

## ODONATOLOGICAL ABSTRACTS

### 1973

- (5692) KRIEG, W., [Ed.], 1973 [?], Libellen-Odonata. In: Krieg, W., [Ed.], Vorarlberger Naturschau Katalog I Zoologie, p. 120, Dornbirn. — (Vorarlberger Naturschau, Marktstrasse 33, A-6850 Dornbirn).  
This is a voluminous catalogue of the Vorarlberger Naturschau collections. The book is undated, the authorship of the odon. section is unclear, and the provenience of the material is not stated. In all, 41 odon. spp. are listed, and one could tentatively assume these are supposed to represent the provincial fauna of Vorarlberg, Austria.

### 1982

- (5693) NUTTALL, P.M., 1982. *A guide to the identification of larvae of the Zygoptera (Odonata) of Victoria*. Dandenong Valley Authority (Techn. Rep. No. 20), Dandenong, Vic., Australia. [ISBN 0-9594297-6X]. II+38 pp. — (Author & Publishers: Dandenong Valley Authority, 208 Princes Highway, P.O. Box 550, Dandenong, Vic. 3175, AU).  
This attractive volume (A4 size) brings together the basic taxonomic data on larval Zygoptera in Victoria, Australia. An excellent (mostly pictorial) key is provided for 23 spp., and comments on morphology, ecology and distribution are supplied.
- (5694) YADAV, U.R., 1982. Investigation into the fresh water zoobenthos of Nepal. *Proc. 1st natn. Sci. & Technol. Congr., Kathmandu* 230-242. — (Zool. Instr. Committee, Kirtipur

Multiple Campus, Tribhuvan Univ., Kathmandu, Nepal).

This is said to be the report on the 1979-1980 zoobenthos survey of 8 Nepalese rivers, 6 ponds and 4 lakes. The emphasis is on the lists of the taxa recorded. Most of those listed, however, are simply European spp. (incl. all Odon.), most likely picked up from pictures in some British books and identification keys. As it appears, voucher specimens were not deposited in any Nepalese collection, therefore the paper is practically worthless.

### 1983

- (5695) GARCIA, R., 1983. Mosquito management: ecological approaches. *Environ. Manag.* 7(1): 73-78. — (Div. Biol. Control, Univ. California, 1050 San Pablo Ave., Albany, Calif. 94709, USA).  
Of many insect spp. that have been observed feeding on mosquitos, only a few appear manageable for mosquito control. Experimental studies have shown that when predatory insects such as dragonflies and notonectids are released into ponds and other small mosquito breeding sources, they usually suppress the resident mosquito population. However, problems of colonizing and handling at our present state of knowledge have limited their use in management programs.
- (5696) KALBE, W., 1983. *Tierwelt am Wasser*. Neumann & Neudamm, Melsungen-Berlin-Basel-Wien. 195 pp. [ISBN 3-7888-0395-9].  
The book is directed at the general reader. A chapter, "From the life of dragonflies", with

numerous photographs, appears on pp. 108-113.

### 1984

- (5697) KUMAR, A., 1984. Hitherto unknown female of *Burmagomphus sivalikensis* Laidlaw (Odonata: Gomphidae). *Ann. Entomol.* 2(2): 49-51. — (Environ. Monit. Wing, Zool. Surv. India, 121 Santhome High Rd, Madras-600028, India).  
Described and figured from a specimen taken in copula (Dehra Dun, 20-VIII-1983).

- (5698) PRASAD, M., 1984. Perching behaviour of Odonata around a perennial pond at Calcutta, India. *Ann. Entomol.* 2(2): 53-58. — (Zool. Surv. India, 2nd MSO Bldg. Nizam Palace Complex, 234/4 A.J.C. Bose Road, Calcutta-700020, India).

The phenology and perching behaviour are described of 24 Zygopt. and Anisopt. spp., inhabiting a pond nr Paikpara, Calcutta.

### 1985

- (5699) ALAYO SOTO, R., 1985. Descripción de la náyade de *Hypolestes trinitatis* Gundlach (Odonata: Hypolestidae). *Cienc. biol. Acad. Cienc. Cuba* 14(0): 111-113. — (Inst. Zool., Acad. Cienc., La Habana, Cuba).  
The ultimate instar (Rio Turquino, Alto de la Majagua, Sierra Maestra, Santiago de Cuba; March 1975) is described and illustrated.

- (5700) EDA, S., 1985. [Dragonflies on stamps in the world. Seventh report]. *Nature & Insects* 20(2): 31. (Jap.). — (3-4-25 Sawamura, Matsumoto, Nagano, 390, JA).  
Dealing with the postal stamps issued by Paraguay (1974) and Botswana (1983).

- (5701) FERRERAS ROMERO, M. & A. GALLARDO MAYENCO, 1985 [published 1986]. Los odonatos de la cuenca del rio Guadamar (Sevilla). *Mediteránea* (Biol.), 1985(8): 17-28. — (First Author: Depto Zool., Fac. Cien., Univ. Córdoba, Avda S. Alberto Magno S/N ES-14004 Córdoba).  
The odon. fauna of rio Guadamar, in the

Doñana National Park area, Spain is listed on the basis of the 1979-1981 surveys. *Paragomphus genei* and *Oxygaster curtisii* are of particular interest. The conspect of the fauna is analyzed in terms of autecology and abundance of single spp.

- (5702) GERKEN, B., 1985. Aus dem Lehrgebiet für Tierökologie: im Studiengang Landespflege der Universität-Gesamthochschule Paderborn/Abt. Höxter. *Veröff. naturk. Ver. Egge-Weser* 1985(1): 2-7. — (Lehrgeb. Tierökol., Univ. Paderborn, An-der-Wilhelmshöhe 44, D-3470 Höxter, FRG).

The program and some achievements of the Dept of Animal Ecology of the Paderborn Univ. at Höxter are outlined, and reference is made to the Odon. on the teaching program of the institution.

- (5703) JAMES, M., 1985. Changes in the faunal composition of two thermal streams near Taupo, New Zealand. *N.Z. J. Marine Freshw. Res.* 19(4): 439-443. — (Taupo Res. Lab., Div. Marine & Freshw. Sci., D.S.I.R., P.O. Box 415, Taupo, NZ).

The macroinvertebrate distribution was examined and compared with observations made in 1966. The cooling of the streams associated with abstraction has altered the species composition. The larvae of *Xanthocnemis zealandica* and *Austrolestes colenisonis* were recorded solely in the lower reaches of the Waipahihi Stream, at 24.5°C; this being probably close to their upper temperature limit.

- (5704) LÜTT, S., 1985. Die Vegetation der kalkreichen Niedermoorwiese am Dobersdorfer See, Kreis Plön. *Kiel. Notiz. Pflanz-Kde Schleswig-Holstein* 17(4): 137-164. — (Bot. Inst., Univ. Kiel, Biologiezentrum N 41a, D-2300 Kiel-1, FRG).

*Gomphus vulgatissimus* is recorded from the Dobersdorfer Lake, Schleswig-Holstein, FRG. The sp. is very local and rare in this province.

- (5705) McMAHON, T.A. & J.T. BONNER, 1985. *Form und Leben. Konstruktionen vom Reiss-*

*brett der Natur*. Spektrum, Heidelberg. 221 pp. [ISBN 3-922508-70-7].

This is the German edition of the American work, "On size and life" (1983, Scientific Am Books, New York). A discussion on the comparison of aerodynamic principles in aircraft and dragonfly appears on pp. 169-172. It is presented in an easily legible style, but the fig. on p. 170 is a *Sympetrum* rather than an *Aeshna*, as stated in the caption.

