTON GRISCHUN, 1992. [*Der Schutz der einheimischen Pflanzen- und Tierwelt*]. Chur, 6 pp. With reference to the national Act listed in OA 8004, in canton Grisons, Switzerland, all odon. spp. are put under the usual "protection" (Protocol No. 136, dated Jan. 20, 1992). In special cases requests for collecting permits should be addressed to the "Amt für Landschaftspflege und Naturschutz Graubünden - Ufficio per la protezione della natura e del paesaggio - Uffeci per la protecciun della natira e tgira dalla cuntra-da", Steinbruchstr. 18, CH-7001 Chur.

- (8436) REHFELDT, G., 1992. Impact of predation by spiders on a territorial damselfly (Odonata: Calopterygidae). *Oecologia* 89: 550-556. — (Zool. Inst., Techn. Univ. Braunschweig, Pockelsstr. 10a, D(W)-3300 Braunschweig, FRG). Predation by orb-weaving spiders and crab spiders on *Calopteryx haemorrhoidalis* was studied at a small stream in southern France. The orb-weaving spider, *Larinioides folium*, caught 76% of the damselflies which fell prey to spiders. Displacement experiments on spiders on sections of bank and the positioning of webs in male territories show that the density and distribution of damselflies is not influenced by orb-web density or by the position of webs. Predation rates corresponded to orb-web density, but neither for sex nor for stage was there a relationship with damselfly density. Mean daily predation rates ranged between 0.9% for females and 4.1% for adult males. Predation risk to adult damselflies by orb-weaving spiders was male biased, whereas among teneral males there was no bias. Males were captured more frequently at territories near the water. Captures show a maximum at noon when territorial disputes of adult males were most frequent. After orb-webs were placed within territories predation rate of males was strongly increased. Predation risk to adult females in the direct vicinity of the stream was less than in the bank vegetation where they perch close to orb-webs. The risk of predation by crab spiders, which catch damselflies at their

perching sites, was not sex-biased.

- (8437) REINHARDT, K., 1992. Libellenbeobachtungen an der Neisse. *Ent. Nachr. Ber.* 36(1): 63-64. — (Irkutsker Str. 153, D(O)-9044 Chemnitz, FRG). Commented list of records from the Neisse R., on the German/Polish border.
- (8438) ROWE, R.J., 1992. Ontogeny of agonistic behaviour in the territorial damselfly larvae, *Xanthocnemis zealandica* (Zygoptera: Coenagrionidae). *J. Zool., Lond.* 226: 81-93. — (Dept Zool., James Cook Univ., Townsville, Qld 4811, AU). The ontogeny of agonistic displays associated with territory maintenance is described. Display repertoire and patterns of display use shift as larvae develop from second instar to final (= c 14th) instar. Displays and frequency of display use change, consistent with the developing sensory capability of the growing larvae. Repertoire size does not change markedly during development but there is almost complete turnover in the set of most frequently used displays. The opportunity is taken to correct descriptions of some behaviours observed in small larvae.
- (8439) SCHMIDT, B., 1992. Libellen. *Jber. Wollmatinger Ried-Untersee-Gnadensee* 1991: 24-26. — (Kohlenbacher Talstr. 18, D(W)-7808 Waldkirch-Kollnau, FRG). Field notes on 6 spp., Lake Constance (= Bodensee) area, southern FRG. — Cf. also e.g. OA 8192, 8203.
- (8440) SELYSIA. Newsletter of the Societas Internationalis Odonatologica and of the U.S. National Office. Vol. 21, No. 1 (March 1, 1992). — (c/o Dr D.M. Johnson, Dept Biol. Sci., East Tennessee St. Univ., Box 23580 A, Johnson City, TN 37614-0002, USA). The issue contains numerous personal, publication and symposia announcements, requests and notes (pp. 1-3), the traditional and very informative section "From the Editor's desk" (pp. 4-5), obituaries for Dr F. Capra and Dr H. Schiemenz (by B. Kiauta, p. 4), and the minutes of the SIO Plenary Business Meeting, Trevi, Italy, Aug. 21, 1991 (pp. 5-7). From the latter it is apparent that the present financial situation of the society continues to be healthy, during the

past 2 yrs 81 new members/subscribers were registered, 2 new national newsletters were started, the opening of several new National/Regional Offices is considered, and the volume of Odonatological Abstracts has increased from ca 107 to 137 per issue. Also increased has the number of research visitors at the SIO Odon. Res. Inst. in Florida. In view of the ever expanding SIO activities, however, the 1981 Constitution appears more-and-more difficult to cope with. It was decided, therefore, that new constitutional modalities have to be worked out, for which reason it was considered opportune that the present Executive Committee remains in office, save for a slight modification: the secretarial business is taken over by the SIO Central Office, while the former Secretary, Dr G. Pritchard, is now entirely occupied with the preparation of a new constitutional set-up. It is hoped that this can be presented at the next International Symposium (Osaka, Japan, 1993, Organising Secretary: K. Inoue).

sational set-up, publication program, etc. of the SIO, by the Director of the SIO Regional Office for the East Baltic States, on the occasion of the 20th anniversary of the society.

- (8441) *SIOJA*. [Information Bulletin of the SIO National Office in Japan], Osaka, 1992, No. 1 (Apr. 5, 1992). (Jap.). — (c/o K. Inoue, 5-9, Fumino-sato 4-chome, Abeno-ku, Osaka, 545, JA).

