

## ODONATOLOGICAL ABSTRACTS

### 1978

- (10480) BUCK, H., 1978. Veränderungen in der württembergischen Fließgewässerfauna. *Beih. Veröff. NatSchutz LandschPfl. Bad.-Württ.* 11: 283-289. – (Author's current address unknown).  
Contains brief considerations on *Calopteryx virgo*, *Platycnemis pennipes*, *Ischnura elegans* and *Cordulegaster boltonii*; – Baden-Württemberg, Germany.

### 1980

- (10481) SCHEERER, H., 1980. Die Naturdenkmale des Rems-Murr-Kreises. *Veröff. NatSchutz LandschPfl. Bad.-Württ.* 51/52(1): 101-151. – (Author's current address unknown).  
With reference to the odon., several wetland localities are listed and their resp. conservation value briefly outlined; – Baden-Württemberg, Germany.

### 1981

- (10482) GARMS, H. & L. BORM [translators M. Aljančič, J. Bole, A. Budihna, I. Geister, M. Hafner, A. Polenec & J. Vovk], 1981. *Živalstvo Evrope: priručnik za določanje živalskih vrst*. Mladinska knjiga, Ljubljana. xxxii+549 pp. (Slovene).  
The original (German) work is listed in OA 2171. The Slovene edn (Odon. pp. 349-352) contains several Slovene vernacular names, that of *Aeshna viridis* has not been published earlier.
- (10483) GOULD, P., 1981. *The complete Taupo fishing guide*. Collins, Auckland-Sydney-London. 236 pp.

An angler's guide to the trout fishing in and about Lake Tampo, North Island, New Zealand. For numerous localities, it gives very detailed suggestions as to the odon. larva imitation tyings to be used. – For some other references on the subject cf. OA 8672.

### 1985

- (10484) ANDJUS, L. & Ž. ADAMOVIĆ, 1985. Novi podaci o fauni Odonata Crne gore. – [New data on the odonate fauna of Montenegro]. *Sadr. Ref. ent. Kol. jugosl. ent. Dr., Donji-Milanovac*, p. 10 [abstract only]. (Serbian). – (Second Author: Inst. Medic. Res., P.O. Box 721, YU-11001 Beograd, Serbia).  
A briefly commented list of 15 spp., collected 1980-1985 in the Durmitor range and in Mt Semolj. *Aeshna grandis* and *Leucorrhinia dubia* are for the first time recorded from Montenegro.

### 1989

- (10485) YAKOVLEV, E.B. & M.P. LOBKOV, 1989. *Zhivotnyy mir Karelii. Nasekomye*. – [Animal world of Karelia. The insects]. Kareliya, Petrozavodsk. 232 pp., 16 col. pls excl. ISBN 5-7545-0187-0. (Russ.).  
There are 31 odon. spp. known from the Russian Karelia. Some of these are dealt with in this small, general book (pp. 43-50, pl. 1).
- (10486) ZERI, F. & K. ROZMAN, 1989. *Natura morta europea dalle collezioni slovene*. – *Evropska tihožitja iz slovenskih zbirk*. Narodna galerija, Ljubljana. 162 pp., 8 col.pls & 73 monochr. pls excl. ISBN none. (Bilingual: Ital. & Slovene). – (Publishers & Second Author: Narodna Galerija, P.O. Box 432, SI-1001 Ljubljana, Slovenia).

A very detailed descriptive catalogue (with a comprehensive essay by the second A.) of selected still-life paintings of European artists (early 17th - mid 20th cent.) in Slovene collections. It includes a Lombardic- and a Spanish-school composition with dragonflies (early 17th cent.).

## 1991

- (10487) KRASNOLOBOVA, T.A. & T.L. ILJUSHINA, 1991. Strekozy kak promezhutochnye hozyaeva gel'mintov. – Dragon-flies as intermediate hosts of helminths. *Trudy gel'mintol. Lab. Akad. Nauk SSSR* 38: 59-70. (Russ., with Engl. title in Contents tab). – (Authors' addresses unknown).

The metacercariae (or cysticeroids) are redescribed and illustrated, and/or the odon. intermediate hosts are listed of 14 trematode and 3 cestode spp.

- (10488) O'TOOLE, C., 1991. *The world of dragonflies*. Oxford Scient. Films, Belitha Press, London. 32 pp. (Hard cover). ISBN 1-85561-079-5. – Price: £ 7.99 net. – (Publishers: Belitha Press, 31 Newington Green, London, N16 9PU, UK). Directed at the young reader, with easy-to-read text, glossary and numerous col. photos, the book gives a good account of the biology, behaviour, etc. of the European forms, and some information on non-European spp.

## 1992

- (10489) DANECKER, E., 1992. Makrozoobenthos und Gewässergüte burgenländischer Flüsse, 1974-1990. *Wiss. Abh. Burgenland* 91: 1-88. – (Author's address not stated).

During 1974-1990, 221 localities were sampled at 58 streams in Burgenland, Austria. A few odon. spp. are mentioned from a few streams.

- (10490) MAMET, J.R., 1992. *Bibliographie de l'entomologie des Iles Mascareignes, 1771-1990*. Mauritius Sugar Industry Res. Inst., Mauritius. viii+318 pp. ISBN 99903-24-01-8. – Price: £ 35.- net. Includes 53 odonatol. titles.

- (10491) RIEDEL, M., 1992. *Die Libellenfauna der Kleingewässer des NSG "Fürstenuhle"*. DiplArb. Univ. Münster (Inst. Geogr.), Münster. vi+83 pp., 13 tabs excl. – (Author: Sophienstr. 17, D-48145

Münster).

