

ODONATOLOGICAL ABSTRACTS

1981

- (8599) FISCHER, A., 1981. Libellen – Edelsteine unserer Insektenwelt. *Vogelschutz* 1981 (2): 25-28. – (Author's address unknown).
General presentation of the German dragonfly world.
- (8600) UNRUH, M., 1981. Zur Naturausstattung des FND "Breitenbacher Kiesgrube" mit besonderer Berücksichtigung der Herpetofauna. *NatSchutzArb. Bez. Halle Magdeburg* 18 (1): 15-20. – (Mus. "Schloss Moritzburg", Schlossstr. 6, D(O)-4900 Zeitz).
From a gravel pit nr Zeitz, E Germany, 10 odon. spp. are listed, incl. *Lestes barbarus* and *Sympetrum pedemontanum*.

1983

- (8601) CEMPÍREK, J., 1983. Galerie mizejících druhů. – [The gallery of disappearing species]. *Jihočeská Pravda* (Suppl. PVD) 33, issue of Aug. 12. (Czech). – (Netolická 18, CZ-37005 České Budějovice).
A brief "portrait" of the biology of the 2 Czech Calopteryx spp., in a local newspaper, with a photograph of ♂ *C. splendens*, Zlata stoka, Třebonska region, southern Bohemia.
- (8602) CEMPÍREK, J., 1983. Malí vládcí vzduchu. – [The small rulers of the air]. *Jihočeská Pravda* (Suppl. PVD) 44, issue of Oct. 28. – (Netolická 18, CZ-37005 České Budějovice).
A brief "portrait" of the biology of *Aeshna cyanea*, with a photograph in a local newspaper.

1984

- (8603) BEYER, S., 1984. Untersuchungen zu den Habitatansprüchen von Libellen an Wiesengraben. *Vogelschutz* 1984 (3): 27-28. – (Röntgenweg 4, D(W)-8630 Coburg).
Comprehensive descriptive summary of a "Jugend forscht" work, dealing with *Ischnura pumilio*, *Orthetrum brunneum* and *Sympetrum pedemontanum*, in the district of Coburg, FRG.

1985

- (8604) CEMPÍREK, J., 1985. Zelené oči lesa. – [The green eyes of the woods]. *Jihočeská Pravda* (Suppl. PVD) 28, issue of July 12. (Czech). – (Netolická 18, CZ-37005 České Budějovice).
A brief "portrait" of the biology of *Cordulegaster boltonii*, in a local newspaper, with a photograph of a ♂, Třebona area, southern Bohemia.
- (8605) MACKE, T., 1985. Kleines Granatauge – neues Vorkommen dieser seltenen Kleinlibelle in Rheinland-Pfalz. *NatSchutz Rheinland-Pfalz* 1(4): 46. – (Author's address not stated).
31-VIII-1985 "at least 100 individuals" *Erythromma viridulum* were noticed at a man-made (1983) pond nr Eckendorf/Grafschaft, distr. Ahrweiler. It is said, that this is the northernmost known locality of this sp. in Rhineland-Palatinate, FRG.
- (8606) NASIRUDDIN, M. & A. BEGUM, 1985. Description of the final instar nymph of *Crocotemis servilia* Drury (Anisoptera: Libellulidae) with notes on its emergence pattern. *Chittagong*

Univ. Stud. (II) 9 (1): 27-34. (With Bengali s.). — (Dept Zool., Univ. Dhaka, Dhaka-1000, Bangladesh).

The larva is described and illustrated from the Dhaka specimens, and field observations are recorded on the emergence pattern (ecdysis, duration, substrate, position and distance from water of exuviae).

1986

- (8607) CEMPÍREK, J., 1986. Cestující vážka. — [The wandering dragonfly], *Jihočeská Pravda* (Suppl. PVD) 33, issue of Aug. 8. (Czech). — (Netolocká 18, CZ-37005 České Budějovice). A brief "portrait" of the biology of *Libellula quadrimaculata*, in a local newspaper, with a photograph of a ♂, Bagr fishpond, České Budějovice, southern Bohemia.
- (8608) CEMPÍREK, J., 1986. Přezimující vážka. — [Hibernating dragonfly]. *Jihočeská Pravda* (Suppl. PVD) 18, issue of Apr. 30. (Czech). — (Netolická 18, CZ-37005 České Budějovice). A brief "portrait" of the biology of *Sympetrum*, in a local newspaper, with a photograph of a ♂ *S. fusca*, Duchna fishpond, Hluboká-u-Borovan, southern Bohemia.
- (8609) CEMPÍREK J., 1986. S erbem na zádech. — [With the coat of arms on the abdomen]. *Jihočeská Pravda* (Suppl. PVD) 22, issue of May 23. (Czech). — (Netolická 18, CZ-37005 České Budějovice). A brief "portrait" of the biology of *Leucorrhinia pectoralis*, in a local newspaper, with a photograph of a ♂, Borovan, southern Bohemia, Cf. also OA 6469.
- (8610) MASTRANTUONO, L., 1986. Community structure of the zoobenthos associated with submerged macrophytes in the eutrophic Lake Nemi (central Italy). *Boll. Zool.* 53: 41-47. — (Dipto Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma). Brief reference is made to *Coenagrion lindenii*, *Erythromma viridulum*, *Ischnura elegans* and *Anax* sp., as associated with submerged aquatic vegetation.
- (8611) MASTRANTUONO, L., 1986. Littoral sand zoobenthos and its relation to organic pollution in Lake Nemi (central Italy). *Hydrobiol. Bull.* 19(2): 171-178. — (Dipto Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma). *Platycnemis pennipes*, *Ischnura elegans* and *Orthetrum* sp. are reported from the littoral sandy bottom of Lake Nemi.
- (8612) MIKKOLA, K., 1986. Direction of insect migrations in relation to the wind. *In*: W. Danthanarayana, [Ed.], *Insect flight, dispersal and migration*, pp. 152-171, Springer, Berlin-Heidelberg-New York. — (Dept Zool., Univ. Helsinki, P. Rautatiekatu 13, SF-00100 Helsinki). It would seem that in odon. migration, wind direction has a primary effect and landmarks that provide a leading line only a secondary one, though the latter may obscure the former. However, pure landmark-oriented migrations also certainly occur. Some examples for each type of migration are listed from literature.
- (8613) MUSIAŁ, J., 1986. Ważki (Odonata) projektowanego Drawieńskiego Parku Narodowego. — Dragonflies (Odonata) in the planned Drawieński National Park. *In*: L. Agapow & M. Jasnowski, [Eds], *Przyroda projektowanego Drawieńskiego Parku Narodowego*, pp. 187-193, Gorzowskie Towarzystwo Naukowe. (Pol., with Engl.s.). — (Dept Gen. Zool., Mickiewicz Univ., ul. Fredry 10, PO-61701 Poznań). Commented list of 26 spp. *Coenagrion ornatum* and *Sympetrum pedemontanum* are of particular regional interest.
- (8614) WOLF, W.W., A.N. SPARKS, S.D. PAIR, J.K. WESTBROOK & F.M. TRUESDALE, 1986. Radar observations and collections of insects in the Gulf of Mexico. *In*: W. Danthanarayana, [Ed.], *Insect flight, dispersal and migration*, pp. 221-234, Springer, Berlin-Heidelberg-New York. — (Insect Biol. & Popul. Manmt Res. Lab., USDA, ARS, Tifton, GA 31793, USA). The odon. are only family-wise listed. 1 *Coenagrionidae* and 2 *Libellulidae* spp. are reported from light traps on unmanned oil platforms located in the gulf of Mexico up to 160 km off-shore, and 1 *Coenagrionidae* sp. up to 106 km

off-shore.

1987

- (8615) BOLE, J., 1987. The Triglav National Park. Animal life. Dragonflies (Odonata). In: I. Fabjan, [Ed.], A guide to the Triglav National Park, p. 105. Triglavski narodni park, Bled. — (Author: Inst. Biol., Slovene Acad. Sci., Novi trg 5, SLO-61000 Ljubljana, Slovenia).
A brief chapter in a comprehensive guide, rather a "handbook", of the Triglav National Park, Julian Alps, Slovenia, with references to several odon. spp. from Bohinj and the Bohinj Lake are mentioned *Calopteryx virgo*, *Lestes sponsa* and *Platycnemis pennipes*. The text is based on B. Kiauta's 1962 treatment of the regional fauna (*Varstvo Narave* 1: 99-117).
- (8616) BRETTFELD, R., 1987. Der Einfluss der pH-Wert-Absenkung auf die biologische Struktur eines Bergbachsystems im mittleren Erzgebirge. *Veröff. naturh. Mus. Schleusingen* 2: 57-67. — (Naturh. Mus., Schloss Bertholdsburg, Postfach 44, D(O)-6056 Schleusingen).
Gives a list of 7 odon. spp. from 3 localities in the Lautenbach area, Erzgebirge, E. Germany, but the order was not further considered in this research.
- (8617) CEMPÍREK, J., 1987. Až zmizí čisté řeky. — [When the clear rivers disappear]. *Jihočeská Pravda* (Suppl. PVD) 27, issue of July 17, (Czech). — (Netolická 18, CZ-37005 České Budějovice).
A brief "portrait" of the biology of *Ophiogomphus cecilia* at the Stropnica R., southern Bohemia, in a local newspaper, with a photograph.
- (8618) CEMPÍREK, J., 1987. Ozdoba jihočeských rybníků. — [The pearl of south Bohemian fishponds]. *Jihočeská Pravda* (Suppl. PVD) 30, issue of Aug. 7, (Czech). — (Netolická 18, CZ-37005 České Budějovice).
A brief "portrait" of the biology of *Anax imperator*, in a local newspaper, with a photograph of a ♂ from the Bagr pond, České Budějovice, southern Bohemia.
- (8619) GROMADSKA, M., A. CZARNECKI, T. PAWLIKOWSKI & Z. KOSSAKOWSKA,

1987. Fauna narošlinna i naziemna w uprawie lucerny. — Invertebrate fauna in the alfalfa communities. *Acta Univ. Nicolai Copernici* (Biol.) 35(72): 133-151. (Pol., with Engl.s.). — (Author's postal addresses not stated).
The study was conducted at 2 alfalfa fields in and nr the village of Koniczynka, Poland. Not further identified Coenagrionidae were represented in 1 field only, in August (6.20 mg d.w./m²).

1988

- (8620) BAZZANTI, M., O. FERRERA & L. MASTRANTUONO, 1988. Composizione della fauna ad invertebrati del Lago di Monterosi (Italia centrale) negli anni 1975-1977. *Riv. Idrobiol.* 27(1): 149-160. (With Engl.s.). — (Dipto Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma).
Cercion lindenii is the only odon. sp. found in the zoobenthic samples at the Monterosi lake, central Italy.
- (8621) CEMPÍREK, J., 1988. Znáte jihočesky hmyz? Šídélko páskované. — [Do you know the South Bohemian insects? Coenagrion puella]. *Jihočeská Pravda* (Suppl. PVD) 32, issue of Aug. 19, (Czech). — (Netolická 18, CZ-37005 České Budějovice).
A brief biological "portrait" and a photograph, in a local newspaper.
- (8622) [LEGRAND, J.], 1988. [Libellules (Odonata): textes accompagnant les planches 193 à 203, pour "Insectorium aquatiliu classis II, Tab. I-XII"]. In: A.J. Rösel von Rosenhof, Les insectes, 5 pp. [no pagination], Mazonot, Paris. — (Lab. Ent., Mus Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
Detailed comments on the odon. plates in the French edition of the famous 1746-1761 work. For the reprint of the original book cf. *OA* 7741.
- (8623) MASTRANTUONO, L. & C. LA ROCCA, 1988. The invertebrate fauna in sandy shores of Lake Vico (Italy): its use in a trophic evaluation of littoral sediments. *Ecol. mediterran.* 14(3/4): 121-129. — (Dipto Biol. Anim. & Uomo, Univ. Rome "La Sapienza", Viale dell'Università 32, I-00185 Roma).

The odon., of which only *Orthetrum* sp. was collected from the littoral sand of a single station, represent on average 0.1% of the macrobenthic taxa collected at Lake Vico, N of Rome.

- (8624) MUSIAŁ, J., 1988. Ważki (Odonata) Wolina i południowo-wschodniego Uznamu. — Dragonflies (Odonata) of Wolin island and the south-eastern part of Uznam island. *Badán. fizjogr. Pol. zachod.* (C) 37: 23-46. (Pol., with Engl.s.). — (Dept Gen. Zool., Mickiewicz Univ., ul. Fredry 10, PO-61701 Poznań).
This is a very thorough review of the fauna (36 spp.) of the 2 islands, Poland, with a phenology table (1970-1976), and with analyses of its ecological and biogeographic composition.

1989

- (8625) ŁABĘDZKI, A., 1989. Ważki różnoskrzydłe (Odonata: Anisoptera) drzewostanów sosnowych a ich potencjalne możliwości regulacji liczebności szkodliwych owadów leśnych. — Dragonflies (Odonata: Anisoptera) of pine stands and their potential possibilities of regulating the number of forest insects. *Pr. Kom. Nauk roln. leśn., Poznań* 68: 39-45. (Pol., with Engl.s.). — (Osiedle 40-Lecia, PRL I m.8, PO-62004 Czerwonak).
32 Anis. spp. were recorded from pine forests in Poland, some 21-23 of these are considered to play a more significant role in biological control. The "hunting range" of *Sympetrum* and *Leucorrhinia* amounts to 20-30 m, that of *Aeshna grandis* to 50-110 m. Bark beetles most frequently consumed by the Anis. are: *Trypodendron lineatum*, *Orthotomicus laticis*, *Ips acuminatus*, *Polygraphus poligraphus*, *Pityogenes chalcographus*, *P. bidentatus*, *Tomicus pini-perda*, and *T. minor*.

- (8626) REINHARDT, K., 1989. Die Kleine Pechlibelle — bodenständig im Stadtgebiet von Karl-Marx-Stadt (Odonata). *InfMat. Ent. Bez. Karl-Marx-Stadt* 18: 7-10. — (Hauptstr. 38, D(O)-9109 Oberlichtenau).
Almost identic to the paper listed in OA 7552.
- (8627) RODRIGUES CAPITULO, A. & J. MUZON, 1989. Un caso di distribucion disyuncta en odonatos de Argentina. *Revta Soc. ent. Argent.* 45

(1/4): 76. — (Inst. Limnol. "Dr R.A. Ringuelet", Univ. Nac. La Plata, C.C. 712, AR-1900 La Plata).