On the occasion of the 12th International Symposium of Odonatology (Osaka, 1993), the present SIO National Office in Japan will be re-organised into the "SIO Japan Branch". In the present issue, a preliminary scheme is given of the proposed organisational set-up. The issue also contains the list of the Symposium Organizing Committee, with a graph, showing the mutual relationships and responsibilities of the Committee members. It is estimated that approx. ¥ 15 million will be needed for the organisation, and it is not unlikely that the SIO members in Japan may have to be requested to contribute towards the costs (¥ 10.000.- per person). The list of the 71 SIO members in Japan is appended, and a preliminary time-schedule of the Symposium (July 31-August 11) is given.

- (8442) SPURIS, Z., 1992. Spāru pētnieku starptautiskā organizācija. — [The international organization of dragonfly workers]. *Aiklājums, Rīga* 1992(3), cover p. 3. (Latvian). — (Miera iela 19/6, LAT-229021 Salaspils, Latvia).

A concise article, outlining the history, organi-

- (8443) TREMEWAN, W.G., 1992. Madam Dragonfly [...], by J. Hayter-Hames. *Ent. Gaz.* 43(1): 73-74. — (Author's address not stated).
Book review of the volume listed in OA 7969.

- (8444) VALTONEN, P., 1992. Sahalahden sudenkorenoista. — [On the dragonfly fauna of Sahalahti]. *Diamina* 1: 23-43. (Finnish, with Germ.s.; title not translated). — (Dept Electric Engin., Tampere Univ. Technol., P.O. Box 692, SF-Tampere).

This is a thorough faunistic study on the Sahalahti Parish, southern Finland, based on 110 localities, incl. 58 lakes, 23 ponds, 13 streams, 13 marshes, etc. 29 spp. are evidenced, incl. an uncertain record of *Epithea bimaculata*. *Coenagrion lunulatum* and *Brachytron pratense* are among the local rarities. The distribution of all spp. is mapped on a 1 x 1 km grid, and the composition of the fauna is discussed.

- (8445) VAN NIEUWKERKEN, E., Centraal Bureau. *NieuwsBr. Europ. Invert. Surv. Ned.* 21: 10, 16. (Dutch). — (Responsible for the Odon.: M. Wasscher, Minstraat 15 bis, NL-3582 CA Utrecht).

The Netherlands EIS data material is stored in the IBM mainframe computer of the University of Leiden (SAS 6.06). On Jan. 1, 1985 there were 1781 odon. records, to these 10669 were added, the total on Dec. 31, 1991 being 12450.

- (8446) WALDBURGER, E., 1992. Exkursion ins Kaltbrunner Riet, 24.6.89. *Ber. bot.-zool. Ges. Liechtenstein-Sargans-Werdenberg* 19: 477. — (Oberstüdtlistr. 38, CH-9470 Buchs).

Contains a reference to the odon., but no species list. For a full treatment of the fauna of this locality in canton St Gallen, Switzerland, cf. OA 6500.

- (8447) WERZINGER, S. & J. WERZINGER, 1992. *Anmerkungen zur Libellenfauna der Aurach im Landkreis Neustadt/Bad Windsheim (MFR)*. 11 pp., 4 tabs excl. Arb. Abt. "Ökologie heimischer Libellen", Naturh. Ges., Nürnberg. — (Zwern-

- berger Weg 29, D(W)-8500 Nürnberg-60, FRG).
Commented list of 21 spp., Bavaria, FRG.
- (8448) WIEZOREK, H. & F. SCHWIEGER, 1992. Die biotopbildende Wirkung von Buhnen. *Wasser & Boden* 1992(1): 21-34. (With Engl.s.). — (Staatl. Amt Wasser & Abfall, Bgmstr.-Münchmeyer-Str. 6, D(W)-2810 Verden, FRG).
An analysis is presented of the fauna and flora inhabiting man-made habitats 10 yr after these were created by groyne construction on the Wümme R., Lüneburger Heide, FRG. The larvae of 4 odon. spp. are listed.
- (8449) ZELENÝ, J., 1992. Vážky (Odonata). — [Dragonflies (Odonata)]. In: L. Škapec et al., Červená kniha chráněných a vzácných druhů rostlin a živočichův ČSFR — [Red Data Book of threatened plants and animals in Czechoslovakia], Vol. 3, pp. 63-66. Příroda, Bratislava, ISBN 80-07-00400-9. (Czech, with brief indicative Engl.s.). — (Author's address not stated).
Calopteryx splendens, *Coenagrion mercuriale*, *Aeshna subarctica*, *Cordulegaster boltonii*, *Sympetrum pedemontanum* and *Leucorrhinia pectoralis* are listed.
- (8450) ZERBA, K.E. & J.P. COLLINS, 1992. Spatial heterogeneity and individual variation in diet of an aquatic top predator. *Ecology* 73(1): 268-279. — (Second Author: Dept Zool., Arizona St. Univ., Tempe, AZ 85287-1501, USA).
The variation in diet among and within individual tiger salamander larvae (*Ambystoma tigrinum nebulosum*) among and within sites in natural ponds in Grand Canyon National Park, Arizona, USA, is examined. The paper contains only passing and general references to the odon.
- (8451) ZHU, H. & F. HAN, 1992. A new species of the genus *Cordulegaster* Leach (Odonata: Cordulegasteridae) from Shanxi. *Entomotaxonomia* 14(1): 18-21. (Chin., with Engl.s.). — (Dept Biol., 42-38, Shanxi Univ., Taiyuan-030006, Shanxi, P.R. China).
C. jinensis sp.n. (holotype ♂: Jiahua Ravine, Jiemiao Forest Farm, Taiyue Mt, Shanxi prov., China, alt. 1800 m, 2-VII-1987; allotype ♀, several paratypes of both sexes; deposited in the authors' institution) is described, illustrated, and the features separating it from *C. brevistigma* Sel. are outlined.