A "monographic" treatment of the odon. fauna (19 spp.) of 5 ponds nr Gescher, distr. Borken, Westfalia, Germany, with numerous original observations, and with considerations on habitat management. – Cf. also OA 9447.

## 1993

- (10492) ARNETT, R.H., G.A. SAMUELSON & G.M. NISHIDA, 1993. *The insect and spider collections of the world*. 2nd edn. Sandhill Crane Press, Gainesville/FL. [Flora & Fauna Hdb. 11]. vi+310 pp. ISBN 1-877743-15-1. – Price: US \$ 35.-, all incl. – (Orders to: American Insect Projects, 2406 N.W. 47th Terrace, Gainesville, FL 32606, USA).

Contains the addresses and brief descriptions of over 50 institutional and private odon. collections throughout the world.

- (10493) AŠMERA, J. & A. DOLNÝ, 1993. Poznámky o vážkách Rejvízu. 1. – Anmerkungen zu den Libellenarten von Rejvíz. 1. *Acta Rer. nat. Univ. ostrav.* 135 (Biol.-Ekol. 1): 49-54. (Czech, with Germ.s.). – (First Author: Katedra Biol. & Ekol., Prir. Fak., Univ. Ostrava, Bráfova 7, CZ-701 03 Ostrava-1). The biogeographic composition of the fauna (10 spp.) of 2 ponds in Rejvíz (alt. 735-790 m; pH 3.4-4.2), N Moravia, Czech Republic, is analysed.

- (10494) CORDOBA-AGUILAR, A., 1993. Cambios de coloracion en adultos de Hetaerina cruentata (Rambur) (Odonata: Calopterygidae). *Brenesia* 39/40: 181-183. – (Biosist. Insectos, Inst. Ecol. A.C., Apdo postal 63, MX-91000 Xalapa, Veracruz).

The adult colour change in both sexes, as evidenced in the field and under laboratory conditions, is described.

- (10495) MACHADO, A.[B.M.], 1993. *A barba do velho da barba*. – [The beard of the old man with a beard]. Editora Le, Belo Horizonte, 24 pp. (Port.; copies of Author's Engl. translation are available from the Eds of *Odonatologica*). – (Publishers: Caixa Postal 2585, BR-30.750-000 Belo Horizonte, MG; – Author: Depto Zool., Inst. Cien. Biol., Univ. Fed. Minas Gerais, Caixa Postal 486, BR-31270-901 Belo Horizonte, MG).

An educative, well illustrated book, directed at young children, with a passing reference to a dragonfly. – For some information on the Author, cf. OA 7139

and 10511.

- (10496) SINGH, T.B. & P.S. YADAVA, 1993. Population dynamics, biomass and secondary productivity of aboveground insects in two sub-tropical forest ecosystems at Shiroy Hills, Manipur. *Trop. Ecol.* 34(1): 113-119. (With Fr., Span. & Port. s's). – (Dept Life Sci., Manipur Univ., Imphal-795003, India). The odon. were represented (0.9 mg/m<sup>2</sup>) at 1 of the 2 sites only. Species names are not stated. The total secondary biomass production of the 10 orders considered was 332 and 391 mg/m<sup>2</sup>, resp.

- (10497) SMOUT, A.-M. & P. KINNEAR, 1993. *The dragonflies of Fife*. Fife Nature, Fife. ii+16 pp. ISBN 1-872162-03-7. – Price: £ 2.- net, [through a bookstore in Holland]: NLG 10.-, all incl. – (First Author: Dept Econ. Develop. & Planning, Fife House, North Street, Glenrothes, Fife, KY7 5LT, Scotland, UK). Distribution maps, with statemens on the status, distribution, habitat and flight periods, for 11 spp. in the Fife area, Scotland, UK.

## 1994

- (10498) AMBRUS, A., K. BÁNKUTI & T. KOVÁCS, 1994. Adatok az Északborsodi-hegyvidék Odonata faunájához. – Data to the Odonata fauna of Északborsodi-hegyvidék. *Fol. hist. nat. Mus. matraensis* 19: 51-58. (Hung., with Engl.s.). – (Second Author: Matra Muz., Kossuth u. 40, HU-3200 Gyöngyös). Records of 33 spp.; – W Hungary.

- (10499) BIEBERICH, G.S., 1994. *Illustration files & file environments: dragonfly. A writing and illustrating resource*. Meanderings, Albany/OR. 2 pp. (text), 6 pls (figs). ISBN 1-57289-001-0. – Price: US \$ 5.95 net. – (Publishers: 438 11th Ave. SW, Albany, OR 97321, USA). Directed at children from the age of 5 onwards: guide for drawing dragonflies, in various positions and activities. Some general information on dragonflies is also included.

- (10500) CALDWELL, P., 1994. *A beginners guide: dragonflies and damselflies. A field guide*. Share-Net, Howick/Natal. 14 pp. ISBN 0-9583197-4-X. – Price in Holland: NLG 6.-, all incl. – (Publishers: P.O. Box 394, Howick-3290, Natal, RSA). This is the 3rd impression of the booklet, published

originally in 1991, and directed at the primary school children. Presenting some elementary information on dragonfly biology, it is based on African fauna, but it could be used equally well in any part of the world.

- (10501) CANNINGS, S., 1994. Endangered terrestrial and freshwater invertebrates in British Columbia. In: L.E. Harding & E. McCullum, [Eds], Biodiversity in British Columbia: our changing environment, pp. 47-51, Environment Canada, Ottawa. ISBN 0-662-20671-1. – (B.C. Conserv. Data Centre, 780 Blanshard St., Victoria, BC, V8V 1X5, CA). *Argia vivida*, *Ischnura damula* and *Erythemis collocata* are listed as threatened in British Columbia, Canada.