- 4 spp. are recorded from a locality in Rio Negro prov., and the disjunct distribution of *Dasythemis mincky clara* is emphasised. It is suggested that the sp. could represent there a remnant of an old Brazilian fauna. Recently it has been evidenced also in the Argentine provinces of Misiones, Entre Rios and Mendoza.
- (8628) SHARMA, S. & M.N. SAXENA, 1989. Aquatic insect communities of sewage polluted Morar (Kalpi) river and their assessment as bio-indicators. *Proc. Symp. environ. & exp. Toxicol., Vallada*, pp. 319-331. — (Sch. Stud. Zool., Jiwaji Univ., Gwalior-474011, India).
8 identified odon. spp. (and several identified to the genus only) are listed from 3 stations at the Morar R., Gwalior, India (July 1987-Feb. 1988), and their abundance is stated. Generally, they occur rarely at the stations studied, therefore it is argued that odon. cannot be considered a sensitive group.

1990

- (8629) BRÄU, E., 1990. Libellenvorkommen an Stillgewässern: Abhängigkeit der Artenzahl von Grösse und Struktur. *Ber. Akad. NatSchutz Lauf. 14*: 129-140. (With Engl.s.). — (Schwarzwaldstr. 101, D(W)-7630 Lahr).
Abridged journal version of the M.Sc. work listed in OA 8472.
- (8630) BUCHWALD, R., 1990. Relazioni fra odonati e vegetazione acquatica: un esempio di biocenologia. *Inflore bot. ital.* 22(3): 141-153. (With Engl.s.). — (Lehrst. Geobot., Inst. Biol. II, Univ. Freiburg, Schänzlerstr. 1, D(W)-7800 Freiburg i. Br.).
The concept of biocenology, herewith defined as the network of animal-plant interactions within a biocoenosis, is exemplified with references to the odon. It is stated that the vegetation represents for dragonflies either a component of the habitat on which to perch and oviposit ("proximate factor"), or an indirect indicator of ecological features that are not immediately evident, but are critical for larval development ("ultimate factor"). In addition to some general

examples of the use of vegetation by dragonflies, specific cases are described in *Ceriagrion tenellum* and *Somatochlora arctica*. The importance of bioecoenological research is emphasized and its appropriate methods are discussed.

- (8631) BURMEISTER, E.-G., 1990. Die aquatische Makroinvertebratenfauna des Mündungsgebietes des Lech und der Auen der Donau von der Lechmündung bis Manching (Bayern). *Ber. Akad. Natenschutz Laufen* 14: 113-127. (With Engl.s.). — (Zool. Staatssamml., Münchhausenstr. 21, D(W)-8000 München-60). 37 odon. spp. are listed from the Lech R. confluence and from the Danube floodplain between Donauwörth and Manching, Bavaria, FRG.
- (8632) HORNE, A.J., 1990. Selenium detoxification in wetlands by permanent flooding: I. Effects on a macroalga, an epiphytic herbivore, and an invertebrate predator in the long-term mesocosm experiment at Kesterson Reservoir, California. *Water, Air, Soil Pollut.* 57/58: 43-52. — (Environ. Res. Gr., Dept Civil Engin., Univ. California, Berkeley, CA 94720, USA). Storage of Se-rich agricultural drainwater in an inland saline marsh resulted in heavily contaminated biota (100-300 ppm Se as d.w.). A hypothesis was proposed that permanent flooding of the marsh with low-Se water (to create anoxic sediments) would immobilize Se in an insoluble fraction, unavailable to aquatic biota. This was tested in a 0.4 ha mesocosm over 2.3 yr by measuring the decline in Se in plants and animals, incl. *Ischnura barberi*. During this period, 85-93% of initial Se was lost by the organisms studied.
- (8633) PRASAD, M., 1990. Reproductive behaviour of *Ceriagrion coromandelianum* (Fabricius) and *Pseudagrion rubriceps* Selys (Zygoptera: Coenagrionidae). *Ann. Ent.* 8(2): 35-38. — (Zool. Surv. India, M. Block, New Alipore, Calcutta-700053, India). The reproductive behaviour, as recorded for the 2 spp. at a perennial pond in Calcutta, is compared with that known in some other coenagrionids. The territorial, mating and oviposition behaviour shows some peculiar features. Oviposition is endophytic (on the surface as well as submerged), whereby the upright tandem posture is maintained by the ♂ in both types of oviposition.
- (8634) SALMOIRAGHI, G. & B. GUMIERO, 1990. La fauna macrobentonica del fiume Sieve (Mugello, Toscana) prima della costruzione della diga del Bilancino. *Riv. Idrobiol.* 29(2): 633-649. (With Engl.s.). — (Dipto Biol. evoluz. speriment., Univ. Bologna, Via San Giacomo 9, I-40126 Bologna). Libellulidae and Platycnemididae, with no reference to particular spp., were recorded in resp. 27 and 9% of samples; Sieve R., Tuscany, Italy.
- (8635) SHARMA, S., M.N. SAXENA, R. MATHUR & A. MATHUR, 1990. Seasonal and domestic sewage induced changes in entomofauna of mesosaprobic waters in Morar (Kalpi) river, Gwalior, India. *In: Recent trends in limnology* [no other bibliographic data stated in the reprint], pp. 185-196. — (Third Author: Sch. Stud. Zool., Jiwaji Univ., Gwalior-474011, India). 10 identified odon. spp. are listed. They preferably occurred at the O₂-rich habitats only.
- (8636) [STRUTHERS, D.L.], 1990. Computerized image of a dragonfly conceived in a threedimensional void. *In: J. Deitch & D. Friedman, [Eds], Artificial nature, p. 76. Deste Found. Contemporary Art, Athens.* — (Publishers: 14 Kolonaki Square, GR-106 73 Athens). Picture, with the above caption. The original image was created for National Geographic, 1989.
- (8637) [ZEEGERS, T.], 1990. Vangsten uit midden Brabant: Odonata. [Records from central Brabant: Odonata]. *Veelpoot, Amst.* 1(1): 21, 23. (Dutch). — Weegschaalstraat 207, NL-7521 CH Enschede). A list of 8 spp., with some comments (central Noord Brabant prov., the Netherlands; 2/3-IX-1989). *Gomphus vulgatissimus* at the Beerze R. is of particular local interest.
- (8638) ZEEGERS, T., & M. VAN VEEN, 1990. Vangsten uit Nieuw Millingen: libellen, dagvlinders en vliegen. — [Records from Nieuw Millingen: dragonflies, butterflies and flies]. *Veelpoot, Amst.* 1(1): 11-12. (Dutch). — (First Author:

Weegschaalstraat 207, NL-7521 CH Enschede). A list of 8 odon. spp. (Millingen, Gelderland prov., the Netherlands; 1/3-VI-1989), among which *Lestes dryas* is considered an early seasonal record.

1991

- (8639) ARAI, Y., 1991. [Confirmation of univoltinism in *Anax n. nigrofasciatus* Oguma (Aeshnidae). *Gekkan-Mushi* 249: 38-39. (Jap.). — (1233-2 Sueno, Yorii-machi, Oosotato-gun, Saitama, 369-12, JA).
A ♀ exuviae was found on 17-VIII-1991, in a small puddle formed temporarily on 17-IV of the same year.
- (8640) ARUNACHALAM, M., K.C. MADHUSOODANAN NAIR, J. VIJVERBERG, K. KORTMULDER & H. SRIYANARAYANAN, 1991. Substrate selection and seasonal variation in densities of invertebrates in stream pools of a tropical river. *Hydrobiologia* 213: 141-148. — (Third Author: Limnol. Inst., Tjeukemeer Lab., De Akkers 47, NL-8536 VD Oosterzee). 3 stream pools in the Kalla R. (the upper Vamanapuram R.), S India, were investigated. The odon. are order-wise considered in a fig. only (redundancy analysis biplot of 19 higher taxa in 5 different substrates).
- (8641) BEGUM, A., M.A. BASHAR & V. BISWAS, 1991. Description of larval instars and some aspects on biology of *Urothemis signata signata* (Rambur) (Odonata: Libellulidae). *Dhaka Univ. Stud. (E)* 6(2): 125-132. — (Third Author: Dept Zool., Govt P.G. Coll., Bagerhat-9301, Khulna, Bangladesh).
On laboratory bred material, the eggs and 13 larval instars (prolarva incl.) are described and illustrated. At "room temperature" (28-32°C), approx. 157 days were required for the completion of the life cycle. Field notes on diurnal activity, reproductive behaviour, egg incubation period and on larval behaviour are also provided, and the evidence is compared with the features recorded in some other regional spp.
- (8642) BRUNS, H.A., 1991. Untersuchungen zur Ökologie von Kleingewässern im Einflussbereich militärischer Übungsflächen des NSG "Lüneburger Heide". Kurzfassung einer Pilotstudie. *Mitt. NNA* 2(3): 38-48. — (Hohle Gasse 1, D(W)-2250 Husum).
13 odon. spp. are reported from 3 ponds in NR Lüneburger Heide, Lower Saxonia, FRG.
- (8643) BURMEISTER, E.-G., 1991. Die Fauna aquatischer Insekten ausgewählter Kleingewässer im Isareinzugsgebiet nördlich Landshut (Niederbayern) unter Einbeziehung weiterer Makroinvertebratengruppen. *Ber. Akad. NatSchutz Lauf* 15: 131-147. — (Zool. Staatssamml., Münchenhausenstr. 21, D(W)-8000 München-60).
25 odon. spp. are listed from 16 wetland localities in the Isar R. system N of Landshut, Lower Bavaria, FRG. Through human interference 8 of these were altered beyond recognition during 1984-1987. For each sp. a statement on its local abundance is given.
- (8644) BURTON, J.F., 1991. Social wasps *Vespula* spp. attacking *Aeshna* hawk dragonflies and Silver Y moth *Autographa gamma* L. (Lep.: Noctuidae). *Ent. Rec. J. Var.* 103(7/8): 199-200. — (Wasserturmstr. 53, D(W)-6904 Eppelheim).
Circumstantial evidence is presented on 2 cases of a *Vespula* sp. attack on resp. *Aeshna mixta* and *A. cyanea*.
- (8645) DAIGLE, J.J., 1991. Florida damselflies (Zygoptera): a species key to the aquatic larval stages. *Techn. Ser. Fla Dept environ. Regul.* 11(1): iv+12 pp. — (Dept Environ. Regulation, 2600 Blair Stone Rd, Tallahassee, FL 32399-2400, USA).
This is a brief, but useful key to the ultimate larval instars of the 44 Zygoptera spp. known to occur in Florida, with a brief statement on the habitat for some of them, and with a figure of a structural feature, where absolutely indispensable. — Since, in the "Introduction", a statement is made re the "consistency [of this work] with the forthcoming 'Manual of the damselflies (Zygoptera) of North America' " and the key will be certainly widely used by hydrobiologists and other non-odonatologists, it is unfortunate that 2 provisions of the *International code of zoological nomenclature* are systematically neglected, viz. (1) Art. 51(c): "If a species-group name is combined with a generic name other than the original one, the name of

the author of the species-group name, if cited, is to be enclosed in parentheses" [here the parentheses are omitted throughout!]; — and (2) Recommendation E(3): "Vowels should not be linked together in printing diphthongs, since to do so risks errors in later transcription, e.g. *ae* and *oe* should be used not *æ* and *œ*" [here the diphthongs are used in species-group and genus-group names whenever applicable and in family-group names throughout!]. In the *Abstracter's* opinion, all taxonomic works should be styled strictly in accordance with the Code, and most particularly so those that are directed also at non-taxonomists.

München-2).

This is a very detailed analysis of the environmental conditions and aquatic insect fauna encountered in 11 garden ponds in the city of Munich, Germany. The odon. are also considered (13 spp.), but some are certainly wrongly identified. Useful are the technical suggestions re pond construction.

- (8646) GLAZIER, D.S., 1991. The fauna of North American temperate cold springs: patterns and hypotheses. *Freshw. Biol.* 26: 527-542. — (Dept Biol., Juniata Coll., Huntingdon, PA 16652, USA).

The relative abundance of 6 classes of macroinvertebrates in 15 mid-Appalachian and 13 other North American cold springs is briefly reviewed. In both surveys peracaridans, molluscs and triclads dominated the hard-water limestone springs, whereas insects dominated the relatively acidic soft-water springs. A hypothetical framework is offered to explain this situation. In a graph, the alkalinity range (log. scale) is shown where the odon. were collected in 15 Pennsylvania springs.

- (8649) HACHMÖLLER, B., 1991. *Faunistisch-ökologische Untersuchungen zur Libellenfauna im renaturierten Hochmoor "NSG Rotes Moor/Rhön"*. DiplArb. Philipps-Univ., Marburg. 146 pp. — Available from the Author, at DM 25.-. — (Alter Postweg 13, D(W)-Löningen).

Population biology and the re-appearance of spp. upon the restitution of natural hydrographic conditions were studied in NR "Rotes Moor", Hessen, FRG (alt. 805-820 m), 1987-1990. The dynamics of succession is habitat-wise and species-wise analysed.

- (8650) HAFNER, A., 1991. Müssen im Landkreis Calw (1). Floristisch-faunistische Erhebungen im "Heselwasen". *Beih. Veröff. NatSchutz LandPfl. Bad.-Württ.* 62: 1-128. — (Author's current address unknown).

5 odon. spp., incl. *Somatochlora arctica*, are listed from the Heselwasen area, Baden-Württemberg, Germany.

- (8647) GONZALEZ-SORIANO, E. & R. NOVELO-GUTIERREZ, 1991. Odonata de la Reserva de la Biosfera de La Michilia, Durango, México. I. Imagos. *Fol. ent. mex.* 81: 67-105. (With Engl.s.). — (First Author: Depto Zool., Inst. Biol., UNAM, Aptdo Postal 70-153, MX-04510 México, D.F.).

Comprehensive treatment of the fauna of the Reserve (31 spp.), with keys and original diagnostic figs of structural features. *Argia fumipennis violacea* is recorded for the first time from Mexico, and 22 spp. are recorded for the first time from the state of Durango. — For the larvae part cf. OA 8661.