- (5706) PISANENKO, A.D., 1985. Faunisticheskiy ocherk strekoz (Insecta, Odonata) Belorussii. — [Essay on the dragonfly fauna (Insecta, Odonata) of Belorussia]. *Vest. beloruss. gosud. Univ.* 1985(3): 37-41. (Russ.). — (Author's address not stated).

The history of the exploration of the odon. fauna of Belorussia, USSR is traced from 1902 onwards, a checklist is presented of the 53 spp. known to occur in that republic (indicating the occurrence in the 5 districts; *Ischnura pumilio* and *Sympetma annulata* were not previously recorded), and a brief discussion of the local abundance and phenology is appended. The odon. season in Belorussia lasts from May 6 to Oct. 14.

- (5707) PLACHTER, H., 1985. Faunistisch-okologische Untersuchungen auf Sandstandorten des unteren Brombachtales (Bayern) und ihre Bewertung aus der Sicht des Naturschutzes. *Ber. Akad. Naturschutz Landschaftspfl.* 9: 45-82. (With Engl. s.). — (Bayer. Landesamt f. Umweltschutz, Rosenkavalierplatz 3, D-8000 München-81, FRG).

The fauna of selected habitat types in the lower Brombach valley, Bavaria, FRG was investigated. 19 odon. spp. are listed, and odon. coenoses of various habitats are briefly characterised and discussed.

- (5708) ROY, S.P., H.S. PATHAK & V. KUMAR, 1985. Studies on the role of aquatic insects in water quality monitoring of a sewage fed pond at Bhagalpur. *Abstr. Pap. 2nd natn. Symp. Pesticide Residues & environ Pollution*, Muzapparnagar, pp. 28-28. — (P.-G. Dept Zool., Bhagalpur Univ., Bhagalpur-812007, India).

The community structure of Gomphidae and Coenagrionidae has been used in water quality monitoring (Bihar, India). No details are given in the published abstract.

- (5709) RUIZ, X., 1985. An analysis of the diet of Cattle Egrets in the Ebro Delta, Spain. *Ardea* 73: 49-60. (With Dutch s.). — (Cat. Zool. Vertebr., Fac. Biol., Univ. Barcelona, Avda Diagonal 645, ES-08071 Barcelona).

The gastric contents of the Cattle Egret (*Bubulcus ibis*) from a ricefield population in NE Spain were studied. No reference is made to the Odon. in the text, but from the tabs and graphs it is apparent that (larval) dragonflies play a role in the bird's diet during the winter months (Oct.-March, with a peak in Jan.).

## 1986

- (5710) AAGAARD, K., 1986. Biogeography and protection of northern insect species. *Proc. 3rd Europ. Congr., Amsterdam* 3: 401-404. — (Appl. Ecol. Res. Progr., Mus., Univ. Trondheim, Erling Skakkes gt.47, N-7000 Trondheim).

The paper is mainly concerned with Lepidoptera, containing but brief references to the Odon. As far as the Norwegian odon. fauna is concerned (42 spp.), it includes 1 arctic sp., 1 boreal sp., and 1-2 boreo-nemoral spp. — It is argued that the insect conservation strategy should be developed along 2 lines, i.e., "macroscopic" (biogeography) and the "microscopic" considerations (based on the concept of the biotope).

- (5711) ANDRIKOVICS, S. & T. TAKATS, 1986. Adatok a Fertő magyar részének szitakötő faunájához. — Data to the Odonata fauna of the Hungarian part of Lake Fertő. *Folia ent. hung.* 47(1/2): 207-210. (Hung., with Engl. title). — (First Author: Dept. Syst. Zool. & Ecol., Eötvös Loránd Univ., Puskin-utca 3, HU-1088 Budapest). Annotated list of 34 spp., with a brief analysis of the biogeographic composition of the local fauna.

- (5712) ASAHINA, S., 1986. Mr. D.E. Kimmins, an

- obituary. *Nature & Insects* 21(13): 25-26. (Jap.). — (Takadanobaba 4-4-24, Shinjuku-ku, Tokyo, 160, JA).  
Extensive obituary, with a portrait. (For exhaustive biography and complete bibliography cf. *OA* 5644).
- (5713) BEUKEBOOM, L.W., 1986. The dragonfly fauna of the peat moor Fochteloerveen, the Netherlands. *Proc. 3rd Europ. Congr. Ent., Amsterdam* 3: 405-408. — (Helperwestsingel 31-22, NL-9721 BB Groningen).  
This is an abridged Engl. version of the work listed in *OA* 5037. Although the moor is deteriorating, it still supports a significant number of oligotrophic spp. Same conservation measures are suggested.
- (5714) BEUTLER, H., 1986. Was ist *Libellula quadrimaculata* ab. *praenubila* Newman, 1833? *Ent. Nachr. Ber.* 30(3): 97-100. (With Engl. & Russ. s's). — (Frankfurter Str. 23/63-13, DDR-1230 Beeskow, GDR).  
The phenotypic nature of *praenubila* is emphasized, and *Libellula relictata* Belyshev, 1973 is synonymized with *L. quadrimaculata*.
- (5715) BORISOV, S.N. & A.Yu. HARITONOV, 1986. Fauna strekoz (Insecta, Odonata) Tadzhikistana. — [Dragonfly fauna (Insecta, Odonata) of Tadzhikistan]. *Izv. Akad. Nauk. tadzhik. SSR (Biol.)* 1986(1) [102]: 46-49. (Russ., with Tadzhik s.). — (Second Author: Inst. Biol., Siberian Sect. USSR Acad Sci., Ul. Frunse 11, USSR-630091 Novosibirsk).  
A tabular review is given of the odon. fauna (59 spp.) of Tadzhikistan, USSR, indicating their occurrence in the 5 biogeographic districts of the republic (incl. the Pamirs).
- (5716) BROCKHAUS, T., 1986. Übersicht über die in der Dübener Heide nachgewiesenen Libellen (Odonata). *Ent. Nachr. Ber.* 30(3): 107-113. (With Engl. & Russ. s's). — (Leipziger Str. 147, D-9081 Karl-Marx-Stadt, GDR).  
The odon. fauna (45 spp.) of the Dübener Heide, situated between the Rivers Elbe and Mulde, GDR, is described. Valuable are the inventories of various types of habitats and their analyses. The "usual" section on habitat changes and conservation management is appended.
- (5717) BULTS, G., 1986. De libellen van Winterswijk. — [Dragonflies of the Winterswijk area]. *Stridula* 10(1): 4-18. (Dutch). — (Koningsweg 4, NL-7102 DV Winterswijk).  
The occurrence of the 35 spp. hitherto recorded within the district of Winterswijk eastern Netherlands is mapped.
- (5718) DONATH, H., 1986. Tagung für Libellenkunde. *Ent. Nachr. Ber.* 30(3): 114. — (Jahnstr. 6, DDR-7960 Luckau, GDR).  
Brief report on the East German meeting of dragonfly workers (Leipzig, Feb. 8, 1986), with the directory of district coordinators of odon. mapping scheme. It was decided to set up an East German Odonatological Association ("Arbeitskreis"), for the administration. The author is one of the (2) persons made responsible for its administration.
- (5719) DUMONT, H.J., 1986. The Nile River system. In: Davies, B.R. & K.F. Walkers, [Eds], The ecology of river systems, pp. 61-74, Junk, Dordrecht. — (Inst. Zool., Univ. Gent, Ledeganckstr. 35, B-9000 Gent).  
The Nile odon. are purely African, but 2 endemics (probably found also in the source lakes), viz. *Paragomphus pumilio* and *Pseudagrion niloticum*, seem to represent remnants of an ancient Nilotic fauna. It is remarkable that a colony of the Oriental *Hemicordulia asiatica* exists in Lake Victoria.
- (5720) EDA, S., 1986. [Dragonflies on stamps in the world. Eighth report]. *Nature & Insects* 21(2): 30. (Jap.). — (3-4-25 Sawamura, Matsumoto, Nagano, 390, JA).  
Dealing with the postal stamps issued by Kiribati (1984), the United Kingdom (1985) and Singapore (1985).
- (5721) FRASERIA. Newsletter of the S.I.O. National Office in India, Pondicherry, No. 11 (Dec. 1, 1986). — (c/o Dr B.K. Tyagi, Vector Control Res. Cent., I.C.M.R., Medical Complex, Indira Nagar, Pondicherry-605006,

India).