- (10502) CRESSA, C., 1994. Structural changes of the macroinvertebrate community in a tropical river. *Verh. int. Ver. Limnol.* 25(3): 1853-1855. – (Inst. Zool. Tropical, Univ. Central Venezuela, Aptdo Postal 46058, Caracas 1041-A, Venezuela). The Orituco R. is a typical small mountain river in N Venezuela. Its chemical, physical and biological changes were quantified during 1983-1987. The community assemblages were studied by means of bi-weekly sample collecting. In 1983, the odon. represented 0.6% of the evidenced macroinvertebrate taxa, while the figure increased to 1.3% during 1986-1987. The names are not stated and the environmental alterations responsible for the changes in the community composition are not mentioned.

- (10503) FOSSATI, O., B. WENDLING & A.H. DANIGO, 1994. Freshwater invertebrate fauna of Nuku-Hiva Island (French Polynesia): comparison between wet and dry season. *Verh. int. Ver. Limnol.* 25(3): 1841-1843. – (First Author: Ent. médicale, ORSTOM, B.P. 5045, 20-25 av. du Val de Montferand, F-34032 Montpellier). Odon. larvae constituted 1.2% of the taxa in the rainy season (March-Aug.) samples, and 1.0% in dry season (Sept.-Feb.); the Marquesan Islands. Species names are not stated, but a "hydrographic" map of the island is provided.

- (10504) GRÜNE, G., 1994. *Freilandökologische Untersuchungen zur Odonatenfauna ausgewählter Gewässer an der Unteren Havel mit Vorschlägen zum Biotopmanagement*. DiplArb. Inst. Geogr., Univ. Münster. viii+110 pp., 29 figs & tabs excl. – (Author: Bahnhofstr. 22, D-58095 Hagen).

The locality is situated in W Brandenburg, Germany, and 28 spp., of which 23 autochthonous, were evidenced. The ecological and biological features of the community are analysed in great detail, and specified suggestions for habitat management are proposed. – The importance of the work is particularly enhanced by the inclusion of chapters on e.g. larval drift with submerged vegetation, larval abundance and adult flight behaviour before and after the application of standard technical maintenance measures, etc. – This is a very valuable work, at least parts of which should be made available in a more conventional publication.

- (10505) HERBERT, C., [Ed.], 1994. *Dragonflies & damselflies of the London Borough of Barnet*. [Barnet Biol. Rec. Progr., Vol. 3] Herts Middx Wldl. Trust, St Albans & Barnet Biol. Rec. Progr., East Barnet. iv+36 pp. ISBN 1-988132-02-X. – Price: £ 4.50 net. – (Second Publisher: 67a Ridgeway Ave, East Barnet, Herts, EN4 8TL, UK).

This is a "provisional atlas" of the northernmost part of Greater London, UK, with maps (12 spp.) and the usual species-wise annotations. Recommendations for the Barnet "Invertebrate key sites and species at risk register" are appended.

- (10506) HÖPPNER, B., 1994. Ökologische Untersuchungen an der Kleinen Mosaikjungfer (*Brachytron pratense*) und dem Spitzfleck (*Libellula fulva*) in der Oberrheinebene unter besonderer Berücksichtigung der Vegetation. *Mitt. bad. Landesver. Naturk. NatSchutz* (N.F.) 16: 43-73. – (Hartkirchweg 17, D-79111 Freiburg).

187 water bodies in the Upper Rhine Valley, Germany, were surveyed, 43 odon. spp. are listed, behavioural features of *B. pratense* and *L. fulva* are outlined, and habitat preferences of the 2 spp. are described in great detail. – Cf. also OA 8497.

- (10507) HORN, M.J., P.C. MARSH, G. MUELLER & T. BURKE, 1994. Predation by odonate nymphs on larval razorback suckers (*Xyrauchen texanus*) under laboratory conditions. *SWest. Nat.* 39(4): 371-374. – (First Author: Dept Zool., Arizona St. Univ., Tempe, AZ 85287, USA).

Observations indicate, odon. larvae densities may be high enough to impact survival of young fish in a Lake Mohave backwater, Arizona-Nevada, USA. In laboratory tests, larval *Enallagma* and *Tramea* spp. consumed 81% and 76% resp., of 11.8±0.7 mm total

length razorbacks in 7 days, compared to 12% mortality in controls. Razorbacks of 14-15 mm were less susceptible than smaller fish, showing 53% mortality vs 18% in controls. Extensive growth of *Potamogeton pectinatus* may exacerbate predation effects in the backwater, by allowing odon. access to more of the water column.

- (10508) IN 'T VELD, T., 1994. Marjolein Bastin ontdekt een van de zeldzaamste biotopen van Nederland: de Heelsumse Beek. *Natuurbehoud* 25(4): 6-11. (Dutch). – (c/o the Eds: Noordereinde 60, NL-1243 JJ 's-Graveland).

A record of *Libellula depressa* (Heelsumse Beek, de Veluwe, the Netherlands; no date).

- (10509) KILIMANN, N., 1994. *Libellen in Herne. Kartierung 1993/1994*. NatSchutzbund Dt, Stadtverband Herne, Herne. 40 pp. – (Author: Otto-Hue-Str. 39, D-44623 Herne).

A review of 20 spp., with annotations, phenology graphs and col. photos of all of them.

- (10510) [LEPELAARS, C.], 1994. Zeldzame libelle gevonden. – [Discovery of a rare dragonfly]. *Natuurbehoud* 25(4): 12. (Dutch).

A photographic record of *Sympetrum pedemontanum* (Plateaux, Noord Brabant prov., the Netherlands; no date).