- (8651) HOUSE, N.L., 1991. *Oviposition preferences of dragonflies and their influence on larval distribution*. M.Sc. thesis, Acadia Univ., Wolfville. ix+93 pp. — (Dept Biol., Carleton Univ., Ottawa, Ont., K1S 5B6, CA).

The study was conducted in a farm pond, Annapolis Valley, Nova Scotia, Canada (1989-1990) with the objective to determine the influence that oviposition site selection had on larval distribution. Each metre of shoreline was classified as 1 of 11 possible vegetation categories. Cattails and grasses dominated the E and N sides of the pond, while the S side was shaded and almost devoid of emergent vegetation. Submerged *Eriocaulon* grew in the W half of the pond. 24 spp. were identified as larvae, exuviae, or adults. *Aeshna tuberculifera* was the most abundant sp., followed by *Libellula pulchella* and *Sympetrum* sp. — The distribution of larvae and oviposition sites did not consistently over-

- (8648) GRAUVOGEL, M., 1991. Artenschutz von Wasserinsekten: der Beitrag von Gartenteichen. *Ber. bayer. Akad. NatSchutz Landschaftspf.* 15: 95-130. (With Engl.s.). — (Tal 38, D(W)-8000

- lap for all spp. Cattails were the most important macrophyte in the distribution of dragonfly larvae, regardless of species. Larvae of females that oviposit endophytically may have a stronger affinity for vegetation and, therefore, a more clumped distribution than species that oviposit exophytically. Females of some spp. may not accurately assess environmental conditions that are unsuitable for larval development. The distribution of small and large larvae overlapped suggesting that there was no movement away from cattails.
- (8652) KRNO, I., 1991. Macrozoobenthos in the Tatra lakes littoral (the High Tatras) and its affection by acidification. *Biologia, Bratislava* 46(6): 495-508. — (Zool. Inst., Comenius Univ., Mlynská dolina, SLK-84215 Bratislava, Slovakia).
Pyrrhosoma nymphula, *Aeshna juncea*, *A. subarctica* and *Somatochlora metallica* are listed from various localities in the Tatra Mts, Slovakia.
- (8653) KRNO, I. 1991. Makrozoobentos litorálu jazier Západných Tatier a ich odtokov. — The littoral macrozoobenthos of the lakes and their outflows in the West Tatras mountains. *Zborn. Prac tatra. nár. Parku* 31: 217-227. (Slovak, with Engl., Germ., Czech & Russ. s's). — (Zool. Inst., Comenius Univ., Mlynská dolina, SLK-84215 Bratislava, Slovakia).
Aeshna juncea is recorded from Zelené pleso, Western Tatra Mts, Slovakia.
- (8654) LEHMANN, W., 1991. Die Gefährdungssituation der Libellen (Odonata) des Landkreises Waldeck-Frankenberg. Eine erste Einschätzung. *NatSchutz Waldeck-Frankenberg* 3: 219-226. — (Am Fischerweg 6, D(W)-3540 Korbach).
The status of the 31 odon. spp. known from the distr. of Waldeck-Frankenberg, Hessen, is stated and compared with the situation of the resp. spp. in the state of Hessen and generally in Germany.
- (8655) LEHMANN, W., 1991. Die heimischen Prachtlibellen — seltene Fließgewässerbewohner. *NatSchutz Waldeck-Frankenberg* 3: 227-228. — (Am Fischerweg 6, D(W)-3540 Korbach).
- A note on the territorial behaviour of *Calopteryx splendens* and *C. virgo* on the Eder R. and its tributaries, Hessen, Germany.
- (8656) MARTINEZ-DELCLOS, X. & A. NEL, 1991. Découverte de trois insectes fossiles dans l'Oligocène inférieur du bassin de l'Ebre (Espagne) (Odonata, Lestidae, Aeshnidae). *Bull. Mus. natn. Hist. nat.* (IV C) 13(3/4): 157-165. (With Engl.s.). — (Second Author: 39 rue Stendhal, F-75020 Paris).
Lestes regina Theobald, *Aeshna* sp. cf. *ollivieri* Nel, and *Aeshnidae* incertae sedis are described and illustrated from the Lower Oligocene of Cervera, Spain.
- (8657) MASTRANTUONO, L., 1991. Zoobenthos associated with submerged macrophytes in littoral areas of Lake Vico (Italy): some relations between fauna structure and water quality. *Limnetica* 7: 153-162. — (Dipto Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma).
Pyrrhosoma nymphula was the only odon. sp. collected. It occurred in all 4 sampling stations, showing continual distribution at depths 0-10 m.
- (8658) MAY, M.L., 1991. A review of the genus *Neocordulia*, with a description of *Mesocordulia* subgen. nov. and of *Neocordulia griphus* spec. nov. from Central America, and a note on *Lauro-macromia* (Odonata: Corduliidae). *Fol. ent. mex.* 82: 17-67. (With Span.s.). — (Dept Ent. & Econ. Zool., Cook Coll., New Jersey Agric. Exp. Stn, Rutgers Univ., New Brunswick, NJ 08903, USA).
The genus (8 spp.) is monographed and a key to the adults (Engl. & Span.) is provided. *N. griphus* sp.n. (holotype ♂, allotype ♀: Costa Rica, Alajuela prov., Rio San Lorencito, Reserva Forestal San Ramon, 13/16-VI-1988, deposited at MNHN) is described and figured. *N. longipollex* Calv. is considered a ssp. of *N. batesi* (Sel.). The genus falls into 2 subgenera; *Mesocordulia* subgen. includes *batesi*, *campana* and *griphus*. *N. luismoojeni* Santos is transferred to *Lauro-macromia* Geijskes and the latter genus is briefly discussed.
- (8659) NARAOKA, K., 1991. [The number of larval instars in *Pantala flavescens* (Fabr.) is 11? (Li-

- bellulidae]. *Gekkan-Mushi* 249: 39. (Jap.). — (36-71 Motoizumi, Fukunoda, Itayanagi-machi, Kitatsugaru-gun, Aomori, 038-36, JA).
Based on the head width change in the field and in reared populations, the number of larval instars was estimated at 11.
- (8660) NEL, A., 1991. *Analyse d'entomofaune cénozoïque. Intérêt de la paléontologie pour les sciences de la terre et la vie*. Thèse 3me cycle, Univ. Sci & Techn., Reims. 830 pp. — Microfiche available from the Author. — (39 rue Stendhal, F-75020 Paris).
[Abstract not available].
- (8661) NOVELO-GUTIERREZ, R. & E. GONZALEZ-SORIANO, 1991. Odonata de la Reserva de la Biosfera La Michilia, Durango, México. 2. Nayades. *Fol. ent. mex.* 81: 107-164. (With Engl.s.). — (First Author: Inst. Ecol., A.C., Apdo Postal 63, MX-91000 Xalapa, Veracruz). 23 spp. are described, figured and keyed, incl. 4 that are here described for the first time, viz. *Lestes alacer*, *Ischnura demorsa*, *Erpetogomphus crotalinus* and *Aeshna dugesi*. — For pt 1 cf. OA 8647.
- (8662) PREMA, S. & K.P. JANARDANAN, 1991. Morphology and life cycles of two new species of cephaline gregarines (Apicomplexa: Cephallina) from odonate insects in Kerala, India. *Acta Soc. zool. bohemoslov.* 55(1/2): 60-64, pls 1-3 excl. — (Parasitol. Lab., Dept Zool., Univ. Calicut, Kerala-673635, India).
Mukundaella agriocnemi sp.n. and *Odonaticola pantalae* sp.n. are described and illustrated from the intestines of resp. *Agriocnemis* sp. and *Pantala flavescens*, taken at the Calicut Univ. Campus, Malappuram distr., Kerala, S India.
- (8663) RODRIGUES CAPITULO, A., L.M. MOLA & S.S. AGOPIAN, 1991. Species catalogue and chromosomal data of Odonata from Argentina. *Revta Soc. ent. argent.* 49(1/4): 59-72. (With Span.s.). — (First Author: Inst. Limnol. "Dr Raul A. Ringuelet", Univ. Nacn. La Plata, C.C. 712, AR-1900 La Plata, Argentina).
A province-annotated checklist is given of 232 spp. and ssp. so far known from Argentina. In a separate list, 103 of the Argentine taxa are listed with the main karyotype data (2n, n, sex determination, country of material studied, bibl. references), though only 26 of these were examined from the Argentine populations.
- (8664) SCHOLL, G., 1991. Die Bedeutung naturnaher Teiche für die Tierwelt. *Ber. Akad. NatSchutz-Laufen* 15: 155-163. (With Engl.s.). — (Weingartenweg 4, D(W)-8720 Schweinfurt).
The work is mainly concerned with species and population decline of birds in a 12 km² area nr Höchststadt/Aisch, Bavaria, FRG, containing 249 carp ponds. A similar decline is evidenced since 1972 in the odon. diversity and population strength. A list of the recorded spp. is included.
- (8665) STETTMER, C. & C. MANHART, 1991. *Untersuchungen zum Biotopverbund am Beispiel der Fliessgewässerbellen im Schinderbachtal*. Privately published, Saaldorf. ii+54 pp. — (Holzhausen 22, D(W)-8229 Saaldorf).
Comprehensive account on the population structure and dynamics of *Platycnemis pennipes*, *Calopteryx splendens*, *C. virgo*, *Gomphus vulgatissimus* and *Onychogomphus forcipatus* in the Schinderbachtal, NW of Laufen, Bavaria, Germany.
- (8666) TEMBHARE, D.B. & R.J. ANDREW, 1991. Hormonal influence on the haemolymph and fatbody lipid concentration during development and moulting of the ultimate nymph of the dragonfly, *Tramea virginia* (Rambur) (Odonata: Libellulidae). *Ind. J. comp. Anim. Physiol.* 9(2): 74-80. — (First Author: Dept Zool., Nagpur Univ., Univ. Campus, Amravati Rd, Nagpur-440010, India).
The haemolymph and fatbody lipid concentration rose significantly during the intermoult period and was depleted rapidly with the initiation of moulting of the ultimate larva into an imago. Treatment of aqueous extract of corpora cardiaca elevated the haemolymph lipid concentration on one hand and depleted fatbody concentration on the other. Cauterization of pars intercerebralis region of the brain and treatment with Famesyl methyl ether (JH analogue) showed insignificant change in the haemolymph and fatbody lipid concentration. The present investigation, therefore, suggests an active role of intrinsic hormonal factor of corpora cardiaca (adipokinetic hormone) in regulation of

- haemolymph- and fatbody lipid concentration during development and moulting of the odon. ultimate larval instar.
- (8667) TROCKUR, B. & A. DIDION, 1991. Schutzgebiete und Beteiligung an Naturschutzprojekten der Naturlandstiftung Saar. *In*: 15 Jahre Naturlandstiftung Saar, 1976-1991, pp. 19-89, Naturlandstiftung Saar, Saarbrücken. — (First Author: Schulstr. 4, D(W)-6695 Tholey-Scheuern). The review contains small "monographs" of 31 nature reserves in Saarland, Germany. Where available, a list of the recorded odon. spp. for each of these is also included.
- (8668) VAN VEEN, M. & T. ZEEGERS, 1991. Verslag van het insecten-weekend Midden-Brabant II d.d. 19 en 20 mei 1990: Odonata (Libellen). — [A report on the "Insect-Weekend Midden-Brabant II, of May 19-20, 1990: Odonata (dragonflies)]. *Veelpoot, Amst.* 2(1): 12. (Dutch). — (Second Author: Weegschaalstraat 207, NL-7521 CH Enschede).
A list of 13 spp. from various localities in the Noord Brabant prov., the Netherlands.
- (8669) WAKEFORD, T., 1991. A green in the machine. *New Scientist* 1793 (issue of Nov. 2): 34-37. — (c/o Prof. dr N.W. Moore, Farm House, Swavesey, Cambridge, CB4 5RA, UK).
A comprehensive evaluation of the work of Professor N.W. Moore, "perhaps the greatest nature conservationist of our time". While criticising "the environmental movement for making the environment an all-or-nothing conflict", "his principal message remains one of hope". — Under Moore's guidance, dragonfly conservation in Britain is firmly based on scientific principles and it is increasingly yielding fascinating results. This in a great contrast with the incomprehensible policies in most other countries, particularly on the European continent, where, as often enough warned, the indiscriminatory and primitive "species protection" makes an adequate monitoring to their status illegal, the legal objective of conservation of the habitats of "protected species" unpracticable, and the undocumented and unverifiable faunistic lists unreliable and confusing.
- (8670) WATANABE, M., 1991. Thermoregulation and habitat preference in two wing color forms of *Mnais* damselflies (Odonata: Calopterygidae). *Zool. Sci.* 8(5): 983-989. — (Dept Biol., Fac. Educ., Mie Univ., Tsu-shi, Mie, 514, JA).
Thoracic temperatures in the forms with wing color dimorphism (pale orange vs hyaline) were compared with ambient and radiation temperatures. All sexually immature adults remained on perches in sunflecks in deciduous forests. They controlled their thoracic temperature against radiant heat load in similar manner. After maturation, territorial males, with orange wings, were seen to spend much time perching in open streams, increasing the degree of thermoregulation. They changed some physiological properties, probably due to the quantity of haemolymph because of decline in water content of the thorax. Although there was a similar decline in water content of mature females, with orange wings, change in the body temperature did not show higher degree of thermoregulation because of their perching behavior for mating in open streams. Both sexes of mature insects with hyaline wings were restricted to deciduous forests. Their water content ratio did not vary with ageing. The response of controlling thoracic temperature to ambient and radiation temperature was similar to that in immature adults. The high degree of thermoregulation clearly allowed mature insects with orange wings to be active under direct sunlight.
- ### 1992
- (8671) (Anonymous), 1992. Odonatology Symposium. *Northern India Patrika*, Allahabad, issue of Oct. 11, p. 2. — (c/o Dr V.K. Srivastava, Dept Zool., Chaudhary Mahadev Prasad Coll., Univ. Allahabad, 318 Alopi Bagh, Allahabad-211006, India).
A comprehensive regional daily's report on the Fourth South Asian Symp. Odonatol. (Allahabad, India, Oct 10-12, 1992), organised by the SIO Regional Office for South Asia (Organising Secretary: Dr V.K. Srivastava, address above), with the participation from Bangladesh, India and Nepal.
- (8672) A.P., 1992. Muharski kotiček. Kačji pastirji. — [The tyings corner. Dragonflies]. *Ribič, Ljubljana* 51: 146-147. (Slovene).