The issue contains 4 informative articles, all by B.K. Tyagi, reporting on the Second Indian Symposium of Odonatology, the establishment of the Hokkaido Odonatological Society (Japan), the IUCN inventarisation of the odonatologically important wetlands in Asia, and on the S.I.O. Antiquarian Department and its services in India. — The Third Indian Symposium of Odonatology will be convened late in December 1989, or early in January 1990, at the Chikkaiah Naicker College, Erode-63004, Tamil Nadu. Prof. G. Varadaraj (Dept Zool.) is the Convener. — The S.I.O. 1987 membership fees, for those registered through the Indian National Office, were fixed at Rs1C 180.-.

- (5722) GARCIA ROJAS, A.M., R. MORILLO ORTIZ & M. FERRERAS ROMERO, 1986. Insectos acuáticos de las lagunas permanentes del sur de Córdoba: datos preliminares. *Oxyura* 3(1): 61-67. (With Engl. s.). — (Third Author: Depto Zool., Fac. Cien., Univ. Córdoba, Avda S. Alberto Magno S/N, ES-14004 Córdoba).  
The odon. fauna is listed of the Laguna de Zoñar (5 spp.), Laguna Amarga (5 spp.) and Laguna de El Rincon (2 spp.), all situated S. of Córdoba, Spain.

- (5723) GEREND, R., 1986. Überblick über die Libellenfauna Luxemburgs. *Paiperlek* 8(3): 42-44. — (35 rue de Hellange, L. 3487 Dudelange).  
Checklist of the 38 spp. hitherto recorded from Luxembourg, with statements on the status of each sp.

- (5724) GEREND, R., 1986. Die Libellen (Odonata) in der Umgebung von Düdelingen: Beispiel einer Lokalfauna. *Paiperlek* 8(3): 45-47. (With Engl. s.). — (35 rue de Hellange, L-3487 Dudelange).  
The odon. fauna (27 spp.) of the Düdelingen area, Luxembourg is briefly discussed.

- (5725) GEREND, R., 1986. Bemerkenswerte odonatologische Beobachtungen aus dem Jahr 1986. *Paiperlek* 8(3): 48. — (35 rue de Hellange, L-3487 Dudelange).

Brief notes on 10 spp. from Luxembourg. Of particular interest is *Crocothemis erythraea*, recorded from 2 localities.

- (5726) GERKEN, B. & W. ZETTELMEYER, 1986. Populationsökologische Studien als Beitrag zum Artenschutz, mit einem Nachweis von *Lestes dryas* Kirby im Kreis Höxter. *Veröff. naturk. Ver. Egge-Weser* 3(4): 201-209. — (Lehrgeb. Tierökol., Univ. Paderborn, Am-der-Wilhelmshöhe 44, D-3470 Höxter, FRG).  
The late summer odon. fauna of the Laupohl nr Bosseborn, district Höxter, FRG (8 spp.) is described and briefly discussed, and notes on the local population structure of *Lestes dryas* are presented.

- (5727) GERSTNER, J., 1986. Libellen. In: G. Kaule, [Ed.], Arten- und Biotopschutz, pp. 227-233. Ulmer, Stuttgart [ISBN 3-8001-2519-6]. — (Landesamt f. Umweltschutz Saarland, D-6600 Saarbrücken, FRG).  
A systematic list is given of the Central European types of odon. habitats and their characteristic odon. fauna, a tabular review is presented of the Saarland aquatic habitats, indicating the number of odon. spp. they harbour, and 7 tentative measures are suggested for the conservation of the fauna, all based on the preservation of the habitats.

- (5728) HAFERNIK, J.E. & R.W. GARRISON, 1986. Mating success and survival rate in a population of damselflies: results at variance with theory? *Am. Nat.* 128(3): 353-365. — (First Author: Dept Biol., San Francisco St. Univ., San Francisco, CA 94132, USA).  
Sexual-selection theory makes 2 predictions. (1) Males usually vary more in mating success than do females (the Bateman principle), and this difference should be more pronounced in sexually dimorphic, polygamous species than in non-dimorphic, monogamous ones. (2) Brightly colored males trade an increased risk of predation for greater mating success and experience higher mortality than cryptically colored females. We tested these predictions by comparing lifetime mating success and mortality rates between males and females of *Ischnura gemina*, a sexually dimorphic, polyga-

mous damselfly. Contrary to prediction, we found no significant differences between the sexes in variance in mating success, evenness of mating success, mean number of matings per lifetime, or mean life span. Comparison of the potential for sexual selection in *I. gemina* with that in other species for which lifetime mating success has been measured shows values for *I. gemina* most similar to those of the monogamous, non-dimorphic kittiwake, suggesting that sexual dimorphism in *I. gemina* is not the result of sexual selection. It is possible, however, that sexual selection was important in past evolutionary change in *I. gemina* but is not currently important, perhaps because of a lack of genetic variance in genes controlling color pattern and mating behavior. A number of characteristics of its mating system could be responsible for the apparently low potential for sexual selection in the *I. gemina* population we studied. These include habitat structure, non-territoriality of males, and contact guarding of females by males. The unprofitable-prey hypothesis of Baker & Parker (Phil. Trans. R. Soc. Lond. (B) 287: 63-130, 1979) provides an alternative explanation for the evolution of sexual dimorphism and predicts a higher mortality for cryptically colored females than for brightly colored males. Current data do not support this hypothesis as an explanation for the evolution of sexual dimorphism in *I. gemina*.

- (5729) HALSTEAD, K.H., 1986. Hemianax ephipiger (Burmeister) (Odonata) in Hampshire. *Proc. Trans. Br. ent. nat. Hist. Soc.* 19(1/4): 86. — (East Boldre, Brockenhurst, New Forest, Hampshire, UK).

On June 18, 1984 a male was caught on the windscreen wiper blade of a car at Dibden, New Forest. This is the third record of this "notorious" migrant in Britain.

- (5730) HARITONOV, A.Yu., 1986. Otryad Odonata — Strekozy. — [Order Odonata — dragonflies]. In: P.A. Ler, [Ed.], *Opredelitel' nasekomykh Dal'nego Vostoka SSSR*, Vol. 1, pp. 142-162, Nauka, Leningrad. (Russ.). — (Inst. Biol., Siberian Sect. USSR Acad. Sci., Ul. Frunse 11, USSR-630091 Novosibirsk).

A useful key to the adult stage of the 85 spp. known from the Soviet Far East.