- (10511) MACHADO, A.[B.M.], 1994. *O esquilo esquecido*. – [The forgetful squirrel]. Salamandra, Rio de Janeiro. 22 pp. (Port.; copies of Author's Engl. translation are available from the Eds of *Odonatologica*). – (Publishers: Salamandra Consultaria Editorial, Av. Nilo Peçanha 155 GR. 301-Centro, BR-20020-100 Rio de Janeiro; – Author: Depto Zool., Inst. Cien. Biol., Univ. Fed. Minas Gerais, Caixa Postal 486, BR-31270-901 Belo Horizonte, MG).

This is an educative picture book, directed at young children, to trigger their awareness of the vital importance of forest. A dragonfly also plays a role in it. – The Author is one of the foremost Brazilian odonatologists and nature conservationists. He also is a prolific and very successful author of children books in this field.

- (10512) PRASAD, M. & A. SINGH, 1994. Odonata. In: Fauna of Conservation Area 5: Rajaji National Park, pp. 195-215. Zool. Surv. India, Calcutta. – (Authors: Zool. Surv. India, Prani Vigyan Bhavan, M-

-Block, New Alipore, Calcutta-700053, India).

The Park includes Shiwalik Hills (distr. Dehradun, Pauri Garhwal and Saharanpur; all in Uttar Pradesh), the Ganges R. passes through it at the Rishikesh-Haridwar section. In the deciduous forest prevails sal, *Shorea robusta*. – This paper is a briefly annotated checklist of 38 spp.

- (10513) RANFTL, H., 1994. Zwergtaucher-Brutvorkommen in Nordbayern. *Avifaunist. InfDienst Bayern* 4: 97-102. – (Inst. Vogelk. Triesdorf, Am Kreuzweiher 3, D-91746 Weidenbach).

During 1977-1979, over 5000 N Bavarian ponds were surveyed. The Little Grebe, *Podiceps ruficollis*, was breeding at 189 of these. In 1994, 143 of the latter were checked and 62 appeared to be deserted. Out of 23 of the others, 13 were occupied. It is emphasized, the bird breeds solely where there are large odon. populations and feeds on larvae. – The bird/dragonfly association has first been described by H. BANDORF, 1970, *Der Zwergtaucher* [Neue Brehm Bücherei 430], Ziemsens, Wittenberg-Lutherstadt.

- (10514) ROWE, R.J., 1994. Predatory behaviour and predatory versatility in young larvae of the dragonfly *Xanthocnemis zealandica* (Odonata, Coenagrionidae). *N.Z. Jl Zool.* 21(2): 151-166. – (Dept Zool., James Cook Univ., Townsville, Qld 4811, AU). The predatory activities of naive second-instar *X. zealandica* larvae (the first free-living stage) were investigated under 6 treatments: no prey, ciliates, rotifers, nematodes (2 densities), copepods, and cladocerans. Some differences observed could have been due to sensory, or to morphological, limitations of the predator. Other behaviour patterns strongly indicated some CNS-mediated response. Larvae apparently distinguished between prey types and used prey-specific conditional behaviours (i.e. displayed predatory versatility). Changes in response were observed during exposure to unpalatable prey but did not occur when larvae ate palatable prey or repeatedly made futile attacks on invulnerable prey. Such changes indicate learning. In contrast to calopterygid spp. investigated by earlier authors, *X. zealandica* second-instar larvae were both more co-ordinated and more flexible in their predatory behaviour. The predatory behaviour of small insect larvae may be more complex than has traditionally been assumed.

(Anisoptera: Odonata). *Kromosomo* 2(75/76): 2599-2604. – (Dept Zool., Panjabi Univ., Patiala-147002, India).

Germ cell chromosomes of both sexes of *Diplacodes trivialis*, *Neurothemis t. tullia* and *Palpopleura s. sexmaculata* have been studied and are illustrated:  $2n \delta = 25 (m)$ ,  $\eta = 26 (m)$ ; XO/XX. The  $\eta$  complements have not been reported earlier.

- (10516) *TOMBO TO BUNKA* – [DRAGONFLIES AND CULTURE], Nakamura, No. 51 (Feb. 28, 1994). (Jap.). – (c/o Miss M. Tanimoto, Shimanto Tombo Shizenkan, 8055-5 Gudoh, Nakamura-shi, Kochi-ken, 787, JA). – Annual subscription outside Japan: DEM 30.- to be remitted to Dr W. Piper, Unnastr. 6, D-20253 Hamburg).

In addition to various notices, the following are signed articles: *Sugimura, M.*: The best dragonfly encyclopaedia, 2: the stories behind the scene; – *Yoshida, M.*: The way of transporting live dragonflies (adults); – *Oka, I.*: Mating of *Libellula angelina* in Kobe; – *Hatto, Y.*: All of my 60 years for toriko, XII/2; – *Okada, S.*: Episodes about the goods sold in the Nakamura Dragonfly Museum.

- (10517) VIZSLAN, T. & L. VIZSLAN, 1994. Adatok Borsod-Abaúj-Zemplén megye Odonata faunájához, 3. – Publication of data to the Odonata of County Borsod-Abaúj-Zemplén, 3. *Fol. hist. nat. Mus. matraensis* 19: 59-62. (Hung., with Engl.s.). – (First Author: Kun B u. 5 II/6, HU-3792 Sajóbáony). Records of 30 spp.; – W Hungary.

- (10518) [ZIMMERMANN, W.] SAMIETZ, R., 1994. Dr. Wolfgang Zimmermann = 36 Jahre Arbeit für das Museum der Natur Gotha. *Abh. Ber. Mus. Gotha* 18: 139-144. – (c/o Dr W. Zimmermann, Von Hoff Str. 31, D-99867 Gotha).