Various tyings, imitating adult and larval dragonflies are described and illustrated, and the tactics in the application are outlined. — For some other dragonfly tyings cf. *OA* 2962, 3130, 4428, 6462.

- (8673) ÅBRO, A., 1992. On the feeding and stylostome composition of parasitic water mite larvae (*Arrenurus* spp.) on damselflies (*Zygoptera*, *Odonata*). *Zool. Beitr.* (N.F.) 34(2): 241-248. — (Inst. Anat., Univ. Bergen, Årstadveien 19, N-5009 Bergen).

During attachment in feeding position, the palpal grasp of parasitic arrenurid larvae comprises 2 claws on each palp, one lateral powerful and one medial slender. Electron microscopy with enhanced contrast has demonstrated that the substance primarily deposited in the bite site by the mite larva, in addition to forming a subcuticular vesicle and subsequently a sleeve round the developing stylostome tubule, also contributes a thin laminar lining of the proximal pleated portion of the stylostome proper. The lining soon gellates, thus maintaining the tubular lumen with its original pleating. A yellowish-brown tinge of the proximal stylostome, observed in transmitted light, appears to be due to melanization of this laminar lining. Advancing melanization of the primary substance as a host reaction quickly blurs limits between the substances that constitute the incipient stylostome. Obvious injuries to the host tissues around the developing stylostome are recognizable a few minutes after the mite has attached.

- (8674) ALCOCK, J., 1992. The duration of strong mate-guarding by males of the libellulid dragonfly *Paltothemis lineatipes*: proximate causation. *J. Insect Behav.* 5(4): 507-515. — Dept Zool., Arizona St. Univ., Tempe, AR 85287-1501, USA).

Males of this territorial sp. change the intensity with which they guard their mates during an oviposition bout. Immediately after copulation is completed, males exhibit strong guarding, remaining very close to their partners as they begin ovipositing. In less than a minute, however, they begin to drift away to resume territorial patrolling or even to perch while their partners continue to oviposit. The duration of strong guarding is not related to how long the male

has been on territory. Nor is it an activity of fixed duration set by the release of the female following copulation or by the initiation of oviposition by a partner. Instead, males can extend the period of strong guarding if oviposition is interrupted experimentally early in a bout. Under these conditions, males follow their mates closely until they have found a new location at which they oviposit steadily. Thus, males apparently must see their partner oviposit for some time before reducing the intensity of mate-guarding.

- (8675) BABA-AHMED, R., 1992. Écologie à El Kala. Découverte de libellules disparues. *El Watan*, issue of July 8, p. 12. — (c/o Dr B. Samraoui, 4 rue Hassi-Beida, Annaba, Algeria).

This a very informative article in the largest Algerian national daily, reporting on the discovery, in the El Kala National Park, of *Acisoma panorpoides ascalaphoides* and *Urothemis edwardsi*. The 2 relic taxa were considered extinct in Algeria long ago. Some other aspects of the current odonatological research in Algeria are also mentioned, and a reference is made to the SIO Arab Regional Office, scheduled to become operative in 1993 (Head: Dr B. Samraoui, address above).

- (8676) [BABECK-REINSCH., G.], 1992. Lohmanns andere Seite: fasziiniert von Libellen. *Badische Ztg* 47(138): 217. — (c/o H. Lohmann, Ziegelackerweg 1, D(W)-7888 Rheinfelden).

A regional daily's article on the eve of H. Lohmann's departure for an SIO/IUCN Research Mission to southern Italy and Greece (cf. *OA* 8683, 8726). — (*Abstracter's Note*: H. Lohmann is a well-known south German politician and one of the most prominent European odon. taxonomists).

- (8677) BATTEGAZZORE, M., R.C. PETERSEN, G. MORETTI & B. ROSARO, 1992. An evaluation of the environmental quality of the river Po using benthic macroinvertebrates. *Arch. Hydrobiol.* 125(2): 175-206. — (Third Author: Ist. Zool., Fac. Sci., Univ. Perugia, Via Elce di Sotto, I-06100 Perugia).

Contains a list of 6 odon. spp., with dates and statements on abundance, collected at diverse sampling stations in the Po R., at Pontelago-

scuro, Ferrara, Italy.

- (8678) BATTIN, T.J., 1992. *Damselfly and dragons: the impact of sex and vicariance on speciation*. DiplArb. Univ. Wien, 66 pp. — (Abt. Limnol., Inst. Zool., Univ. Wien, Althanstr. 14, A-1090 Wien).
The excellent dissertation, throughout in Engl., consists of a brief Foreword (p. 7), a thoroughly prepared review paper, titled "The odonate mating system, communication and sex selection — a review" (pp. 8-22), and 2 other papers that are at the moment in the press in 2 international periodicals. The abstracts of these are given in OA 8679 and 8681. The Author's biodata and bibliography are appended.
- (8679) BATTIN, T.J., 1992. Geographic variation analysis among populations: the case of *Platycnemis pennipes* (Pallas, 1771) (Insecta: Odonata: Zygoptera) in the Aegean. *In*: T.J. Battin, *Damselfly and dragons: the impact of sex and vicariance on speciation*, pp. 23-43, DiplArb. Univ. Wien. — (Abt. Limnol., Inst. Zool., Univ. Wien, Althanstr. 14, A-1090 Wien).
Aegean populations of *P. pennipes* and its ssp. *nitidula* Brullé, 1832 were compared by discriminant analysis and average clustering of Mahalanobis distances. Morphometric variables describing male tibiae, which participate in the specific mate recognition system, are used for multivariate analyses. Biogeographic and evolutionary scenarios are proposed by deduction from patterns of phenetic variation in space. — The analyses reveal 3 main population bodies, with their phenotypical similarity closely related to geographic origin. Disjunct variation occurs in the populations from the Cyclades and the Ionian Islands. A shallow WE-cline describes a transition zone between populations from central Greece, and from northern Greece, some southern territories of the former Yugoslavia, and Bulgaria. This variation pattern suggests a differentiation process in allopatry, initiated on the Peloponnesus in the Lower Pliocene, and followed by secondary intergradation in the early Pleistocene, when the Peloponnesus was connected with the mainland. Cut off from the mainland gene flow between *P. pennipes* s. str. and the Peloponnesus phenotype, populations from the Cyclades and the Ionian Islands thus represent an early stage of the intergradation process. J. Cracraft's hypothesis (1985, *Ann. Mo. bot. Gdn* 72: 794-822) on biological diversification is only partly supported by the patterns detected in *Platycnemis* and further taxa compared. The overwhelming position of vicariance in his hypothesis is believed to play down factors such as ecology, dispersal, and human impact on present biogeography.
- (8680) BATTIN, T., 1992. Geographic variation analysis among populations: the case of *Platycnemis pennipes* (Pallas, 1771) (Insecta: Odonata: Zygoptera) in the Aegean. *J. Biogeogr.* 19: 391-400. — (Abt. Limnol., Inst. Zool., Univ. Wien, Althanstr. 14, A-1090 Wien).
Journal version of the paper listed in OA 8679.
- (8681) BATTIN, T.J., 1992. Revision of the puella group of the genus *Coenagrion* Kirby, 1890 (Odonata, Zygoptera), with emphasis on morphologies contributing to reproductive isolation. *In*: T.J. Battin, *Damselfly and dragons: the impact of sex and vicariance on speciation*, pp. 44-64, DiplArb. Univ. Wien. — (Abt. Limnol., Inst. Zool., Univ. Wien, Althanstr. 14, A-1090 Wien).
The group as treated here, includes *C. puella* (L., 1758), *C. syriacum* (Morton, 1924), *C. ponticum* (Barteneff, 1929) and *C. intermedium* (Lohman, 1990). All 4 spp. are redescribed on the base of a scanning electron microscopical analysis of morphological characters involved in copulation. Full species rank is attributed to *intermedium*. A key to males and females of the 4 spp. is included. Reproductive isolation in the genus *Coenagrion* is discussed.
- (8682) BERNARD, R., 1992. Nowe stanowiska niektórych rzadkich gatunków ważek (Odonata) w Polsce. — [New records of some in Poland rare dragonfly (Odonata) species]. *Wiad. entomol.* 11(1): 59. (Polish). — (Dept Gen. Zool., Mickiewicz Univ., Fredry 10, PO-61-701 Poznań).
Annotated records of *Sympecma braueri*, *Erythromma viridulum*, *Aeshna affinis* and *A. subarctica* [elisabethae].
- (8683) [BERNHARD, H.], 1992. Liebe zu Libellen. Heiner Lohmann mit Forschungsgruppe nach Griechenland. *Südkurier* 48(140): 19, issue of

- June 19. – (c/o H. Lohmann, Ziegelackerweg 1, D(W)-7888 Rheinfelden).
Local daily's biographic article on H. Lohmann's current odonatological work, with reference to his participation in the SIO/IUCN Research Mission to southern Italy and Greece, June-July, 1992. – Cf. also OA 8676, 8726.
- (8684) BILLINGS, Josh [= Henry WHEELER SHAW], 1992.
Cf. OA 8702.
- (8685) BISCHOF, A., 1992. Libellenbeobachtungen im Schanfigg, Graubünden, Schweiz (Odonata). *Opusc. zool. flumin.* 99: 1-8. (With Engl.s.). – (Heckenweg 4, CH-7000 Chur).
All odon. habitats in the Schanfigg, eastern Switzerland, are situated within the subalpine and the alpine zones, alt. 1630-2115 m. A commented list is given of 13 spp., recorded during 1988-1992 from 7 localities. Throughout the region, the habitats of *Lestes dryas*, *Coenagrion hastulatum*, *Aeshna caerulea* and *Leucorrhinia dubia* are threatened by grazing cattle.
- (8686) BOON, P.J., D.H.W. MORGAN & M.A. PALMER, 1992. Statutory protection of freshwater flora and fauna in Britain. *Freshwater Forum* 2(2): 91-101. – (First Author: Scottish Natural Heritage, 2 Anderson Place, Edinburgh, EH6 5NP, Scotland, UK).
In Britain, *Aeshna isosceles* is the sole odon. sp. listed in the Wildlife and Countryside Act 1981, but it has no status under the Bern Convention (Appendices I-III), nor is it included in the EC Habitats and Species Directive (Annex IV or V). In the present paper, *Coenagrion mercuriale* is listed as a possible candidate that "may be" afforded full or partial protection in the future as a consequence of the 1991 review of the Wildlife and Countryside Act. The sp. also appears in Appendix II of the Bern Convention.
- (8687) BRUNNER, H. & W.E. HOLZINGER, 1992. Aus der Fauna des "Vogelhegegebietes Mellach": Libellen, Lurche, Kriechtiere und Vögel. *Mitt. Abt. Zool. Landesmus. Johanneum* 46: 1-16. (With Engl.s.). – (First Author: Ziegelstr. 89, A-8045 Graz).
The odon. fauna (19 spp.) of the bird sanctuary, Mellach, S of Graz, Styria, Austria, is listed and briefly discussed.
- (8688) BUCHWALD, R., 1992. Vegetation and dragonfly fauna – characteristics and examples of biocenological field studies. *Vegetatio* 101: 99-107. – (Lehrst. Geobot., Inst. Biol. II, Univ. Freiburg, Schänzlerstr. 1, D(W)-7800 Freiburg i. Br.).
Until now very few biocenological studies have been carried out on dragonflies. This paper describes the various functions of vegetation for Odonata, especially in habitat selection. It is shown that the 2 endangered spp., *Orthetrum coerulescens* and *Ceriagrion tenellum*, due to their dependence on specific abiotic factors, strongly prefer particular plant communities. In selecting suitable breeding habitats, vegetation probably serves as a releasing signal ('proximate factor'). In contrast, the two species hardly show any clear preference for any of the parameters of the community structure. For the example of *C. tenellum* the highly selective choice of plant stands and communities is presented in detail. Its ecoscheme may be described as consisting of three main parts, with the vegetation playing a decisive role. Methodological questions are also discussed. In many dragonfly sp. the breeding habitats can be described by the plant communities, as well as additional parameters. In conclusion, a step by step procedure for biocenological studies on dragonflies is proposed.
- (8689) BUTLER, S.G., 1992. The larva of *Orthetrum anceps* (Schneider, 1845) (Odonata: Libellulidae). *Opusc. zool. flumin.* 100: 1-6. – (Red Willow, All Stretton, Shropshire, SY6 6HN, UK).
The ultimate instar larva is described and figured from the region of Stavros, Macedonia, Greece. Some field notes are included and comparison is made with the structurally similar European *O. brunneum* (Fonsc.), *O. chryso stigma* (Burm.) and *O. coerulescens* (Fabr.).
- (8690) COLLINS, G.A., 1992. [1991 Annual exhibition]. *Odonata. Br. J. Ent. nat. Hist.* 5(2): 80. – (Author's address not stated).
Lists some recent British records of *Coenagrion mercuriale*, *Ischnura pumilio* and *Leucorrhinia*

dubia.