- (5731) HARVEY, I.F. & P.S. CORBET, 1986. Territorial interactions between larvae of the dragonfly *Pyrrosoma nymphula*: outcome of encounters. *Anim. Behav.* 34: 1550-1561. — (Dept Biol. Sci., Univ. Dundee, Dundee, DD1 4 HN, UK).

The behaviour of final-instar larvae during laboratory-staged territorial interactions is described. Occupants, as distinct from intruders, won 72% of encounters. The behaviour of occupants during contests won by intruders was more like that of intruders during all contests than that of occupants during contests won by occupants. Contest outcome was little affected by either size differences between the contestants or the use of the Labial strike. Contest duration was not correlated with outcome, with size differences between contestants or with the use of the Labial strike. Winners and losers differed significantly in the number of acts used during encounters won by occupants (losers using more acts), but not during encounters won by intruders. Winners and losers also differed in their use of the behavioural acts Slow wave, Lateral display and Lamellae swipe during contests won by occupants, but not during contests won by intruders. The results are discussed in terms of the asymmetric war of attrition.

- (5732) HEADS, P.A., 1986. The costs of reduced feeding due to predator avoidance: potential effects on growth and fitness in *Ischnura elegans* larvae (Odonata: Zygoptera). *Ecol. Ent.* 11(4): 369-377. — (Dept Biol., Univ. York, Heslington, York YO1 5DD, UK). The behaviour, in the laboratory, is described of a forager (*I. elegans* larvae) simultaneously confronted with the conflicting needs to feed (on *Daphnia magna*) and to avoid predators (*Notonecta glauca*). — Patch choice by *Ischnura* larvae was significantly modified by the presence of predators. Larvae moved to feed in patches of high prey density when predators were absent but preferred dense cover, even though virtually no prey were available, when predators were present. This behaviour was

not altered by hunger, up to 12 days without food. In other words, *Ischnura* larvae were risk averse in their foraging behaviour. — In experiments with abundant prey available, the feeding rates of *Ischnura* larvae confined to a single patch were also significantly reduced by the presence of hydrodynamically and chemically detectable predators. Predators detectable only by vision had little effect. — Calculations made from published data show that reduced larval feeding rates can lead to slower growth and development and prolonged instar durations in *Ischnura elegans* larvae. This may have important consequences for larval survival and adult reproductive fitness.

- (5733) HIGLER, L. W. G., 1986. Research on aquatic insects in the Netherlands: a historical review. *Proc. 3rd Int. Congr. Ent., Amsterdam* 3: 95-98. — (Res. Inst. Nature Manag., P.O. Box 46, NL-3956 Leersum).

It is stated that, since 1854, 486 publications have appeared with reference to the Netherlands odon. fauna. (For Trich., Plec., Ephem., aquatic Col. and aquatic Heter. the resp. figures are 441, 145, 408, 504, and 500). The publication quantity and subjects covered are interpreted for the 20th Century.

- (5734) HOFFMANN, J., W. PIPER & K. SOEF-FING, 1986. *Libellen: Gefährdungsursachen und Schutzmassnahmen*. DBV-Jugend, Melsendorf. X + 40 pp. [ISBN 3-925-815-06-6]. — Price: DM 4.-. — (First Author: Schopstr. 6, D-2000 Hamburg-20, FRG; — Second Author: Unnastr. 6, D-2000 Hamburg-20, FRG; — Publishers: BDV-Jugend, Bundessekretariat, Gut Sunder, D-3108 Melssendorf, FRG).

The general biology of dragonflies is outlined, various types of odon. habitats are characterized, vectors threatening dragonflies are systematically analysed, and a list of the German spp., showing their local status class is presented.

- (5735) HUDSON, J. & M. BERRILL, 1986. Tolerance of low pH by the eggs of Odonata (dragonflies and damselflies). *Hydrobiologia* 140 (1): 21-25. — (Watershed Ecosystems Program,

Trent Univ., Peterborough, Ont., K9J 7B8, CA).

The development times and hatching success of the eggs of *Ischnura verticalis*, *Lestes congener*, *Libellula lydia* and *Sympetrum vicinum* were unaffected by exposure to soft water at pH 5.1 and 3.5. Tolerance of low pH may in part account for the widespread distribution of Odon. in potentially acid-stressed regions.

- (5736) IUCN Conservation Monitoring Centre, 1986. *1986 IUCN Red List of threatened animals*. Gland, Switzerland. X+105 pp. [ISBN 2-88032-605-2].

The status is listed of 114 odon. spp., incl. 4 Australian, hitherto "undescribed and unnamed" taxa (pp. 67-70). — (*Abstracter's Note*: *Austrolestes* "m" was described in 1979 as *A. minjerriba* (cf. *OA* 2744) and *Austrocorodulia* "t" in 1978 as *A. territoria* (cf. *OA* 2239). This kind of shortcomings are unlikely to contribute to the credibility of the IUCN lists. It would also seem appropriate to refrain from listing any taxa that were not properly described and named).

- (5737) *JOURNAL OF THE BRITISH DRAGONFLY SOCIETY*, Vol. 2, No. 2 (Nov., 1986). — (c/o R.H. Dunn, 4 Peakland View, Darley Dale, Matlock, Derbyshire, DE4 2GF, UK).

*Nelson, B.*, The Odonata of the north of Ireland (21-23); — *Coker, S.*: West Wales riparian Odonata (23-28); — *Prendergast, E.D.V.*, Northernmost record of *Coenagrion puella* (L.): an introduction (28-29); — *Winsland, D.*, Instances of dragonflies consuming vegetable matter (29-30); — *Brinn, D. & W.N.A. Nelson*, An early emergence of Odonata from an artificially warmed water source in south Wales (31-36); — *Jenkins, D.K.*, A population study of *Coenagrion mercuriale* (Charpentier) at a New Forest site. Part 2. Lower Crockford Stream and its Peaked Hill tributary, 1985 (37-41); — *Blood, E.J.*, Abdominal deformities in *Pyrrhosoma nymphula* (Sulzer) on the Gibraltar Point National Nature Reserve (41-43); — *Cham, S.A. & C. Banks*, Unusual feeding behaviour by *Aeshna grandis* (L.) (43-

-44); — Book reviews, by G.S. Vicks and S.J. Brooks (44-48).

- (5738) KREKELS, R.F.M., F. VAN DER VELDE & P.J.M. VERBEEK, 1986. Spatial distribution of larval Odonata in a nymphaeid-dominated pond in the Netherlands. *Proc. 3rd Europ. Congr. Ent., Amsterdam 1*: 99-102. — (Lab. Aquat. Ecol., Univ. Nijmegen, Toernooiveld, NL-6525 ED Nijmegen).

Quantitative differences in distribution of adult and larval Odon. over various vegetation zones are shown. Generally, the densities are the highest in the Fontinalis, Nuphar-Fontinalis and in the helophyte zones. The difference in spatial distribution of the larvae of *Lestes viridis* and *Erythromma najas* is due to their migration. It is stated that the cattle grazing on the banks of a pond has a negative impact on the local odon. fauna.

- (5739) LEE, R.C.P. & P. McGINN, 1986. Male territoriality and mating success in *Nannothemis bella* (Uhler) (Odonata: Libellulidae). *Can. J. Zool.* 64(9): 1820-1826. (With Fr. s.). — (First Author: Beach Court, Okehampton, Devon EX20 1LE, UK).