A concise evaluation of professional work of the well known Thuringian homestead odonatologist, with his comprehensive (but not entirely complete) bibliography (1957-1994). He graduated from the Humboldt-Univ., Berlin (1969, "Ökologische Studien an Odonatenpopulationen stehender Gewässer in Westthüringen"). Most of his subsequent odonatol. papers are related to the Thuringian (E Germany) fauna.

## 1995

- (10515) SANDHU, R. & G.K. WALIA, 1994. Chromosomal studies of three species of libellulids

- (10519) (Anonymous), 1995. What are the legal rami-

fications of collecting insects in Pennsylvania? *News. ent. Soc. Penn.* 30(3): 5.

In Pennsylvania, the collecting of terrestrial insects is currently unregulated. However, a permit is required for all aquatic orders. The Aquatic Collectors Applications are to be sent to: A.L. Shiels, Endangered Species & Herpetology, Pennsylvania Fish & Boat Commission, 450 Robinson Lane, Bellefonte, PA 16823-9616, USA.

- (10520) ADOMSSENT, M., 1995. Erstnachweis der Südlichen Mosaikjungfer *Aeshna affinis* van der Linden, 1823 für Schleswig-Holstein (Odonata). *Ent. Nachr. Ber.* 39(3): 146-147. – (Abt. Ökol. u. Umweltbildung, Univ. Lüneburg, D-21332 Lüneburg).

1 ♂, Nehms, distr. Segeberg, 23-VIII-1994. The odon. fauna of the locality is listed, and the record is discussed in terms of the exceptionally hot 1994 summer; – Schleswig-Holstein, N Germany.

- (10521) ALBERTI, G., 1995. *Uomini e insetti. Le collezioni entomologiche del Museo civico di Storia naturale di Trieste e la loro storia*. Mus. civ. Stor. nat., Trieste. 54 pp. – (Author & Publishers: Mus. civ. Stor. nat., Piazza Hortis 4, I-34123 Trieste).

The booklet is presenting a review of entomological collections of the Nat. Hist. Mus. of Trieste, Italy. On p. 35, data are given on the odon. collection (and unpublished manuscript material) of B. Finzi (1897-1941). There are 23 cabinets: 8 of these contain African material, the rest are mostly specimens of regional provenience (Venezia Giulia).

- (10522) ARGIA, *The news journal of the Dragonfly Society of the Americas*, Vol. 7, No. 3 (Oct. 15, 1995). – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA).

Signed articles: *Brunelle, P.-M.*: 1996 Annual Meeting in New Brunswick (p. 2); – *Dunkle, S.W.*: DSA Annual Meeting minutes Silver City, NM, 5 August 1995 (pp. 2-3); – *Daigle, J.*: The 1995 DSA Meeting at Silver City, New Mexico (pp. 3-6); – *Michalski, J.*: The Southwestern Meeting, August 5-12, 1995 (pp. 6-9); – [*Donnelly, N., D. Paulson, S. Dunkle & J. Daigle*]: English names, scientific names, and common names – the controversy so far and a request for your participation (pp. 9-10); – *Soltesz, K., B. Barber & G. Carpenter*: A spring dragonfly migration in the Northeast (pp. 10-14); – *Donnelly, N.*: Odonates around the country – it's been a rewarding season (pp. 14-18); – *Beckemeyer, R.*: Are you packing a

net, pilgrim? or a sodbuster learns the fast draw! (pp. 18-19); – *Orr, R.*: Great Blue Herons, Dwarf Wedge mussels, and Gray Petaltails (pp. 19-21); – *Brunelle, P.-M.*: A 2.5 liter 4wd collecting net for insects and pedestrians (pp. 21-22); – *Muzón, J. & G.R. Spinelli*: Patagonian Odonata in malaise traps (pp. 22-23); – *Garrison, R. & J. Muzón*: Collecting down at the other "down-under" (pp. 23-26); – *Burke, P.*: Behavior of *Ophiogomphus anomalus* at Algonquin Park (p. 27); – *Czaplak, D.*: *Lanthus vernalis* and *parvulus*: new species records for Maryland (pp. 27-28); – *Beckemeyer, R.*: Some county records for Kansas and Oklahoma (pp. 28-29); – *Daigle, J.*: Endangered species (p. 29); – *Glotzhofer, B.*: Scientific collecting and endangered species laws (pp. 29-30); – Supreme Court ruling on habitat destruction (p. 30); – *Garrison, R.*: status of certain available reprints (p. 31); – *Beckemeyer, R.*: Mapping software for the penurious or "pecuniary-disadvantaged" (pp. 31-32); – *Logan, J.*: Effects of water pollution on odonates in Coto Brus, Costa Rica (pp. 32-33); – *Shepard, B.*: Metamorphosis (p. 33; poem).

- (10523) ARNOLD, A., 1995. Nachtrag zu 504. Erstnachweis *Libellula fulva* in Sachsen (Odonata). *Ent. Nachr. Ber.* 39(3): 147. – (Nordstr. 39/551, D-04105 Leipzig).

A corrective note on the paper listed in OA 9532.

- (10524) ASAHINA, S., 1995. What is "Sympetrum ruptum Needham"? *Gekkan-Mushi* 296: 12-14. (Jap., with Engl. title). – (Takadanobaba 4-4-24, Shinjuku-ku, Tokyo, 169, JA).

*S. eroticoides* Oguma, 1915 and *S. ruptum* Needham, 1930 are synonymised with *S. parvulum* (Bartenev, 1913).