- (8691) CORDERO, A., 1992. Density-dependent mating success and colour polymorphism in females of the damselfly *Ischnura graellsii* (Odonata: Coenagrionidae). *J. Anim. Ecol.* 61: 769-780. — (Ecoloxia, E.U. Enxeñería, Técnica, Univ. Vigo, Avda Buenos Aires s/n, ES-36002 Pontevedra, Galicia).
 Female-limited colour polymorphism is very common in odon. One of the forms has male-like colouring (androchromotypics), while the other(s) is cryptic (gynochromotypics). 3 hypotheses have been proposed to explain the maintenance of this polymorphism: (1) higher reproductive isolation of androchromotypics, balanced by higher predation on this form; (2) androchromotypics avoid unnecessary long matings, but suffer greater predation; and (3) androchromotypics avoid male harassment at high density, but have lower mating success at low density. To test these hypotheses, the survivorship and mating success of andro- and gynochromotypic females were measured in 2 natural populations with different densities in Galicia, NW Spain. — Contrary to the predictions of hypotheses (1) and (2), mean longevity and daily survival rate was the same for andro- and gynochromotypics. Mating success was the same for andro- and gynochromotypics at high density but the proportion of unmated females was greater in andro- than gynochromotypics at low density. Furthermore, androchromotypics mated with longer inter-copula intervals at high density, and mating duration was also density-dependent. These results suggest that hypothesis (3) is the most appropriate to explain the maintenance of the polymorphism. — Androchromotypics were larger than gynochromotypics in the high density population. As body size is related to larval nourishment, this suggests an effect of larval competition on the maintenance of polymorphism. — It is proposed that both the mating behaviour of this sp. (long copulations) and the existence of changes in population density during the season are the main factors that maintain the polymorphism.
- (8692) CORDERO, A., 1992. Sexual cannibalism in the damselfly species *Ischnura graellsii* (Odonata: Coenagrionidae). *Entomol. gen.* 17(1): 17-20. — (Ecoloxia, E.U. Enxeñería Técnica, Univ. Vigo, Avda Buenos Aires s/n, ES-36002 Pontevedra, Galicia).
 2 records of female *Ischnura* spp. devouring mature conspecific males are so far on record. In the present note 6 such cases in natural populations of *I. graellsii* are described. In the laboratory females devoured both mature and young conspecifics, while males only preyed upon young individuals. It is concluded that mature females (but not males!) lack the appropriate response to threat display of conspecifics. This could explain the occurrence of sexual cannibalism.
- (8693) DA SILVA, R.O., 1992. Observações sobre a comunidade de Odonata no Igapô e em riachos da terra-firme. *Resum. 4 Congr. brasil. Limnol., Manaus*, p. 161 [indicative abstract only]. — (Rua Visconde do Uruguai 34 sobrado, BR-24030 Niterói, RJ).
 The larvae of 45 spp. and the adults of 27 spp. were collected, but the names are not listed; rio Taruma-Mirim, Brazil. The larval stomach contents were also examined, the results are not stated either.
- (8694) DANKS, H.V., 1992. Long life cycles in insects. *Can. Ent.* 124(1): 167-187. (With Fr.s.). — (Biol. Surv. Can., Can. Mus. Nature, P.O. Box 3443, Station D, Ottawa, Ont., K1P 6P4, CA).
 The long life cycles in insects are correlated with environmental adversities and with some other properties. The subject is here analytically reviewed, and a few odon. examples are also listed.
- (8695) DAVID, S., 1992. K vyskytu vážek (Odonata) na juhozápadním Slovensku. — Occurrence of dragonflies (Odonata) in southwestern Slovakia. *Ent. Probl.* 22: 45-52. (Slovak, with Engl.s.). — (Tekovské Muz., P.O. Box 69, CZ-934 69 Levice, Slovakia).
 Records and field notes are given on 25 spp., of which *Brachytron pratense*, *Somatochlora metallica* and *Orthetrum brunneum* are considered rare, and *Coenagrion scitulum* is reported here for the 4th time only from Slovakia, Czechoslovakia.
- (8696) DE MESQUITA, H.G., 1992. A náiaide de Mi-

- crostigma maculatum Selys, 1860 (Odonata: Pseudostigmatidae). *Resum. 4 Congr. brasil. Limnol., Manaus*, p. 120 [indicative abstract only]. — (Coordenação de Pesquisas em Ent., Inst. Nac. Pesqu. Amazonia, Caixa Postal 478, BR-69011 Manaus, Amazonas).
Larvae, collected from *Oenocarpus bacaba*, at Reserva Florestal A. Ducke, Manaus, AM, Brazil, were reared in the laboratory, 2 yielding adults. Details are not stated.
- (8697) DE MESQUITA, H.G. & B.C. MATTEO, 1992. A náide de *Leptagrion beebeanum* Calvert, 1948 (Odonata: Pseudagrioninae). *Resum. 4 Congr. brasil. Limnol., Manaus*, p. 119 [indicative abstract only]. — (Coordenação de Pesquisas em Ent., Inst. Nac. Pesqu. Amazonia, Caixa Postal 478, BR-69011 Manaus, Amazonas).
The larvae were collected in terrestrial and epiphytic Bromeliaceae, and subsequently reared to the adult; Manaus, AM, Brazil. Various details were evidenced, but are not stated here.
- (8698) DIESEL, R., 1992. Maternal care in the bromeliad crab, *Metopaulius depressus*: protection of larvae from predation by damselfly nymphs. *Anim. Behav.* 43(5): 803-812. — (Lehrstuhl Verhaltensfor., Univ. Bielefeld, Postfach 100131, D(W)-4800 Bielefeld-1).
M. depressus (Decapoda: Grapsidae) breeds in water-storing leaf axils of large Jamaican bromeliads. This study examined whether and how maternal care protects crab larvae from predation by zygopt. larvae. The larva of the bromeliad-breeding *Diceratobasis macrogaster* is the major predator on bromeliad crab larvae. Laboratory tests revealed that a larva kills on average 5 crabs per day. Both the damselfly and the crab prefer the bromeliad *Aechmea peniculigera* as a breeding site. 87% of plants held 1-16 *D. macrogaster* larvae. Bromeliad crabs release on average 50 larvae into a prepared nursery axil where they develop for 9-10 days into young crabs. In field experiments maternal care reduced larval mortality from predation by 60%. A calculation based on predator abundance and killing potential suggests that female brood desertion would lead to 54-100% loss of their reproductive investment, depending on the female's body size and age (egg number is positively correlated with body size). Protected broods showed on average only 22% mortality during the larval period. In the bromeliad crab, predation on larvae exerts strong selection on the maintenance of maternal care for larvae.
- (8699) DITLHOGO, M.K.M., R. JAMES, B.R. LAURENCE & W.J. SOUTHERLAND, 1992. The effects of conservation management of reed beds. 1. The invertebrates. *J. appl. Ecol.* 29: 265-376. — (Second Author: Sch. Biol. Sci., Univ. East Anglia, Norwich, NR4 7TJ, UK):
A replicated experiment was done in plots in a stand of *Phragmites australis* (NE Norfolk, UK) which were cut, burnt or left unmanaged. Only a few invertebrate groups showed differences between treatments. The odon. (= Zygoptera) populations were at low densities (less than 1 per sample), therefore they are hardly considered.
- (8700) [DROVENIK, B.], 1992. Seznam članov Slovenskega entomološkega društva Štefana Michielija. — [List of the members of the Slovene Entomological Society "Štefan Michieli"]. [Abstr. Pap.] 19 *Srečanje entomologov sosednjih dežel — Incontro degli entomologi dei paesi confinanti — Tagung der Entomologen der Nachbarländer*, Ljubljana, pp. 18-23. (Slovene). — (Tunjiška c. 2, SLO-61240 Kamnik, Slovenia).
Directory of ca 160 members, mostly from Slovenia, Austria, Italy, Croatia and Germany, stating the particular group of interest of each worker, and incl. several odonatologists. — (The series is published by the Slovene Ent. Soc., in conjunction with the traditional symposia of the entomologists from the countries of the Alps-Adriatic Community, convened annually in Ljubljana, Slovenia).
- (8701) DUNN, R., 1992. 1991 dragonfly (Odonata) report. *J. Derbyshire ent. Soc.* 108 (summer): 7-9. — (4 Peakland View, Darley Dale, Matlock, Derby., DE4 2GF, UK).
Some notable 1991 Derbyshire records are stated. Of particular interest is a detailed description of the techniques used by a column of ants of an unnamed sp. in detaching the *Pyrrhosoma nymphula* exuviae. — For a massive predation of ants on emerging *Aeshna juncea* cf. *OA* 49.

- (8702) FERGUSON, M.M., 1992. Dragonflies. *Global Stamp News* 24: 46-47. — (Author's address not stated).
At a glance, this incidental, small article would appear of little consequence, but it contains 2 important points, viz. (1) it gives a verbatim description of the dragonfly (= "devil's damning needle") by Josh Billings (= pseudonym of Henry WHEELER SHAW, 1818-1885, U.S. humorist, whose philosophical comments in plain language were widely popular after the Civil War); — and (2) it mentions the German vernacular dragonfly name, "Träumerle", which does not occur in any linguistic publication known to the *Abstracter* on this subject (cf. e.g. L. Schäfer, 1947, *Deutsche Synonymik der Libelle*, Inaug.-Diss. Philipps-Univ., Marburg).
- (8703) FRANKOVIĆ, M., 1992. Fauna vretenaca (Odonata) Hrvatske, 3. Nazivlje. — Dragonfly (Odonata) fauna of Croatia. 3. Terminology. *Entomofauna Hrvatske* 2: 14-15. (Croat. & Engl.). — (Dept Anim. Physiol., Univ. Zagreb, P.O. Box 933, CRO-410001 Zagreb, Croatia).
The paper enumerates the hitherto published Croatian vernacular names for dragonflies; in the Engl. text the etymology is also stated for each name. — For pts 1 & 2 cf. *OA* 8705 and 8732. — (*Abstracter's Note*: Missing is the Croatian expression, "vretence modro", for *Aeshna cyanea*, published in a Slovene secondary school text book, L. Poljanec, 1929, *Prirodopis živalstva za višje razrede srednjih šol*, p. 208. Družba sv. Mohorja, Celje).
- (8704) FRANKOVIĆ, M., 1992. Vretenca. Sudbina vretenca, opomena ljudima. — [Dragonflies: their fate — a warning to man]. In: V. Lay, [Ed.], *Obzori opstanka. Raina razaranja okoline u Hrvatskoj 1991*, pp. 56-57, Zelena akcija, Zagreb. (Croat.). — (Dept Anim. Physiol., Univ. Zagreb, P.O. Box 933, CRO-41001 Zagreb, Croatia).
The very appreciable destruction of the natural environment, caused by the recent military aggression on Croatia, is often neglected by the public information media, in consequence of which it is but seldom understood to its full extent by the general public. This book is an attempt to draw attention to this problem, which assumed a magnitude so far never experienced on the continent of Europe. — The Author of this small paper is the leading Croatian odonatologist, and is drawing attention here to a single small feature of the conflict, i.e. the possibly complete destruction of the Lonjsko Polje *Leucorrhinia caudalis* habitat, in the Posavina region of Croatia. Until recently the backwater habitats of the Sava R. floodplain harboured one of the most significant populations of this threatened sp. — Cf. e.g. also *Notul. odonatul.* 3(1991): 118-119.
- (8705) FRANKOVIĆ, M. & R. HALAPIR, 1992. Fauna vretenaca (Odonata) Hrvatske. 1. Vretenaca u zbirci kukaca "Jurečić". — Dragonfly fauna (Odonata) of Croatia. 1. Dragonflies in insect collection "Jurečić". *Entomofauna Hrvatske* 2: 10-11. (Croat. & Engl.). — (Dept Anim. Physiol., Univ. Zagreb, P.O. Box 933, CRO-41001 Zagreb, Croatia).
A comprehensive bilingual summary of the work listed in *OA* 8756. — For pts 2 & 3 of the series cf. *OA* 8732 and 8703.
- (8706) FRASERIA. Newsletter of the SIO Regional Office in Southern Asia, No. 20/22 (June 1, 1992). — (c/o Dr B.K. Tyagi, SIO ROSA, Plot 155, Street 7, Milkman Colony, Jodhpur-342003, India).
Srivastava, V.K. & B.K. Tyagi: Fourth South Asia Symposium of Odonatology (Allahabad, India) (p. 81); — [*Srivastava, V.K.*]: Odonatological bibliography of Dr. V.K. Srivastava (pp. 82-84); — *Tyagi, B.K.*: In search of original dragonfly song in Malayalam (p. 84); — *Inoue, K.*: XII International Symposium of Odonatology, International House, Osaka (p. 85); — *Kiauta, B.*: Odonatological dissertations from the Agricultural University, Faisalabad, Pakistan (pp. 86-87); — *Tyagi, B.K.*: Status of the SIO membership under the SIO ROSA, 1981-1992, a reminder (p. 89); — Odonatological literature on sale during Fourth South Asian Symposium of Odonatology, Allahabad (p. 90). — The issue also contains a section "SIO ROSA news" (p. 88), addresses of new members, and a copy of the Announcement-cum Registration Form for the Allahabad Symposium.
- (8707) GABB, R. & D. KITCHING, 1992. *The dragonflies & damselflies of Cheshire*. National Mu-

seums & Galleries on Merseyside. 62 pp. – ISBN 0-906367-54-9. – Price: £ 7.85 net. – (First Author: "Oaklea", 72 Chester Rd. Poynton, Cheshire, SK12 IHA, UK).

This, the latest addition to the impressive list of British county dragonfly books, differs essentially from most of the previous works. It is not designed as an identification key, but rather as a "monograph" on autecology and habitat requirements of the 25 local spp., 24 of which are nicely illustrated in pen-and-ink drawings, by C. Shields. For each sp. the information is organised into 2 standard sections, viz. "Field notes", and "Cheshire status and distribution", with a tetrad distribution map, a phenology graph, and a "database", providing a statistical representation of the recorded distribution according to breeding status. Based on personal information from the Authors, it should be emphasized, that at its onset, some 9 yrs ago, the Cheshire Odonata Recording Scheme was the first in Britain to relate the observed breeding behaviour to the categories of "possible", "probable" and "proven" breeding. In addition, the Second Author developed his own computer programme, which determined dot size and allocated each record to the correct map tetrad. It is assumed that even today, Cheshire might be the sole county submitting its annual records to the British Records Centre (Monks Wood) on floppy discs! – The final chapter of the book is in many ways the most important section for the general, non-local reader. It deals with the Cheshire "Habitats and prime sites", classified as "meres & larger waters", "mosses & bogs", "marl pits & smaller ponds" and "rivers, streams & canals"; for each of these a typical example is described and the qualitative and quantitative composition of its odon. community shown in a table. – The book is technically very nicely produced (size 21 x 26 cm) and will be certainly of more than general interest to research workers and fauna recorders alike, both in Britain and elsewhere. Its original and refreshing approach to the subject and the mode of organisation of the wealth of factual information qualify it as a model work, very much worth to be followed up by future reporters on similar projects.

fluence of river flow rate on the breeding of Calopteryx damselflies. *J. Anim. Ecol.* 61: 283-289. – (First Author: Brit. Trust Ornithol., The Nunnery, Nunnery Place, Thetford, Norfolk, IP24 2PU, UK).