Observations indicated that female only lay eggs on males' territories after copulating with the territory holder. Results of daily censuses of marked individuals on a study area suggested that a distinct subpopulation within the male population within the male population never retained a territory for more than 1 day on the study area. Such males tend to die or emigrate sooner than do males that hold a territory on the study area for more than 1 day at some time in their lives. Further observations of territorial behaviour showed that males holding territories for less than 1 day achieved copulations at significantly lower overall rates while on those territories than did males that retained territories for more than 1 day. It is inferred that all males attempt to hold territories for as long as possible, but under conditions of high population density a male must have a relatively high intrinsic "territory-holding ability" in order to hold a territory for more than 1 day. Census data indicated that males emerging late in the season were less

likely to retain a territory for more than 1 day than males emerging earlier.

- (5740) LEGGOTT, M. & G. PRITCHARD, 1986. Thermal preference and activity thresholds in populations of *Argia vivida* (Odonata: Coenagrionidae) from habitats with different thermal regimes. *Hydrobiologia* 140: 85-92. — (Second Author: Dept Biol., Univ. Calgary, Calgary, Alberta, T2N 1N4, CA).

The hypothesis was tested that isolated populations of *A. vivida* living in habitats with different thermal regimes would show similar larval temperature preferences, similar distributions in a temperature gradient, similar larval upper temperature activity thresholds, and similar adult minimum temperature flight thresholds. The hypothesis was supported in all cases, except for distribution within the gradient, where there were significantly fewer observations below 22°C in a population from a habitat with a fluctuating diel and annual temperature regime than in a population from a more thermally stable habitat. Larval modal temperature preference was 28°C; escape temperature (EST) was 35.4-36.4°C, critical thermal maximum (CTM) was 39.1-41.0°C, and upper lethal temperature (ULT) was 44.4-46.0°C. While technical difficulties affected the estimates of flight thresholds, there was no difference between the field estimates from sites. Minimum body temperature for flight appears to be about 25°C, apparently higher than for several other zygopterans, while larval activity thresholds and 96 hr LD50 of 36.8°C are similar to those recorded for other odonates.

- (5741) LEUVEN, R.S.E.W., G. VAN DER VELDE, J.A.M. VAN HEMELRIJK & R.L.E. EEKEN, 1986. Impact of acidification on the distribution of aquatic insects in lentic soft waters. *Proc. 3rd Europ. Congr. Ent., Amsterdam 1*: 103-106. — (Lab. Aquat. Ecol., Univ. Nijmegen, Toernooiveld, NL-6525 ED Nijmegen).

22 odon. spp. (31.9% of the Dutch fauna) occur in "soft" waters (pH 4-7 approx.). The habitats are classified into 4 pH classes. As far as the Odon. are concerned, there are only



slight differences in the number of spp. between different classes; the moderately acidified environment ( $4 < \text{pH} < 5$ ) seems, from a graph, insignificantly richer than the other classes.

- (5742) **LIBELLULA**. Mitteilungsblatt der Gesellschaft deutschsprachiger Odonatologen (GdO), Vol. 5, Nos 3/4 (Dec., 1986). — (c/o Prof. Dr Rudolph, Biol. Didaktik, Univ. Münster, Fliegerstr. 21, D-4400 Münster, FRG).  
*Devai, G. & M. Miskolczi*: Vorschlag für ein neues Verfahren zur Umweltbeurteilung auf Grund von Rasterkarten zur Verbreitung der Libellen (pp. 1-17); — [*Anonymous*], Information zur Gesellschaft deutschsprachiger Odonatologen (18); — *Steinrücken, H.*: Tendenzen der äusseren Gestaltung bei Libellen (19-39); — *Frank, H.*: Farbänderung bei *Aeshna cyanea* Müll. durch Verletzung (40); — *Jödicke, R.*: Libellenbeobachtungen in Mooren Norwegens (41-42); — *Schmidt, Eb.*: Fotonotizen zur Biologie heimischer Odonaten. IV. Das Eingraben der Larve vom Blaupfeil (*Orthetrum cancellatum*) (43-44); — Fotonotizen zur Biologie heimischer Odonaten. V. Flugstudien an *Sympetrum striolatum* am Brutgewässer (45-46); — *Waringer, J.*: Beitrag zur Kenntnis der Libellenfauna von Wien und Niederösterreich (47-64); — *Löhr, P.-W.*: Die Libellenfauna eines Gartenteiches in Mücke/Vogelsberg (Hessen, BRD) (65-84); — *Krüner, U.*: Die Späte Adonislibelle (*Ceragrion tenellum* (de Villers) im südwestlichen niederrheinischen Tiefland (Nordrhein-Westfalen) (85-94); — *Handke, K., P. Kalmund & A. Didion*: Die Libellen des Saarbrücker Raumes (95-112); — *Schmidt, Eb.*: Die Odonatenfauna als Indikator für Angelschaden in einem einmaligen Naturschutzgebiet, dem Kratersee Windsborn des Mosenbergs/Vulkaneifel (BRD) (113-125); — *Altmüller, R.*: Zum Gedenken an Henning Schumann (126-128); — *Jödicke, R.*: *Aeshna cyanea*, Metronom und Rechenzentrum — Erinnerung an Heinrich Kaiser (26.5.1941-27.7.1986) (129-135).
- (5743) **MAIBACH, A.**, 1986. Révision systématique du genre *Calopteryx* Leach (Odonata, Zygoptera) pour l'Europe occidentale. II. Analyses morphologiques et synthèse. *Mitt. schweiz. ent. Ges.* 59: 389-406. (With Engl. s.). — (Mus. Zool., Palais de Rumine, 5 Place de la Riponne, C.P. 448, CH-1000 Lausanne).  
 The study is based on taxa as defined in *OA* 5404. It is mainly concerned with numerical analysis of colour distribution in male wings and with morphometrical measurements. The taxonomic conclusions are identic to those outlined in the first paper of this series.
- (5744) **McDOWELL, D.M. & R.J. NAIMAN**, 1986. Structure and function of a benthic invertebrate stream community as influenced by beaver (*Castor canadensis*). *Oecologia* 68: 481-489. — (First Author: R.R. 2, Box 86, Johnson, Vt 05656, USA).  
 Beaver affect the benthic invertebrate community of small woodland streams in Quebec through habitat modifications. The activities influence community structure through the replacement of lotic taxa by lentic forms, and community functions by increasing the absolute importance of collectors and predators, while decreasing the relative importance of shredders and scrapers in impounded sites. — The situation in the Beaver Creek on the N shore of the Gulf of St Lawrence was studied and the destiny of a *Cordulegaster* sp. is recorded.
- (5745) **MOL, A.W.M.**, 1986. Decrease of insects in running waters in the Netherlands, caused by human impact. *Proc. 3rd Europ. Congr. Ent., Amsterdam* 1: 111-114. — (Landstreckenlaan 21, NL-5235 LH 's-Hertogenbosch).  
 The majority (50 spp.) of the Dutch Odon. is stagnicolous; only 2 spp. were not sighted since 1970. Out of the 12 rheophile spp., 4 spp. were not reported since 1940; *Gomphus flavipes* became extinct in the first decade of the 20th Century. For obvious reasons the 7 incidental immigrants are not considered.
- (5746) **MONTES, C., M. BERNUES, P. MARTINO & L. RAMIREZ-DIAZ**, 1986. The influence of environmental factors on the structure and dynamics of some aquatic insect communities

(5743) **MAIBACH, A.**, 1986. Révision systématique

in a temporary saltmarsh in the Doñana National Park (SW Spain). *Proc. 3rd Europ. Congr. Ent., Amsterdam* 1: 115-119. — (Dept. Ecol., Autonom. Univ. Madrid, Madrid, Spain).