- (10525) BENNETT, S. & P.J. MILL, 1995. Pre- and post-maturation survival in adults of the damselfly *Pyrrhosoma nymphula* (Zygoptera: Coenagrionidae). *J. Zool., Lond.* 235(4): 559-575. – (Second Author: Dept Pure & Appl. Biol., Univ. Leeds, Leeds, LS2 9JT, UK).

The mark-release-recapture technique was used. Fewer females were recaptured upon return to water to breed despite no differences in dispersal or daily survival rate between the sexes over the immature period. Because females took longer to mature than males, their poorer recapture rate was attributed to greater overall mortality during their longer maturation phase. Survivorship curves for teneral marked

- at emergence suggested that overall survival of immature adults was similar to, if not better than, that of mature adults. The reasons for this are discussed. – Jolly's model was used to estimate daily survival rates for mature adults. The assumptions of the model were tested rigorously. Estimates for females were statistically less reliable than those for males. Mean reproductive spans for males and females were 6-8 and 6-6 days, respectively, giving mean total adult lifespans of 19-4 days and 21-6 days for individuals surviving the maturation period. – Because neither sex visited the breeding site every day, sampling exclusively at water resulted in underestimation of mean reproductive spans for both sexes. Female reproductive spans were underestimated to a greater extent; because females remain away from water longer between visits, there is a greater chance that they will die before being recaptured. – Mean reproductive spans were also underestimated when only a sub-section of the habitat was sampled. Females were significantly more mobile than males and this increased the likelihood that they would move out of the study area, resulting in more severe underestimation. The importance of obtaining accurate estimates of mature lifespan for females is discussed.
- (10526) BERNARD, R., 1995. Wstepne dane o rozmieszczeniu i ekologii *Cercion lindenii* (Selys, 1840) (Odonata, Coenagrionidae) w Polsce. – Preliminary data on the distribution and ecology of *Cercion lindenii* (Selys, 1840) (Odonata, Coenagrionidae) in Poland. *Wiad. entomol.* 14(1): 11-19. (Pol., with Engl.s.). – (Dept Gen. Zool., Mickiewicz Univ., Ul. Fredry 10, PO-61-701 Poznań).  
The distribution in Poland is presented, the origin of Polish populations is discussed, the habitat is described and the coexistence with other zygopteran spp. is pointed out.
- (10527) BERNARD, R. & J. MUSIAŁ, 1995. Observations on an abundant occurrence of *Hemianax ephippiger* (Burmeister, 1839) in western Poland in 1955 (Odonata: Aeshnidae). *Opusc. zool. flumin.* 138: 1-9. – (First Author: Dept Gen. Zool., Adam Mickiewicz Univ., Fredry 10, PO-61-701 Poznań).  
The observations are analysed, and the term, "invasion", is suggested. The correlation between climatic changes and increasing number of records in central Europe is signalized. 7 localities are briefly described and the type of habitat is discussed. It is emphasized that the main common feature of new Polish localities is high water temperature combined with low depth of the respective ponds. Some observations on behaviour are included. These are the northernmost localities where the breeding behaviour was evidenced and the emergence confirmed. An extremely short larval development (80-90 days) is suggested.
- (10528) *BULLETIN OF AMERICAN ODONATOLOGY*, Vol. 3, No. 3 (Oct. 1995). – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13906, USA).  
*Tennesen, K.J., J.D. Harper & R.S. Krotzer*: The distribution of Odonata in Alabama (pp. 49-74). – [173 spp. are recorded by county, incl. 14 spp. that are listed here for the first time. 3 spp. were removed from the State list. The distribution is discussed according to the physiography of the State, and the relationships of the odon. fauna to neighbouring states are considered].
- (10529) BURNSIDE, C.A. & J.V. ROBINSON, 1995. The functional morphology of caudal lamellae in coenagrionid (Odonata: Zygoptera) damselfly larvae. *Zool. J. Linn. Soc.* 114: 155-171. – (Dept Biol., Univ. Texas, Arlington, TX 76019, USA).  
During their later instars, coenagrionid larvae reduce their relative investment in lamellae. Caudal lamellae play a role in swimming by allowing a larva to take advantage of its body size when at least one lamella is present, and this benefit increases with larval size. The removal of the first and/or second lamella generally results in a fixed and measurable decrease in swimming speed. When all lamellae are removed, larvae suffer a dramatic reduction in swimming speed. *Ischnura posita* and *Enallagma civile* always swim faster than equal sized *Telebasis salva* and *Argia translata* when at least one lamella is present. The swimming speed of the 3 lentic spp. *I. posita*, *E. civile* and *T. salva* is more affected by lamella loss than the lotic *A. translata*. These last 3 relationships do not change ontogenetically. Caudal lamellae surface area does not increase as fast ontogenetically as would be expected for a gas exchange organ. The breaking joints, which hold the lamellae to the body, do not grow isometrically with body size, but do grow isometrically with lamellar mass. This suggests that the lamellae may be retained in proportion to investment (mass).
- (10530) CAPT, S., Y. GONSETH, F. MERMOD-FRICKER, A. PEDROLI & J. RÜETSCHI, 1995.

Neuere Daten des CSCF: ein genaues Abbild der gegenwärtigen Tätigkeit der schweizer Naturforscher? – Données recentes du CSCF: un reflet exact de l'activité actuelle des naturalistes suisses? *Nouvelles Cent. suisse Cartogr. Faune* 10: 5-11. (Bilingual: Germ. & Fr.). – (c/o Cent. Suisse Cartogr. Faune, Terreaux 14, CH-2000 Neuchâtel). Includes a map of the odon. records in Switzerland, and reference is made to the little explored Geneva and Jura areas.