Territorial, courtship and oviposition behaviour of *C. splendens xanthostoma* (Charp.) and *C. haemorrhoidalis* (Vander L.) were studied in freshwater streams in southern France. Females of both spp. preferred to oviposit in aquatic vegetation found in fast-flowing water. This was not due to preference for a particular species of vegetation; most ovipositions by *C. s. xanthostoma* occurred in a single species, and female *C. haemorrhoidalis* ceased ovipositing in an area of fast water after the flow was experimentally slowed. Males of both spp. defended areas of oviposition vegetation as territories. Territorial disputes were common in fast-flowing parts of the streams while slow-flowing areas were often undefended. Male *C. haemorrhoidalis* deserted previously defended areas after an experimental decrease in flow rate. The mating success of male *C. s. xanthostoma* increased with the rate of flow of water through their territory, but only up to a rate of 0.15 ms^{-1} . Above this, males spent so much time in territorial defence that they probably missed mating opportunities. Males of both spp. sometimes courted females by falling onto the water surface and floating with the current. Males that performed this display had a higher mating success than those that did not. It is suggested this display has evolved to indicate territory quality to females.

(8709) [GOGALA, M.] (Anonymous), 1992. Matija Gogala. *Let. slov. Akad. Znan. Umetn.* 42: 93-94, portrait incl. (Slovene). – (Slovene Mus. Nat. Hist., P.O. Box 290, SLO-61001 Ljubljana, Slovenia).

A comprehensive scientific biography of the most prolific contemporary research worker in, and organiser of entomology in Slovenia, at present Director of the Slovene Nat. Hist. Mus. Aside from his manifold research interests and international activities, Professor Gogala also has considerable merits for the exploration of the Slovene odon. fauna. Practically all Slovene professional entomologists of middle-age and younger generations came from his school. – Cf. also OA 6305.

(8708) GIBBONS, D.W. & D. PAIN, 1992. The in-

- (8710) *HAGENIA*. Mitteilungsblatt des Nationalen Büros der SIO in der Bundesrepublik Deutschland und der GdO, No. 4 (Sept 1, 1992). Edited by M. Schorr & U. Krüner, Subscription orders outside Germany to the SIO Central Office, P.O. Box 256, NL-3720 AG Bilthoven. On the traditional 18 pp., the issue contains a number of comprehensive announcements of national and international meetings, reports on various odonotol. activities, exhibits, etc., a bibliographic section, and a number of signed articles, e.g. *Leuthold, W.*: Bericht zum Libellenkurs in der Weiterbildungszentrale für schweizerische Gymnasiallehrer (pp. 4-5); — and *Johnson, D.M.*: Verhaltensökologie von Libellenlarven (pp. 11-18, which is a commented translation of the paper listed in *OA 7718*). The GdO Constitution appears on pp. 8-10.
- (8711) HEITZ, S., 1992. Libellenexuvien — suchen, bestimmen und aufbewahren. *Naturk. Mitt. DJN, Hamburg* 26: 37-44. — (Moosweg 15, D(W)-7609 Hohberg). Instructions for collecting, identification and cabinet storing of odon. exuviae, with a pictorial family key, and some bibliographic references for the German fauna.
- (8712) HORSTKOTTE, J., 1992. Insektenbeobachtungen am Neusiedler See, Österreich. *Naturk. Mitt. DJN, Hamburg* 26: 56-71. — (Am Schulwald 21, D(W)-2000 Hamburg-62). Annotations on 29 odon. spp., recorded at the Neusiedler Lake, Austria, in 1985 and 1987.
- (8713) HOWARTH, F.G. & W.P. MULL, 1992. *Hawaiian insects and their kin*. Univ. Hawaii Press, Honolulu. 160 pp. — ISBN 0-8248-1469-X. — Price: US \$ 19.95 net. This beautiful little book contains over 200 high quality photographs of Hawaiian (mostly endemic) arthropods and their habitats. Short chapters are included on: "Features of the Hawaiian Islands", "History of Hawaiian entomology", "Origin of the Hawaiian insect fauna", "Hawaiian insect evolution", "Conservations", "Insects as an educational resource", and "Native Hawaiian land arthropods". Most of the book consists of photographs and their narrative captions. Odon. are covered in less than half a page of text. The fauna is stated to consist of 30 endemic spp. of *Megalagrion*, the endemic *Anax strenuus* and *Nesogonia blackburni*, and the indigenous *Anax junius* and *Pantala flavescens*. Apparently *Tramea lacerata* is not considered indigenous. Other spp. recently introduced accidentally by humans are not mentioned. Those known to this reviewer are *Enallagma civile*, *Ischnura posita*, *I. ramburii*, *Orthemis ferruginea*, and *Tramea abdominalis*. Of greatest interest to odonatologists are color photographs of the adults of 5 species of *Megalagrion*, and 3 of the larvae, all identified to sp. The photographs appear to be taken from live posed animals. This is a well edited volume on one of the world's most interesting faunas, well worth its inexpensive price. — [*S.W. Dunkle*].
- (8714) IMAMORI, M., 1992. *Das Leben der Insekten*. Maier, Ravensburg. 193 pp. — ISBN 3-473-46002-8. German edition of the work listed in *OA 7798*.
- (8715) ISHIDA, K. & M. MURATA, 1992. Effects of pesticides application for the paddy field on the larvae of Odonata. *Scient. Rep. Fac. Agric. Meijo Univ.* 28: 1-12. (With Jap.s.). — (First Author: 3-201, Aioiyama-danchi, 1-148 Hisakata, Tempaku-ku, Nagoya, 468, JA). The effects of paddy field herbicides, fungicides and insecticides on the larvae of 8 odon. spp. were examined. The compounds for the 1st experiment were Benthio carb, Chlornitrofen and Pyrazolate as the herbicides. All herbicides affected *Cercion calamorum*, *Copera annulata* and *Lestes sponsa*. The other spp. were not or slightly affected by the herbicides. *C. calamorum* was affected highly by Pyrazolate, and *C. annulata* and *L. sponsa* were affected by Benthio carb and Chlornitrofen. The compounds for the 2nd experiment were IBP, Futhalide and Kasugamycin as fungicides. All fungicides slowly affected *C. calamorum*, *C. annulata*, *L. sponsa*, *Sympetrum eroticum* and *Rhyothemis fuliginosa*; the other spp. were not affected. The compounds of the 3rd experiment were MEP, NAC and Cartap as insecticides. The MEP affected all spp. and the mortality has risen quickly. The NAC affected nearly all spp., but the mortality has risen slower than with the MEP. The Cartap affected 75% of spp., but the mortality was low and rose gradually. The other

25% of spp. were not affected by Cartap. The compounds for the 4th experiment were 2,4-D as herbicide, PMA as fungicide and HCH as insecticide which were old types of pesticides. The 2,4-D affected slightly *C. calamorum*, *Anotogaster sieboldii* and *S. eroticum*. The PMA affected slowly all spp.; the mortalities in *C. annulata* and *L. sponsa* reached 60%. The HCH affected intensely all spp. and the mortalities in *C. calamorum*, *L. sponsa* and *A. sieboldii* rose quickly. The effects are interpreted by the differences of the mechanism of operation among each pesticides. The comparisons of the effects are given, and some general considerations are presented. The other spp. studied are *Ceragrion melanurum* and *Somatochlora ucidai*.

Coenagrion hastulatum larvae changed from high activity in the absence to low activity in the presence of zooplankton. Small *C. aenea* larvae were active in the absence of large conspecifics irrespective of zooplankton availability. In the presence of large conspecifics they showed a reduced activity when zooplankton were present. Small *L. dubia* larvae showed high activity and small *C. hastulatum* larvae low activity irrespective of presence or absence of zooplankton and large conspecifics. In all 3 spp. cannibalism was highest in the absence of zooplankton. In the absence of zooplankton cannibalism was low in *C. hastulatum* compared to the other 2 spp. On the contrary, in the presence of zooplankton, cannibalism did not differ between the 3 spp.

- (8716) JÖDICKE, R. & M. SANTENS, 1992. Die Libellen der Fleuthkuhlen bei Geldern/Niederrhein, Deutschland (Odonata). *Opusc. zool. flumin.* 97: 1-14. (With Engl.s.). — Winkelstr. 24, D(W)-5810 Witten).

The Fleuthkuhlen is a complex of eutrophic ponds in the Lower Rhine region, Germany. Its odon. community (29 spp.) includes almost all locally expected spp.; the abundance of some of these is considerably higher than in similar habitats elsewhere in the region. A small population of *Ceragrion tenellum* (de Vill.) is reported from Cladium stands. In *Libellula fulva* Müll., the unusually late emerged individuals (up to mid August) were on wing until the end of August. It is tentatively suggested this phenomenon could be due to the occurrence of an occasional univoltinism, triggered by an unusually low water level. Male *Orthetrum cancellatum* (L.) were repeatedly observed as continuous "flyers" over water lilies.

- (8717) JOHANSSON, F., 1992. Effects of zooplankton availability and foraging mode on cannibalism of three dragonfly larvae. *Oecologia* 91: 179-183. — (Dept Anim. Ecol., Univ. Umeå, S-90187 Umeå).

Aquarium experiments were performed to investigate the effect of foraging activity and zooplankton availability on cannibalism in three dragonfly larvae. Large *Cordulia aenea* larvae showed low activity, and large *Leucorrhinia dubia* larvae showed high activity irrespective of zooplankton availability. In contrast, large

- (8718) *JOURNAL OF THE BRITISH DRAGONFLY SOCIETY*, Vol. 8, No. 2 (Oct., 1992). — (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK).

Tagg, D.: [Editorial] (p. 1); — *Silsby, J.*: Thoughts on distinguishing between Odonata and Anisoptera when using the English word "dragonfly" (pp. 1-2); — *Flory, J.*: The dragonflies of Yateley Common, Hampshire (pp. 3-5); — *Cham, S.A.*: Oviposition behaviour and observations on the eggs and prolarvae of *Ischnura pumilio* (Charpentier) (pp. 6-10); — A cautionary note on the identification of the larva of *Ischnura pumilio* (Charpentier) (pp. 10-12); — *Mackenzie Dodds, R.*: Inverted emergence by *Ischnura elegans* (Vander Linden) at Ashton Water Dragonfly Sanctuary (pp. 13-15); — *Smith, P.H.*: Vagrant Emperor dragonflies *Hemianax ephippiger* (Burmeister) in Mallorca (p. 16); — *Paine, A.*: Notes and observations (pp. 17-19); topics as in OA 8416; — *Silsby, J.*: [Book review]: The dragonflies & damselflies of Cheshire, by R. Gabb & D. Kitching (p. 20). — (*Abstracter's Note*: In the Instructions to Authors, cover p. 3, it is stated that the expression "exuvia", plural "exuviae", is among the terms accepted by the journal. This suggestion, however, is wrong! The term "exuviae" is a Latin word, grammatically a "plurale tantum", meaning it only exists in the plural form, implying that the singular and the plural are identical, thus: 1 exuviae, or 100 exuviae! In this sense the term is listed also e.g. in J.H.

Kenneth, 1967, *Dictionary of biological terms*. Oliver & Boyd, London. It would be most unfortunate if a scientific periodical would be attempting to introduce a grammatically wrong and non-existent "Latin" technical term!

- (8719) KOENIG, W.D., 1992. Levels of female choice in the White-tailed Skimmer *Plathemis lydia* (Odonata: Libellulidae). *Behaviour* 119 (3/4): 193-224. — (Hastings Reservation, Mus. Vert. Zool., Univ. California, Carmel Valley, CA 93924, USA).
Males defend mating territories along the perimeter of ponds. Females come to ponds for brief periods of time every few days to oviposit. During these visits, females actively discriminate among males, rejecting up to 48.9% of mating attempts. Males varied significantly in the proportion of attempts successfully leading to copulation. However, males that obtained more matings also experienced more rejections. Extensive analyses based on absolute male size, relative male size, and male size relative to female size yielded only marginally significant evidence of female mate preference based on body mass, wing length, wing loading index, or age; to the extent that any of these characters appeared to influence mating success, they similarly influenced refusal rates. The overall weakness of female mate choice is further suggested by the frequency of females ovipositing without prior matings and by the low frequency with which females remate with the same males. On a population basis, females strongly prefer to oviposit in the middle of the day and at particular parts of the study pond. Thus, females exhibit strong choice at several levels, however, despite the high incidence of active female rejection and high variance in male mating success, mate choice is apparently of minor importance in this population. Female discrimination of males, combined with variance in male mating success, are necessary but not sufficient for the action of sexual selection via mate choice. These findings support the prediction that male-male competition is of primary importance in resource control mating systems in which males are able to control female access to most or all favored oviposition sites. However, it is not clear why females generally fail to discriminate among males, given that they have the opportunity to
- do so. In general, females appear to have low motivation to mate with males, presumably because multiple mating does not significantly increase their fertility or fecundity. Selection for rapid mating may be significant, both because of predation on females during mating and oviposition and because of the risks for males of losing their territories during mating bouts. This time constraint may be the most important factor limiting female discrimination among males on the basis of consistent characteristics.
- (8720) KUKASHEV, D.Sh., 1992. O vragah strekoz (Insecta, Odonata) v biocenozah Kazahstana. — [On dragonfly enemies in the biocenoses of Kazakhstan]. *Izv. Akad. Nauk Kazakhstan (Biol.)* 1992 (1): 68-71. (Russ., with Engl.s.). — (Inst. Zool., Kazakh Acad. Sci., Akademgorodok, CIS-480032 Alma-Ata, Kazakhstan).
Based on literature records and on unpublished observations, a review is given of predators on dragonflies in Kazakhstan. For the first time, detailed circumstantial evidence is presented on *Galeodes* sp. (Arachnida: Solifugae), preying at night upon *Coenagrion hastulatum*, *Erythromma najas*, *Anax parthenope* and, above all, *Libellula quadrimaculata*, at their dormitories in the *Tamarix* vegetation on lake Baytak, central Kazakhstan.
- (8721) KURILLO, J., 1992. Ob zibelki kačjega pastirja. — At the cradle of the dragonfly. *Proteus, Ljubljana* 55 (1): 32-33. (Slovene, with Engl. title in contents table). — (Smledniška 12 a, SLO-64000 Kranj, Slovenia).
Exactly timed photographic records of *Libellula quadrimaculata* emergence (Stražišče nr Kranj, Slovenia; 17-V-1992, 0900-1115 hr).
- (8722) LEGRAND, J., 1992. Description de la femelle de *Idomacromia liefincki* Legrand (Odonata, Anisoptera, Corduliidae). *Revue fr. Ent. (N.S.)* 14 (3): 122. (With Engl.s.). — (Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
The hitherto unknown ♀ is described and illustrated from specimens from Guinea, W Africa.
- (8723) LEGRAND, J., 1992. Une nouvelle *Macromia* du groupe paula Karsch de la République Populaire du Congo (Odonata, Anisoptera, Corduli-