The development of the fauna during annual seasons is described, and reference is made to *Lestes macrostigma* and *L. barbarus* (hatching from eggs in the mixo-oligohaline environment prevailing in the spring) and to *Ischnura graellsii* and *Crocotthemis erythraea* (reaching the highest densities during the summer period of water level decrease, causing an increase of chlorinity).

- (5747) NAHIF, A.A., 1986. Bibliographie der zoologischen Literatur über Afghanistan. *Bonn. zool. Beitr.* 37(4): 311-339. — (Inst. Angew. Zool., Univ. Bonn, An der Immenburg 1, D-5300 Bonn-1, FRG).

Contains some, but not all titles relative to the Odon. of Afghanistan.

- (5748) NANTEL, F., 1986. Biologie et comportement territorial de trois espèces de Calopteryx (Odonates: Calopterygides), Comté de Bellechase, Québec. *Faberies* 12(2): 25-45. — (1550 rue Mgr-Taché, Sainte-Foy, Qué., G1W 3G7, CA).

The habitats of *C. aquabilis*, *C. amata* and *C. maculata* are briefly defined, their behavioural features are species-wise described, and their ranges in Quebec are mapped.

- (5749) NEL, A. & M. PAPAZIAN, 1986. Sur une nouvelle espèce d'Odonate fossile du Stampien de Cereste (Lubéron) (Odonata, Lestidae). *Nouv. Revue Ent. (N.S.)* 3(2): 227-233. (With Engl. s.). — (First Author: 8 ave. Gassion, F-13600 La Ciotat).

*Stenolestes couleti* sp. n. is described from the Middle Stampian of Cereste, France. *Stenolestes* Scudder, 1895 and *Megazenum* Meneval, 1936 are synonymized, and the genus is placed in the *Petrolestinae* Cockerell. A brief comparison in the venation of *Stenolestes* and *Thaumatoneura* is also made.

- (5750) NEWSLETTER [OF THE] BRITISH DRAGONFLY SOCIETY, No. 10 (Winter,

1986). ( c/o R.H. Dunn, 4 Peakland View, Darley Dale, Matlock, Derbyshire, DE4 2GF, UK).

Among the 14 items the report on the constitution of the Dragonfly Conservation Group (Convenor: Prof. N.N. Moore, Members: Prof. P.S. Corbet, Mr. R.G.K. Kemp, Dr P.L. Miller) and the appointment of the Publicity Officer (Mrs J. Silsby) are of particular importance. The traditional 'accounts of the field trips and outings in Britain and Ireland contain a wealth of faunistic information (incl. *Soma-tochlora arctica* in Kerry, July 1-6, 1986). The long awaited book on "*The dragonflies of Europe*", by Dr R.R. Askew will definitely appear in 1987. [Immediately upon its publication, the work will be available from the SIO Central Office in Bilthoven, Holland; orders can be sent in now].

- (5751) NOVELO-GUTIÉRREZ, R. & E. GONZÁLEZ SORIANO, 1986. Descripción de las náyades de *Palaemnema desiderata* Selys y *Palaemnema paulitoyaca* Calvert (Odonata: Platystictidae). *Folia ent. mex.* 67: 13-24. (With Engl. s.). — (First Author: Insectario, Div. Cien. Biol., Univ. Autónoma Metropolitana-Xochimilco, Apdo Postal 23-181, MX-04960 Mexico, D.F.).

Ultimate instars of the 2 spp. are described, figured, and the structural features separating them are emphasized. Notes on the habitat and on the emergence behaviour are also provided.

- (5752) OLBERG, R.M., 1986. Identified target-selective visual interneurons descending from the dragonfly brain. *J. comp. Physiol. (A)* 159(6): 827-840. — (Dept Biol. Sci., Union Coll., Schenectady, New York 12308, USA).

Eight large interneurons descending in *Aeshna umbrosa* and *Anax junius* ventral nerve cord from the brain to the thoracic ganglia were identified anatomically with intracellular dye injection. All were strictly visual and responded only to movements of small patterns, such as black squares, "targets", moving on a white background. The target interneurons all projected from the protocerebrum at least as far as the metathoracic ganglion. Within the protocerebrum they arbo-

rized in the posterodorsal neuropil region, near the base of the circumesophageal connectives. The receptive fields of 6 of the cells were large including most of the forward hemisphere of vision. For 5 of these, spiking responses were often restricted to a much smaller region within the receptive field, with stimulation of other areas yielding only subthreshold responses. The pattern of selectivity for target size varied, with some neurons responding only to small targets, some showing consistent responses over a wide range of target sizes, and one preferring larger targets. Figures of the interneurons were directionally selective. Movement in the antipreferred direction elicited hyperpolarizing responses in 2 of them. Movements of large patterns, such as a checkerboard pattern covering the forward hemisphere, elicited opposite directional responses, i.e. hyperpolarizations in the preferred target direction and subthreshold depolarizations in the antipreferred direction. A large pattern moving in any direction inhibited the response to target movements. These neurons mediate, in part, the visual control of flight orientation. It is assumed that they convey turning signals to the wing motor in response to objects moving relative to the animal. (Author).

- (5753) PETERS, G., 1986. Morphologische Differenzen zwischen nahverwandten Arten am Beispiel von *Anax parthenope* und *A. julius*. (Odonata, Aeshnidae). *Dt. ent. Z.* (N.F.) 33(1/2): 11-19. (With Engl. s.). — (Mus. Naturk., Humboldt Univ., Invalidenstr. 43, DDR-1040 Berlin, GDR).

Several wing and venation parameters of *Anax parthenope* and *A. julius* were (morphometrically analyzed, and the opinion is advanced that *A. julius* is a "sister sp." of *A. parthenope* rather than a "surviving ancestral sp."

- (5754) PHILOGÈNE, B.J.R., J.T. ARNASON, C.W. BERG, F. DUVAL & MORAND, 1986. Efficacy of the plant phototoxin  $\alpha$ -terthienyl against *Aedes intrudens* and effects on nontarget organisms. *J. chem. Ecol.* 12(4): 893-898. — (First Author: Dept Biol., Univ. Ottawa, Ottawa, Ont., K1N 6N5, CA). This botanical phototoxin was spray-applied

to natural and artificial pools, at concentrations varying from 0.01 to 1 kg/ha, under field and laboratory conditions. All fieldtreated nontarget invertebrates survived the treatment better than the mosquito larvae. Among the toxicity data presented for various organisms are also those for the larvae of *Lestes* sp.

- (5755) PRITYKINA, L.N., 1986. Strekozy Libellulida (Odonata). In: L.P. Tatarinov et al., Eds, *Insects in the Early Cretaceous ecosystems of the West Mongolia*, pp. 165-166, pl. 19 excl., Nauka, Moscow. (Russ.). — (Inst. Palaeontology, USSR Acad. Sci., Profsoyuznaya 123, USSR-117868 Moscow). The odon. chapter is mainly based on Dr Pritykina's paper in *Odonatologica* 15(1986): 169-184. The treatment in the present book is significantly complemented by a large chapter (pp. 7-44) on facial geology and stratigraphy (with numerous maps and diagrams), contributed by S.M. Sinica.
- (5756) REHFELDT, G., 1986. Libellen als Indikatoren des Zustandes von Fließgewässern des nordwestdeutschen Tieflandes. *Arch. Hydrobiol.* 108(1): 77-95. (With Engl. s.). — (Zool. Inst., Univ. Braunschweig, Pockelsstr. 10a, D-3300 Braunschweig, FRG). The adult odon. fauna of 35 streams (118 sampling sites) in Lower Saxony, FRG was investigated. The species distribution is influenced by sewage effluent, channelization and by the structure of the adjacent land. The applicability of odon. in water classification is discussed, and an evaluation system, combined with aquatic macrophytes, is proposed.
- (5757) RETTIG, K., 1986. Die Libellen Ostfrieslands. *Beitr. Naturk. Niedersachs.* 39: 242-243. — (Danziger Str. 11, D-2970 Emden, FRG). Annotated list of 38 spp. known from the Ostfriesland prov., FRG, showing their approximate distribution and the dates of the first and last seasonal records.
- (5758) SAVARD, M., 1986. Commentaires sur la nomenclature instable du genre *Calopteryx*. *Fabries* 12(2): 46. — (184 ave Eymard Nord,

Alma Que, G8B 5H9, CA).