- (10531) CARIUS, W., W. LAKOMY, R. SCHUDERER & H. WEST, 1995. Verwandtschaftliche Beziehungen der europäischen Vertreter der Gattung *Aeshna* Fabricius, 1775 (Odonata, Aeshnidae). *Mitt. dt. Ges. allg. angew. Ent.* 9(4/6): 799-805. (With Engl.s.). – (First Author: Schwarzer Berg Weg 9, D-27243 Harpstedt).

Beside the biochemical character-set (255 specimens of fresh-material), the morphology of the wings (232 museum specimens) was examined. The biochemical examination focussed on the variable allozym patterns of the wing muscle. Only the cell-number and measures of determinate wing spheres were used for the morphological examination. The allele frequencies of the single loci were evaluated by the CONTML-programm. The calculations and graphic representation of wing measurements were achieved by Canonical-Discriminance-Analyses (SAS). A phenogram was drawn up with the MIX-program by means of the number of wing veins. – An evolutionary tree was developed as a result of the three evaluations. The basic most separation of the adelphotaxon *A. mixta/A. affinis* is evident. *A. cyanea* was shown to separate earliest from the two groups *A. grandis/A. osiliensis/A. viridis* and *A. caerulea/A. juncea/A. subarctica* with high probability. Thereby were the adelphotaxon *A. juncea/A. subarctica* confirmed in each evaluation.

- (10532) COLLINSON, N.H., J. BIGGS, A. CORFIELD, M.J. HODSON, D. WALKER, M. WHITFIELD & P.J. WILLIAMS, 1995. Temporary and permanent ponds: an assessment of the effects of drying out on the conservation value of aquatic macroinvertebrate communities. *Biol. Conserv.* 74: 125-133. – (Last Author: Sch. Biol. & Molec. Sci., Oxford Brookes Univ., Gipsy Lane Campus, Headington, Oxford, OX3 0BP, UK). The study was designed to investigate whether temporary ponds are markedly different from more per-

manent ponds in terms of their spp. richness, spp. rarity and community type. Macroinvertebrates were recorded from 6 temporary ponds in Oxfordshire, UK, and the resulting data were compared with species data from 33 Oxfordshire ponds of a more permanent character. There is a strong tendency of Odon. to occur in higher proportions in more permanent ponds, but *Lestes dryas* is particularly associated with temporary waters.

- (10533) CORDOBA-AGUILAR, A., 1995. Fluctuating asymmetry in paired and unpaired damselfly males *Ischnura denticollis* (Burmeister) (Odonata: Coenagrionidae). *J. Ethol.* 13(1): 129-132. – (Biosist. Insectos, Inst. Ecol. A.C., Apdo postal 63, MX-91000 Xalapa, Veracruz).

Using paired and unpaired individuals in the field, data are provided on the apparent reproductive advantage of symmetrical ♂♂.

- (10534) D'ANTONIO, C., 1995. Segnalazioni faunistiche italiane. 263. *Gomphus vulgatissimus* (Linneo, 1758). *Boll. Soc. ent. ital.* 127(1): 63-64. – (Via A. Falcone 386/D, I-80127 Napoli). First records for Basilicata, Italy.

- (10535) DE CASTRO PÉREZ, E., 1995. Algunos citas de Odonata del centro de la Península Ibérica. *Boln Soc. ent. aragon.* 11: 3-6. (With Engl.s.). – (Lab. Zool., Fund. Univ. San Pablo-CEU, Urbanización Montepíncipe, ES-28660 Boadilla del Monte/Madrid). Records of 34 spp., from 23 localities in central Spain.

- (10536) DIAMANTINI, F., 1995. La libellule. *Info-Nature, Sion* 45: 2. – (Publishers: Ave de France 6, CH-1950 Sion). A poem.

- (10537) *DIGEST OF JAPANESE ODONATOLOGICAL SHORT COMMUNICATIONS*, No. 3 (Dec. 1995). Published by N. Ishizawa (1644-15, Yamaguchi, Tokorozawa, Saitama, 359, JA).

*Arai, Y.*: Some biological observations of *Pantala flavescens* in Saitama prefecture (pp. 1-2); – *Kinoda, T.*: A larva of *Orthetrum albistylum speciosum* was collected from the sea (p. 2); – *Someya, T.*: On *Cordyceps* from Gozenyama, Ibaraki prefecture: the first discovery of *C. odonatae* Y. Kobayasi from Japan? (pp. 3-4).