- dae). *Revue fr. Ent.* (N.S.) 14 (3): 127-131. (With Engl.s.). – (Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
M. villiersi sp.n. (holotype ♂; Mbila, Mts du Chaillu, Congo, XII-1963; deposited in MNHN, Paris) is described and illustrated, and the features separating it from *M. bicristulata* Legrand are stated.
- (8724) LEUTHOLD, W., 1992. Kursbericht: Libellen. *Chemie + Biol., Worbl/CH* 36 (3): 14-15. – (c/o Dr H. Wildermuth, Abt. Biol., Kantonschule Zürcher Oberland, CH-8620 Wetzikon). Cf. *OA* 8750. An identic article appeared in *Hagenia* 4 (1992): 4-5; cf. *OA* 8710. Author's address: KS Stadelhofen, CH-8001 Zürich.
- (8725) LOHMANN, H., 1992. Revision der Cordulegastridae. 1. Entwurf einer neuen Klassifizierung der Familie (Odonata: Anisoptera). *Opusc. zool. flumin.* 96: 1-18. (With Engl.s.). – (Ziegelackerweg 1, D(W)-7888 Rheinfelden).
 Cordulegastridae and Chlorogomphidae are treated as separate (probably paraphyletic) families. The Cordulegastridae is split into 2 new subfamilies, viz. Zoraeninae and Cordulegastrinae, the latter is subdivided into 3 tribes: Taeniogastrini, Cordulegastrini and Thecagastrini. 5 new genera are defined, viz. Archegaster gen. n., Kalyptogaster gen. n., Pangaeaegaster gen. n. and Lauragaster gen. n. from North and Central America; Sonjagaster gen. n. from Eurasia. Thecagaster Sélys, 1854 is re-established. Cladistic remarks are given in the classification text. The cladogram is discussed, and the 2 Eurasian groups (incl. all Eurasian spp.) are considered to originate from North American ancestors. All New World genera are paraphyletic to each other; they are supposed to represent the remnants of a very ancient phylogenetic development ("tachygenesis") that had occurred in Laurasia or even Pangaea. Vicariance took place after the ancient continent Laurasia had finally broken off in the Palaeocene (65 million years ago), leaving 2 paraphyletic groups in Eurasia, viz. Cordulegaster (tribe Cordulegastrini; its American adelphotaxon being Kalyptogaster) and the ancestor of the Eurasiatic Thecagastrini-group (its American adelphotaxon being Lauragaster).
- (8726) LOHMANN, H., 1992. *SIO/IUCN-Expedition nach Süditalien und Griechenland, 17.6.-6.7.1992. Ergebnisse: Kurzbericht*. 7 pp. Privately circulated by the author, Rheinfelden. – (Ziegelackerweg 1, D(W)-7888 Rheinfelden).
 56 taxa are listed from 7 localities in Italy and from 29 in Greece. Several of the recorded taxa are considered new; nomina nuda are proposed for 3 of them, viz. *Sonjagaster helladica* gen.n. sp.n., *S. h. buchholzi* ssp.n., *S. h. delphi* ssp.n. Of interest is a note on the hybridization experiments: *Calopteryx splendens* from Freiburg i. Br., Germany, was hybridized with *C. s. ancilla* from Campania, Italy and with the same ssp. from Magadino, Switzerland. In the first case the eggs were not fertilized, while the fertilization was successful with the Swiss individuals.
- (8727) MAES, J.-M., 1992. Fauna entomologica del departamento de Zelaya, Nicaragua (2). *Revta nicaraguense Ent.* 19: 29-41. (With Engl.s.). – (Mus. Ent., Serv. Entomol. Auton., A.P. 527, León, Nicaragua).
 The checklist contains 4 odon. spp., but without precise locality data.
- (8728) MAGER, T., 1992. Die Limnofauna des Hahnenbach-Gewässersystems (Hunsrück; Regierungsbezirk Koblenz). *Decheniana* 145: 125-145. (With Engl.s.). – (Planungsbüro f. Gewässerökol., Im Weinartskamp 39, D(W)-5000 Köln-80).
Calopteryx splendens, *C. virgo*, *Platycnemis pennipes* and *Cordulegaster bidentata* are listed from the Hahnenbach stream system, Hunsrück, W. Germany.
- (8729) MARTENS, A., 1992. *Aggregationen von Platycnemis pennipes (Pallas) während der Eiablage (Odonata: Platycnemididae)*. Diss. Dr. rer. nat., Techn. Univ. Braunschweig, Braunschweig, iv+136 pp. – Available at Hfl. 45.- from the SIO, Bilthoven. – (Author: Wilhelm-Bode-Str. 50, D(W)-3300 Braunschweig).
 This is a very welcome addition to the rather meagre literature on platycnemid behaviour and biology. Based on field observations and on experimental work, reproductive behaviour and oviposition are described in great detail, and compared with the situation in 4 European Coenagrionidae.

- (8730) **MARTINIA**. Bulletin des odonatologues de France. Vol. 8, No. 3 (Sept., 1992). — (c/o J.-L. Dommangeat, 7 rue Lamartine, F-78390 Bois d'Arcy).
Le Quellec, J.-L.: Contribution à l'inventaire des odonates du département de la Vendée (pp. 57-59); — *Coppa, G.*: Espèces peu courantes en Champagne-Ardenne: année 1991 (pp. 61-64); — *Brugière, D.*: A propos de *Coenagrion ornatum* (Sélys, 1850) dans le département de l'Allier (Odonata, Zygoptera, Coenagrionidae) (p. 67); — *Hazet, G.*: *Crocothemis erythraea* (Brullé, 1832) et *Sympetrum fonscolombii* (Sélys, 1840) nouveaux pour le département de Calvados (Odonata, Anisoptera, Libellulidae) (pp. 68-69); — *Karihuel, C.*: Contribution à l'inventaire des odonates du département du Maine-et-Loire (pp. 71-72); — *Jacquemin, G.*: The British Dragonfly Society (pp. 73-75); — *Papazian, M.*: Libellules et expositions (pp. 76-78); — *Dommangeat, J.-L.*: Rubrique bibliographique (pp. 78-80).
- (8731) **MIŠKIĆ, H.**, 1992. *Fauna vretenaca Zagreba i okolice*. — [Dragonfly fauna of Zagreb and its surroundings]. Studentski Rad; Univ. Zagreb, ii+9 pp. (Croat.). — (c/o Dr M. Franković, Dept Anim. Physiol., Univ. Zagreb, P.O. Box 933, CRO-41001 Zagreb, Croatia).
 So far 25 spp. were known from the metropolitan region of Zagreb, Croatia. In this paper previously unpublished records, brought together during 1976-1991 and covering 40 spp. are listed. 18 of the recorded spp. are new for the region. Among these, *Cordulegaster heros* and (to some extent also) *Epitheca bimaculata* are of particular interest. — Cf. also OA 8732.
- (8732) **MIŠKIĆ, H., M. VUKIĆ & M. FRANKOVIĆ**, 1992. *Fauna vretenaca (Odonata) Hrvatske, 2. Vretenca Zagreba i okolice*. — Dragonfly fauna (Odonata) of Croatia. 2. Dragonflies of Zagreb and surroundings. *Entomofauna Hrvatske* 2: 12-13. (Croat. & Engl.). — (Third Author: Dept Anim. Physiol., Univ. Zagreb, P.O. Box 933, CRO-41001 Zagreb, Croatia).
 A comprehensive bilingual summary of the work listed in OA 8731. — For pts 1 & 3 of the series cf. OA 8705 and 8703.
- (8733) **MITCHELL, B.R.**, 1992. *Brachytron pratense* Müll. (Odonata) rediscovered in Warwickshire. *Ent. Rec. J. Var.* 104 (9/10): 242. — (127 Watling St., Grendon nr Atherstone, Warwickshire, CV9 2PH, UK).
 A specimen is recorded from Pooley Fields, Alvecote Pools NR, N. Warwickshire, 27-V-1992. This is probably the first Warwickshire record for over 50 yr.
- (8734) **MOLA, L.M.**, 1992. *Estudios cromosomicos en libelulas (orden Odonata)*. Tesis Doctor Cien. Biol., Univ. Buenos Aires. xii+184 pp. — (Salta 1629 3'A, AR-1137 Buenos Aires).
 The work is based on 18 aeshnid and libellulid spp., 10 of which were not previously studied cytologically. In addition, almost the complete world literature on the subject is considered. Deviations from the family type numbers are reported for *Aeshna bonariensis* (2n ♂ = 26, n = 12, neo-XY), *A. cornigera planatica* (2n ♂ = 16, n = 7, neo-XY), *Oligoclada laetitia* (2n ♂ = 23, n = 11, X) and *Erythrodiplax media* (2n ♂ = 22, n = 10, X), all from Argentina. The chromosomes are considered holokinetic, and the DNA content was determined in 3 *Aeshna* spp.
- (8735) **MOULDS, M.S.**, 1992. Book review. Catalogue of the family-group and species-group names of the Odonata of the world, by C. A. Bridges. *Aust. ent. Mag.* 19(1): 44. — (Ent. Dept, Aust. Mus., 6-8 College St., Sydney, NSW 2000, AU).
 A comprehensive review of the work listed in OA 7953.
- (8736) **MÜLLER, O.**, 1992. Beobachtungen an *Orthe-trum brunneum* (Fonscolombe, 1837) und *Or-thetrum coeruleum* (Fabricius, 1789) im Braunkohlerevier "Schlabendorf-Süd" (Brandenburg). *Ent. Nachr. Ber.* 36(2): 111-113. (With Engl. & Fr.s's). — (Gr. Müllroser Str. 8, D(O)-1200 Frankfurt/Oder).
 The habitat in an open-cast mine nr Luckau, Brandenburg, E. Germany, where the 2 spp. coexist, is described in detail. Some observations are presented on spatial distribution of the larvae, and on interspecific behaviour of the adults.
- (8737) **NAVASIA**. Noticiario de la Oficina ibérica de la Sociedad Internacional de Odonatología

(S.I.O.) – Noticiario da Oficina ibérica da Sociedade Internacional de Odonatologia (S.I.O.), Córdoba, No. 1 (Sept. 1992). – (c/o Dr M. Ferreras Romero, Depto Biol. Animal (Zool.), Fac. Cien., Univ. Córdoba, Avda San Alberto Magno s/n, ES-14004 Córdoba).

This is the semiannual newsletter of the SIO Iberian Regional Office, as sanctioned at the 11th Int. Symp. Odonatol., Trevi, Italy, Aug. 1991. The Office is headed and the newsletter edited by Dr M. Ferreras Romero (address above). Spanish and Portuguese are the languages at present used, but texts in any other Iberian language are also accepted. The journal will be bringing the usual news items, announcements, requests for cooperation, etc., brief scientific notes and abstracts of current papers related to Iberian odonatology. – **C o n t e n t s:** [Ferreras Romero, M.]: [Editorial] (pp. 1-2); – [Inoue, K.]: Primer anuncio del 12º Symposium Internacional de Odonatologia (pp. 2-3); – Bonet Betoret, C.: Sobre algunas especies raras de libelulidos en España (p. 4); – Vasco Ortiz, C.A.: Una extraña malformacion en *Onychogomphus uncatius* (Charpentier, 1840) (pp. 4-5); – [Ferreras Romero, M.]: Novidades de la odonatologia ibérica (pp. 5-7; abstracts of 9 papers). The issue also contains a personal request for material, by K. Bánkuti, Hungary (p. 3).

- (8738) NEL, A., 1992. Redescription de la libellule fossile du Jurassique supérieur "Malmagrien eichstaettense (Hagen, 1862)" (Odonoptera, Odonata, Archizyoptera). *Bull. Soc. ent. Fr.* 96(5): 433-442. (With Engl.s.). – (8 ave. Gassion, F-136000 La Ciotat).

The Vienna Mus. specimen, tentatively ascribed by A.G. Ponomarenko to *M. eichstaettensis* [sic!] (cf. OA 5792) is here described as *Protomyrmeleon jurassicus* sp.n., while Hagen's original "Agrion? eichstaettense" remains incertae sedis. The systematic position of *Protomyrmeleon* and *Zirzipanagrion* is discussed.

- (8739) NEL, A. & M. HENROTAY, 1992. Les Protomyrmeleontidae (Odonoptera, Odonata, Archizyoptera stat. rest.): état actuel des connaissances. *Annls Paléontol.* 78: 1-47. (With Engl.s.). – (First Author: 39 rue Stendhal, F-75020 Paris).

Protomyrmeleon bascharagensis sp.n., from the Upper Lias of Bascharage, Luxembourg, is described. Tillyardagrion Martynov, 1927 is considered a junior synonym of *Protomyrmeleon Geinitz*, 1887 and *Terskeja Pritykina*, 1981 as an *Odonoptera incertae sedis*. A critical review of the fam. is presented, based on the interpretation of venation as outlined by Riek & Kukalova-Peck (cf. OA 4786); W. Zessin's interpretation (1991, *Odonatologica* 20: 97-126) is rejected. A new diagnosis of the *Protomyrmeleontidae* is given, phylogenetic affinities of the fam. are discussed, and the original status of the *Archizyoptera* is restored.

- (8740) NEWSLETTER [OF THE] BRITISH DRAGON-FLY SOCIETY, No. 22 (Autumn, 1992). – (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK).

On 11 pp., there are 28 numbered items. On Apr. 1, 1992, after striking off unpaid-up members, the Society had 918 members, passed the 1000 mark on June 11, and the membership now stands at 1082. The President is Mr. A McGeeney. Of particular interest are brief reports & news from the Local Groups, notes on conservation activities, and the brief reports of 12 field trips (with some records). Mr & Mrs Silsby are resp. the Treasurer and the Secretary of the Society; the amount of work they perform is fabulous, and can be illustrated by a single figure: after a single presentation in the TV series "Gardeners World", the Secretary had to answer over 900 letters! And so she did...!