The history of the Agrion-Calopteryx-Coenagrion nomenclatural confusion is briefly outlined.

- (5759) SILVERBERG, H., 1986. Additions to the Finnish insect fauna during the years 1981-1985. *Notul. ent.* 66(3): 131-152. — (Zool. Mus., Univ. Helsinki, P. Rautatiekatu 13, SF-00100 Helsinki).

*Sympetrum nigrescens* is deleted (cf. OA 3144 from, and *Ischnura pumilio* (cf. OA 5390) is added to the Finnish list. So far 52 odon. spp. are known from Finland.

- (5760) SIOJA. [Information Bulletin of the SIO National Office in Japan], Osaka, 1986, No. 1 (Dec. 10). (Jap.). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA). Due to the moving of the Editor from his temporary business address in Tokyo to his home residence in Osaka, no other issues could be published in 1986. The issue contains the usual SIO "business" communications, incl. a note on the Society's publication activities and a brief announcement of the Ninth Int. Symp. Odonatol.

- (5761) TOMBO. *ACTA ODONATOLOGICA*. Published by the Society of Odonatology, Tokyo. Vol. 29, Nos 3/4 (Dec. 30, 1986). — (c/o Dr S. Asahina, Takadanobaba 4-4-24, Shinjuku-ku, Tokyo, 160, JA).

*Eda. S.* *Somatochlora uchidai* ♂ in territory setting (p. 59, cover phot.); — A record of Odonata from Pyongyang, Korea, with description of a new subspecies of *Epophthalmia elegans* (60-65; E.e. yagasakii ssp. n., name in the Jap. text only); — *Tabaru, N.*: *Epiophlebia superstes* eggs laid on the leaf-surface of Fuki-plant (65-66); — *Miyazaki, T.*: On a small collection of Odonata from South Korea (67-69); — *Taketo, A.*: Notes on Odonata from Kaetsu district, central Honshu (70); — *Asahina, S.*: A list of the Odonata recorded from Thailand. Part XV. Aeschnidae (71-106); — *Rai, T.*: The Odonata of the Shizen-Kyoikuen Forest (107-110); — *Mitamura, T. & N. Yokoi*, Discovery of *Mortona-grion hirosei* from Fukushima prefecture (110-

-111); — *Nagamine, K.*: New record of *Plan-aeschna ishigakiana* Asahina from Amami-Oshima (111); — *Watanabe, K.*: Capture of male *Macromia clio* in Iriomote Island (112); *Sugimura, M. & T. Miyahata*, *Brachydiplax chalybea flavovittata* reaching South Kyushu (112-113); — *Eda. S.*: Annual meeting of the Society of Odonatology, 1986, at Matsumoto Dental College (113).

- (5762) UBUKATA, H., 1986. A model of mate searching and territorial behaviour for "flier" type dragonflies. *J. Ethol.* 4: 105-112. — (Dept Sci. Educ., Kushiro Coll., Hokkaido Univ., Shiroyama 1, Kushiro, 085, JA).

First, the mating system of a "flier" odonate species that continues patrolling without perching, *Cordulia aenea amurensis* Selys, is briefly reviewed. Adult males of this species search for mates for a long distance along the shore of a pond if male density is very low, but localize their patrol within a short range and defend the ranges if the density is high (Ubukata 1975, 1979). Secondly, a model of mate searching by vision and territoriality for flier dragonflies is proposed. The main assumptions of the model are: (1) a male with a fixed length of visual range (D) patrols with a constant velocity (V) on a straight line; (2) he turns in the opposite direction at 2 fixed points (distance = L); (3) female arrival probability is uniform in both spatial and temporal dimensions; (4) the females stay at the arrival point for a fixed time (C); (5) if a male discovers a female he copulates with her without fail and leaves the line. From the model the following are predicted: if  $D > (\sqrt{2-1}) CV$  the species (type 1) has an optimal length of patrol range even if the female arrival rate is uniform; if D is smaller than the right hand side of the inequality (type 2), the mating probability becomes higher as the patrol range increases, if there is no other male. On the basis of the above model the concept of an "unusurpable territory" is defined to exist at a given time after the start of patrol and the probability of unusurpability (P) is calculated as a function of D, V, L, M (male density-1) and T (duration of patrol). P drops abruptly if the length of patrol range (L) exceeds that of unusurpable territory at high

male densities. Therefore, there appears to be an optimal length of patrol range when there are other males, agreeing with the data from *C.a. amurensis*. Finally, the model is discussed in comparison with some other models.

- (5763) UBUKATA, H., 1986. List of Odonata collected from Okinawa-Jima and Yaeyama-Shoto in 1983 and 1984. *Sylvicola* 4: 31-34. (Jap. with Engl. title & coll. data). — (Dept Sci. Educ., Kushiro Coll., Hokkaido Univ., Shiroyama 1, Kushiro, 085, JA). Annotated list of 26 spp., collected at Okinawa-Jima, Iriomote, and Ishigaki.

- (5764) VAN TOL, J. & M. VERDONK, 1986. Threatened dragonflies (Odonata) of Europe. *Proc. 3rd Europ. Congr. Ent.*, Amsterdam 3: 501-504. — (Rijksmus. Nat. Hist., P.O. Box 9517, NL-2300 RA Leiden).

For the European Committee for the Conservation of Nature and Natural Resources, the authors had the task to assess the status of dragonflies in the Council of Europe member states. In the present paper the evaluation criteria adopted are outlined, and the status categories used are defined.

- (5765) VERBEEK, P.J.M., G. VAN DER VELDE, R.F.M. KREKELS & R.S.E.W. LEUVEN, 1986. Occurrence and spatial distribution of odonate larvae in four lentic soft waters of varying pH in the Netherlands. *Proc. 3rd Europ. Congr. Ent.*, Amsterdam 1: 155-158. — (Lab. Aquat. Ecol., Univ. Nijmegen, Toernooiveld, NL-6525 ED Nijmegen).

The increase in acidification is coupled with the increase in the population size of *Enallagma cyathigerum* and *Libellula quadrimaculata*. The latter is related to the accumulation of organic matter and its slow decomposition in acid environment. It is not clear whether or not this is also due to the lack of predators (fish) and competitors. (Cf. also OA 3929).

- (5766) VICTOR, R. & A.E. OGBEIBU, 1986. Recolonisation of macrobenthic invertebrates in a Nigerian stream after pesticide treatment and associated disruption. *Environ. Pollut.* (A)41(2): 125-137. — (Dept. Zool., Univ.

Benin, Benin City, PMB 1154, Nigeria).

The Gammalin treatment and associated disruption reduced the invertebrate standing crop and seriously impaired its diversity in the Ikpoba R., Bendel State, S. Nigeria. The Odon. (identified to the genus level) were among the groups adversely affected. The dragonfly recolonisation was slow. The Zygopt. larvae seem to be more sensitive to disruption than the anisopterans. The latter were more abundant in the recolonisation phase than in the pre-disruption phase. The abundant supply of prey and the absence of fish predators are possible reasons for their increase in abundance.

- (5767) ZETTELMEYER, W., 1986. Faunistisch-ökologische Bestandsaufnahme des geplanten NSG "Schwarzes Bruch" unter besondere Berücksichtigung der Libellen (Odonata). In: B. Gerken, Aus dem Lehrgebiet Tierökologie, 2. Mitteilung, *Veröff. naturk. Ver. Egge-Weser* 1986(1), p. 4 [Sep., abstract only]. — (c/o Prof. Dr B. Gerken, Lehrgeb. Tierökol., Univ. Paderborn, An-der-Wilhelmshöhe 44, D-3470 Höxter, FRG).

Abstract of a M. Sc. dissertation, (1985), with reference to *Lestes dryas*.

- (5768) ZGOMBA, M., D. PETROVIĆ & Ž. SRDIĆ, 1986. Mosquito larvicide impact on mayflies (Ephemeroptera) and dragonflies (Odonoptera) in aquatic biotopes. *Proc. 3rd Europ. Congr. Ent.*, Amsterdam 3: 532 [Abstract only]. — (Inst. Plant Protect., Fac. Agric., Univ. Novi Sad, Novi Sad, Yugoslavia). The product based on temephos (Abate) caused total mortality of all larval stages both of Ephemeroptera and Odonoptera. Various effectivenesses were registered depending on Ephemeroptera larval stage and Odonoptera suborders (Zygoptera and Anisoptera) when the site was treated with diflubenzuron (Dimilin). Seven days after larvicide application the recorded mortality of early Ephemeroptera larval stage was 100% while it was lower when Odonoptera were treated with the same compound. The mortality was 72% with Zygoptera larvae. Ephemeroptera were also more sensitive to *Bacillus thuringiensis*

serotype H-14 (B.t.i.) treatment than Odonatoptera larvae but not as high when treated with temephos and diflubenzuron. The highest reduction (35%) of Ephemeroptera larvae was four days after the treatment, however B.t.i. application caused decrease of Odonatoptera larvae population for 30%.

- (5769) [ZHOU, W.], 1986. Odonata. In: Insects of Jianfengling, No. 4, p. 24. Science Technique Office, Forest Dept, Guangdong Prov., Guangzhou. (Chin., with Latin nomenclature). — (Dept Ent., Zhejiang Mus. Nat. Hist., Gu-shan, Hang Zhou, P.R. China). List of 10 spp., without other data.
- (5770) ZHOU, W., 1986. Priskribo pri ino de Drepanosticta brownelli (Tinkham). — Description of the female of Drepanosticta brownelli (Tinkham). *Entomotaxonomia* 8(3): 208. (Chin., with Esperanto and Engl. title). — (Dept Ent., Zhejiang Mus. Nat. Hist., Gu-shan, Hang Zhou, P.R. China). The hitherto unknown female is described and figured.
- (5771) ZHOU, W. & J. WEI, 1986. Dragonflies of West Tianmu Mountain of Zhejiang Province. *J. Hangzhou Univ.* 13 (Suppl.) 64-67. (Chin., with Engl. s.). — (Dept Ent., Zhejiang Mus. Nat. Hist., Gu-shan, Hang Zhou, P.R. China). Annotated list of 38 spp. (13 fam.), collected at elevations 400-1050 m.

## 1987

- (5772) BELLE, J., 1987. *Aphylla caudalis*, a new species from Brazil (Odonata: Gomphidae). *Ent. Ber., Amst.* 47(2): 25-26. — (Onder de Beumkes 35, NL-6883 HC Velp). *A. caudalis* sp. n. (♂ holotype: Gurupá, Amazon, Pará, I-1921; deposited in Senckenberg Mus., Frankfurt/Main, FRG) is described and figured from a unique specimen. The new sp. closely resembles *A. producta* Sel.
- (5773) BELLE, J., 1987. *Phyllogomphoides nayaritensis*, eine neue Libellenart aus Mexico (Odonata: Gomphidae). *Ent. Z., Frankfurt/Main* 97(1/2): 11-13. (With Engl. s.). —

(Onder de Beumkes 35, NL-6883 HC Velp). *P. nayaritensis* sp. n. (♂ holotype: Acaponeta, Nayarit, Mexico, 2-XI-1923) is described, figured and compared with *P. pacificus* (Hag.). The type is in the Senckenberg Mus., Frankfurt/Main, FRG (SMF Od 14508).

- (5774) BLÖCHLINGER, H., 1987. Bericht über die entomologische Exkursion vom 16.-17. August 1986 in Flumserberg, Kanton St. Gallen, Ostschweiz: Lepidoptera und Odonata. *Opusc. zool. flumin.* 10: 11-16. (With Engl. s.). — (Entomol. Ver. "Alpstein"), Im Grund, CH-8554 Grüneck/TG). List of Odon. collected in Flumserberg, canton St Gallen, Switzerland (alt. 1920-2050 m), incl. *Aeshna caerulea* and *Somatochlora alpestris*. (Cf. also *OA* 5316).
- (5775) EDA, S., 1987. Dragonflies on stamps in the world. Ninth report. *Nature & Insects* 22(1): 27-29. (Jap., with Engl. title). — (3-4-25 Sawamura, Matsumoto, Nagano, 390, JA). Dealing with the postal stamps issued by El Salvador (1985; cf. also *OA* 5386), and Japan (1986).
- (5776) GRACILE. — [Newsletter of Odonatology]. Published by the Kansai Research Group of Odonatology, Osaka, No. 37 (Feb. 1, 1987). (Jap., with Engl. Titles). — (c/o K. Tani, 129 Jizo-cho, Nara, 630, JA). *Obana*, S.: A tentative consideration on Japanese Mnais evolution, part 5 (1-4); — Durations of egg and larval stages of Japanese dragonflies, Sequel 2 (4-6); — *Matsuda, I.*: *Ictinogomphus pertinax* collected at Tanga-jima, Ieshima Islands, Hyogo Prefecture (7-8); — *Muraki, A.*: Report on the survey trip for *Davidius moiwanus taruii* in Fukui Prefecture (8-10); — Some noteworthy species found among the odonate specimens in the Osaka Museum of Natural History (10-11); — *Inoue, K.*: A new book to be recommended (11-12; S. Tsuda's Distributional list, cf. *OA* 5447).
- (5777) HOGUE, C.L., 1987. Cultural entomology. *A. Rev. Ent.* 32: 181-199. — (Nat. Hist. Mus. Los Angeles Co., 900 Exposition Blvd, Los Angeles, CA 90007, USA).

The discipline concerned with the rôle of insects in literature, languages, music, arts, interpretative history, religion and recreation is defined as "cultural entomology". The reference list contains 226 titles, and the Odon. are listed among the taxa that "carry exceptional meanings in human culture".

- (5778) *LINDENIA*. Notiziario dell'Ufficio Nazionale Italiano della Società Odonatologica Interna-

zionale, Roma, No. 7 (Jan. 1, 1987). — (c/o Prof. Dr C. Utzeri, Dipt. Biol. Anim. & Eiomio, Univ. Roma, Viale dell'Università 32, I-00185 Roma).

The issue contains the report on the First Meeting of Italian Odonatologists (Rome, Oct. 11, 1986), considerations on the mapping scheme of Italian odon. fauna, bibliography of recent publications relative to the Italian odon. fauna, various news items, and book reviews.