- (8741) RANFTL, H., 1992. Das Naturschutzgebiet Brombachmoor: Wert einer Kleinfläche für Vögel, Amphibien und Libellen. *NatSchutz LandschPlan.* 92(3): 117-120. – (Inst. Vogelkunde, Am Kreuzweiher 3, Triesdorf, D(W)-8825 Weidenbach).

18 odon. spp. are listed (vernacular names only!) from NR Brombachmoor, distr. Weissenburg-Gunzenhausen, Bavaria, FRG. The fauna is briefly discussed and the occurrence of *Leucorrhinia dubia* is emphasized.

- (8742) RETTIG, K., 1992. Verbreitung und Flugzeiten der Libellen Ostfrieslands. *Beir. Vogel- und Insektenwelt Ostfrieslands* 57: 8-15. – (Danziger Str. 11, D(W)-2970 Emden).

- 42 distribution maps for Ostfriesland prov., Germany, with a statement of the first and the last seasonal record for each sp.; updated from OA 4700 and 6891.
- (8743) RODRIGUES CAPITULO, A., 1992. *Fauna de agua dulce de la República Argentina*, Vol. 34, Fasc. 1: *Insecta Odonata*. PROFADU, Mus. La Plata, La Plata. 92 pp. — Available from the SIO, Bilthoven. — (Author: Inst. Limnol. "R.A. Ringuelet", Univ. Nac. La Plata, C.C. 712, AR-1900 La Plata).
So far 230 spp. are known from Argentina. In the present descriptive key the adults are mostly keyed to the sp., and the larvae are included to the extent they were described; figs of structural features enhance the value of the work. Also appended are a checklist of all spp. (with a statement of the known occurrence in Argentina for each of them) and a fairly exhaustive regional bibliography (1773-1992).
- (8744) ROWE, R.J., 1992. Agonistic behaviour in final-instar larvae of *Austrolestes colenisonis* (Odonata: Lestidae). *N.Z. J. Zool.* 19(1/2): 1-5. — (Dept Zool., James Cook Univ., Townsville, Qld 4811, AU).
Agonistic displays are described, and a terminology is developed to classify larval agonistic displays in the Lestidae. — Cf. also OA 8438.
- (8745) RÜPPELL, G., 1992. Über den Flug und die Fortpflanzung der Libellen. *Biologie in unserer Zeit* 22(4): 197-202, 2 cover phot. excl. — (Zool. Inst., Techn. Univ. Braunschweig, Pockelsstr. 10a, D(W)-3300 Braunschweig).
Dragonfly flight techniques and strategies are reviewed. The paper is largely based on own research, and it is directed at the general biologist. A biographic note and a portrait of the Author are appended.
- (8746) SAVARD, M., 1992. [Opinions] Fabries: pour qui? pourquoi? *Nouv. Ailes* 3(2/3): 21-22. — (1665 des Engoulevents, Chicoutimi, Qué., G7H 5Y2, CA).
Discussing the linguistic policies of *Fabries*, quarterly of the "Association des Entomologistes Amateurs du Québec", the Author refers to the SIO periodicals, as an example of multilingual scientific journals.
- (8747) SCHNEIDER, W., 1992. *Anax tristis* Hagen, 1867 (Aeshnidae) and *Tholymis tillarga* (Fabricius, 1798) (Libellulidae) recorded from off Angola (Odonata). *Fragm. entomol.* 23(2): 243-246. (With Ital.s.). — (Kardinal-von-Galen-Str. 13, D(W)-6500 Mainz-32).
The 2 spp. are recorded from the open Atlantic Ocean, 60 km off the Angola coast. Both spp. flew in total darkness and were attracted by light.
- (8748) SELYSIA. Newsletter of the Societas Internationalis Odonatologica and of the U.S. National Office. Vol. 21, No. 2 (Sept. 1, 1992). — (c/o Dr D.M. Johnson, Dept Biol. Sci., East Tennessee St. Univ., Box 23580 A, Johnson City, TN 37614-0002, USA).
[Inoue, K.]: XII International Symposium of Odonatology, International House, Osaka, 1-8 (11) August 1993 (p. 8; a comprehensive announcement, with programme outline and price-list); — Kessel, R.G.: In memoriam: Harold W. Beams, 1903-1992 (p. 9); — Wootton, R.: Palaeodonatolaterotaxis: Dr jarzembowski moves sideways (p. 10); — Mauffray, B.: My personal introduction and goals (p. 10; in January 1992 the author assumed the position of IORI General Manager); — Johnson, D.M.: NABS "Odonate Ecology" sessions (p. 11); — Silsby, J.: A progress report on publishing of "The book" (p. 11); — Johnson, D.M.: Selysia's Reader's Survey summary (pp. 12-13); analysis of 121 responses to the Readers' Survey, circulated with *Selysia* 20[2], the first of its kind ever made by an odonatological periodical!).
- (8749) SIOJA. [Information Bulletin of the SIO National Office in Japan], Osaka, 1992, No. 2 (Sept. 23). (Jap.). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA).
The issue (8 pp.) is devoted entirely to the preparatory work for the 12th Int. Symp. Odonatol., Osaka (Aug. 1-11, 1993). — The first meeting of the Organizing Committee was held on Oct. 18, 1992 at the Osaka Nat. Hist. Mus. The Announcements of the Symposium were published in the SIO National/Regional newsletters, in different languages. The Japanese SIO membership is invited to submit their suggestions re the topics to be discussed in the framework of the "Corbet Seminar". Because of "language

- difficulties", extra time and space will be provided to Japanese authors in Poster Sessions. An "Open Program" for the Osaka population is considered for Aug. 3. The Kintetsu Department Store has agreed to organize a dragonfly exhibit, combined with the sale of collecting equipment, literature, dragonfly T-shirts, July 30-Aug. 4. Mr M. Watanabe and Mr T. Takeuchi were added to the staff of the SIO Japan Branch (in preparation), the Constitution of which has been preliminarily drafted, and the initial activities of which are mainly concerned with fund-raising operations.
- (8750) STAUFFER, F., 1992. Libellen – Thema eines Weiterbildungskurses für Biologielehrer(innen) an der KZO. *Ber. Kantonsschule Zürcher Oberland* 1991/1992: 46-49. – (c/o Dr H. Wildermuth, Abt. Biol., Kantonsschule Zürcher Oberland, CH-8620 Wetzikon).
A detailed report on the "refreshing" course on dragonflies, organized and moderated by Dr H. Wildermuth for Swiss secondary school biology teachers. (Wetzikon, June 23-25, 1992). – For other reports cf. *OA* 8710, 8724.
- (8751) STÖCKMANN, A. & K. BORGGRÄFE, 1992. Flussjungfern und Landwirtschaft. "Revitalisierung in der Ise-Niederung". *Naturschutzforum* 5/6: 297-313. – (Aktion Fischotterschutz, D(W)-3122 Hankensbüttel).
The title of the paper is misleading. It mainly is a brief outline of the research on vegetation and limnology of the Ise R., distr. Gifhorn, Lower Saxonia, Germany, carried out in a long-term attempt at revitalisation of the river. It is said that 19 odon. spp. were evidenced; the 5 rheophilous ones of these are listed, and the occurrence of a large *Orthetrum coerulescens* population on the Beberbach stream is emphasized.
- (8752) STROO, A., 1992. Het libellenproject. – [The Dragonfly Project]. *Amoeba, Amst.* 66(3): 127-129. (Dutch). – (Croeselaan 209 bis, NL-3521 BN Utrecht).
This is an announcement and a brief description of the new Netherlands Odonate Mapping Scheme, this time a 1 km grid, scheduled to be completed by the end of 1995. The project is organized and coordinated by the SIO-affiliated association of the Netherlands Dragonfly Workers (NLO). – For queries and personal participation: Mr M. Wasscher, Minstraat 15 bis, NL-3582 CA Utrecht.
- (8753) UNRUH, M., 1992. *Anaciaeschna isosceles* (Müller, 1767) im Zeitzer Gebiet (Odonata). *Ent. Nachr. Ber.* 36(2): 140. – (Mus. Schloss Moritzburg Zeitz, Schlossstr. 6, D(O)-4900 Zeitz).
A. isosceles is recorded from an open-cast mining pond, nr Rehmsdorf/Mumsdorf. Zeitz distr., E. Germany.
- (8754) VAN DE WETERING, B., 1992. Gevolgen van herstelwerkzaamheden in het Grote Ven voor de Libellenfauna. – Folgen der Renaturierungsarbeiten im Grote Ven für die Libellenfauna. *Natuur Landschap Achterhoek* 6(1): 8-12. (Dutch, with Germ.s.). – (Alsemveld 7, NL-7006 TC Doetinchem).
The impact on the odon. spp. diversity of the artificial restoration of a bog pond (nr Doetinchem, the Netherlands) is described. Since the management works left about 20% of the original habitat intact, the latter served as a refuge for the subsequent recolonisation of the pond, from which 17 spp. are listed.
- (8755) VAN TOL, J., 1992. An annotated index to names of Odonata used in publications by M.A. Lief tinck. *Zool. Verh. Leiden* 279: 1-263. – (Natn. Mus. Nat. Hist., P.O. Box 9517, NL-2300 RA Leiden).
This is an extensively annotated and bibliographically crossreferenced catalogue of all the names in Odon. published by the late M.A.L. (1904-1985). In the appended bibliography, the precise publication dates of all Lief tinck's papers are stated. Also included are his previously unpublished figs of the larvae of *Camacinia gigantea* (Br.), *Copera m. marginipes* (Ramb.), *Hydrobasileus croceus* (Br.), *Potamarcha congener* (Ramb.), *Pseudagrion civicum* Lf., *Rhinagrion* sp., *Rhodothemis rufa* (Ramb.), *Tetrathemis platyptera* (Sel.), *Xiphagrion cyanomelas* (Sel.) and *Zyxomma obtusum* Albarða.
- (8756) VUKIĆ, M., 1992. *Vretenca u entomološkoj zbirci Jurečić*. – [Dragonflies of the Jurečić insect collection]. Studentski Rad, Univ. Za-

- greb, ii+8 pp. (Croat.). — (c/o Dr M. Franković, Dept Anim. Physiol., Univ. Zagreb, P.O. Box 933, CRO-41001 Zagreb, Croatia). An annotated list is given of 23 spp. Most of the material is of Croatian provenience, some of it comes from Bosnia & Hercegovina, Macedonia and Montenegro. *Aeshna grandis* is here recorded from Croatia for the first time. — Cf. also OA 8705.
- (8757) WILDERMUTH, H., 1992. Habitate und Habitatwahl der Grossen Moosjungfer (*Leucorrhinia pectoralis*) Charp. 1825 [sic!] (Odonata, Libellulidae). *Z. Ökol. NatSchutz* 1(1): 3-21. (With Engl.s.). — (Abt. Biol., Kantonsschule Zürcher Oberland, CH-8620 Wetzikon). With reference to the distribution, habitat requirements and habitat selection, the work was carried out in canton Zürich, Switzerland. The 10 yr study concentrated on the analysis of the structural and hydrochemical features of the aquatic habitats, on succession at newly established ponds, and on habitat preference and habitat recognition shown by adult males. L.p. colonizes mesotrophic peat waters with sparse vegetation which it recognizes by reflecting areas interrupted by vegetation structures against a dark background. Local populations of this endangered sp. may be preserved and strengthened by regeneration or construction of peat waters. For pond management a "rotation model" is suggested.
- (8758) WISSINGER, S.A., 1992. Niche overlap and the potential for competition and intraguild predation between size-structured populations. *Ecology* 73(4): 1431-1444. — (Biol. Dept, Allegheny Coll., Meadville, PA 16335, USA). The work is based on N American Anisoptera. — Many populations are heterogeneous collections of different sizes or stages of conspecifics. Existing overlap indices do not account for the size-/stage-structured nature of these populations. In this paper new overlap indices that use information about the sizes of individuals that co-occur in time and space are presented to predict the potential for interactions in size-structured guilds. An index of the opportunity for competition (IOC) calculates the frequency with which similar size classes of 2 spp. encounter each other, whereas an index of the opportunity for intraguild predation (IOP) calculates the frequency of encounters among disparate size classes for the same 2 spp. — To illustrate that these indices are more appropriate for size-structured populations than conventional indices, overlap, IOP, and IOC were calculated for all species pairs in a diverse assemblage of dragonfly larvae. The new indices revealed size-specific patterns of overlap that were not detected by the conventional index, including that (1) some spp. with high overlap values should interact mainly as competitors, others mainly as intraguild predators, and many as both competitors and predators, (2) subtle differences in phenology and/or size-specific shifts in habitat distribution can lead to the potential for asymmetric interspecific interactions, (3) some spp. with low pairwise IOP and IOC values are nonetheless vulnerable to the effects of diffuse competition or intraguild predation, (4) seasonal segregation reduces competitive overlap but at the same time increases the opportunity for intraguild predation. The indices are general in form and should be useful for analyzing distributional data for any size-structured assemblage in which the type and intensity of interaction varies as a function of relative size.
- (8759) ZHANG, J., 1992. Late Mesozoic entomofauna from Laiyang, Shandong province, China, with discussion of its palaeoecological and stratigraphical significance. *Cretaceous Res.* 13: 133-145. — (Shandong Prov. Mus., Jinan, Shandong-250012, P.R. China). The paper is mainly concerned with various aspects of the Ephemeroptera fauna, which forms part of the Jehol biota as identified throughout eastern Asia, and which can be divided into 3 assemblages, based on stratigraphic and geographic distribution. The second assemblage is characterized by *Palaeogomphus labius* (originally described as *Archaeogomphus*; cf. OA 5318).
- 1993**
- (8760) MILLER, P.L., 1993. Some dragonflies of the Budongo forest, western Uganda (Odonata). *Opusc. zool. flumin.* 102: 1-12. — (Dept Zool., Univ. Oxford, South Parks Rd, Oxford, OX1 3PS, UK).

9 zygopt. and 17 anisopt. spp. were identified, the commoner of which are divisible into 3 groups according to where they were reproductively active: (1) those restricted to densely shaded regions of streams (9 spp.); – (2) those active in sun-flecked areas of streams close to

shade (4 spp.); and – (3) those active only in regions of the streams or at small pools well exposed to the sun (6 spp.). Several of the spp. observed are primarily west African in their distribution.