- (10538) DINGEMANSE, N. & V. KALKMAN, 1995. Overzicht libellenwaarnemingen van Terschelling. – [A review of dragonfly observations on the island of Terschelling]. *Amoeba, Amst.* 69(5): 203-209. (Dutch). – (First Author: Rijksweg 132-A, NL-9752 BL Haren).  
The status of the 28 hitherto from the island known spp. is critically assessed. Most of these are common and not threatened in the Netherlands. *Leucorrhinia pectoralis* and *L. rubicunda* are of some interest.
- (10539) DOBRAVEC, J., [Ed.], 1995. Življenje v vodah Triglavskega narodnega parka. – Triglav National Park: List of freshwater species. *Razpr. Razisk. Triglavski nar. Park* 4: 1-101. (Slovene, with Engl. title). – (Uprava TNP, Kidričeva 2, SI-4260 Bled).  
This is a locality-wise freshwater flora and fauna catalogue-cum-bibliography of Triglav National Park, Julian Alps, Slovenia. The odon. are listed from 14 localities (pp. 84-86).
- (10540) DRAKE, C.M., 1995. The effects of cattle poaching on insects living at the margin of the river Itchen, Hampshire. *Br. J. Ent. nat. Hist.* 8(4): 165-169. – (English Nature, Northminster House, Peterborough, PE1 1UA, UK).  
*Coenagrion mercuriale* is recorded from Itchen Co. Park, Hamps., UK.
- (10541) DUMONT, H.J. & S.N. BORISOV, 1995. Status and range of the species-pair *Ischnura forcipata* Morton, 1907 and *Ischnura intermedia* Dumont, 1974 (Insecta: Odonata: Coenagrionidae). *Biol. Jaarb. Dodonaea* 62: 157-163. – (First Author: Inst. Anim. Ecol., Univ. Gent, Ledeganckstraat 35, B-9000 Gent).  
The 2 closely related spp. show non-overlapping ranges in W Asia. They are presently separated by a series of deserts (Karakum, Kavir, Lut) which came into existence in the Pleistocene, and may have speciated quite recently. *I. intermedia* is hypothesized to be the more primitive of the 2. The Karakum canal, bridging the desert gap between the Amu Darya R., flowing into the Aral Lake, and the Atrek R., draining the West Kopet Dag mountains towards the Caspian Sea, may artificially establish contact between both spp., which now occur in different super-provinces (the Irano-Anatolian and the Sogdian-Tibetan) of the Palaearctic.
- (10542) ERJAVECIA. [Newsletter of the Slovene Odonatological Society], Naklo, Slovenia, No. 1 (Oct. 25, 1995). (Slovene). – Compiled by, and available from M. Kotarac (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).  
The newsletter is scheduled to appear semiannually. It is named after F. Erjavec (1834-1887), the author of the first Slovene texts on dragonflies. The first issue (12 pp.) is bringing a brief report of the 13th Int. Symp. Odonatol. (p. 2), the announcement of the 2nd Odonatol. Symp. of the Alps-Adriatic Regional Community (Deutsch-Wagram nr Vienna, Austria, July 14-18, 1996) (p. 3), the information on various features of the forthcoming odon. atlas of Slovenia (pp. 4-5, 8-11), some current titles on the odon. fauna of Slovenia (p. 12), all by M. Kotarac, and a review of the SIO periodicals, available in the Slovene institutional libraries (pp. 6-7), by B. Kiauta.
- (10543) FREYHOF, J., 1995. Zum Vorkommen der Gemeinen Keiljungfer *Gomphus vulgatissimus* (L.) (Odonata: Gomphidae) an der Sieg/NRW. *Decheniana* 148: 115-117. (With Engl.s.). – (Zool. Inst. & Mus. "Alexander Koenig", Adenauerallee 160, D-53113 Bonn).  
During 1992 and 1994, *G. vulgatissimus* was regularly sighted at the Sieg R., between Bergheim and Dattenfeld, Rhineland-Westphalia, Germany.
- (10544) GEERTS, R., 1995. Het Korenburgerveen. *Amoeba, Amst.* 69(5): 210-211. (Dutch). – (Czaar Peterstraat 7, NL-1506 SK Zaandam).  
Contains a briefly annotated checklist of 17 odon. spp.; – the Korenburgerveen nr Wageningen, the Netherlands.
- (10545) GEISTER, I., 1995. Oda vodi. – Ode to water. *Ars vivendi, Ljubljana* 27: 93-101. (The journal appears simultaneously in Slovene & Engl. edns, with identic pagination). – (Author: Pokopališka pot 13, SI-4202 Naklo; – Publishers: Poljanska 6, SI-1000 Ljubljana).  
The "article" is rather a "poetry in prose". It contains a poetic description of dragonfly emergence (pp. 96-97), and a reference to the dragonfly as the "herald of destiny" in the ancient Germanic Freya cult (p. 98).
- (10546) GLOTZHOBER, R.C., R.A. RESTIFO, T.E. PERRY & R.W. ALRUTZ, 1995. New dragonfly (Odonata) species in Ohio, and additions to county records. *Ohio J. Sci.* 95(3): 233-239. – (First Author: Ohio Hist. Soc., 1982 Velma Ave., Columbus, OH

43211, USA).

*Macromia georgina*, *Gomphaeschna furcillata* and *Libellula deplanata* are new state records, increasing the number of known Odon. from Ohio to 156 spp. and sspp. Also reported are 611 new county records, and comments on early or late flight dates and/or species status are made for several spp. The records are based upon recent collecting and re-examination of museum collections.

- (10547) GRUNERT, H., 1995. Eiablageverhalten und Substratnutzung von *Erythromma najas* (Odonata: Coenagrionidae). *Braunsch. naturk. Schr.* 4(4): 769-794. (With Engl.s.). – (Nordstr. 2, D-38106 Braunschweig).

The reproductive behaviour and substrate utilization were studied (1986-1989) at 11 localities. Early in the morning, ♂♂ occupy perches on the floating leaves of water plants, while ♀♀ only come to the water in order to mate and subsequently to lay their eggs. Oviposition always began in tandem. When the tandem completely submerged during oviposition, the ♂ resurfaced on his own after about 10-15 min. Eggs were found in 20 different plant spp. The largest numbers of eggs per oviposition site were found in the flower stalks of *Nuphar lutea*. The morphological structure of the plants used for oviposition showed considerable variation. Regardless of which substrate was used, eggs were always deposited individually directly beneath the epidermis. Using a dynamometer, the relative puncture force to penetrate the epidermis was determined for various substrates. For the flower stalk of *N. lutea* a mean puncture force of 21 mN/puncture was determined, while for lignified substrates, such as *Potentilla palustris*, values over 100 mN/puncture were found. The frequency with which *E. najas* took to the air during oviposition differed significantly for the 4 tested types of substrate. The lowest frequency was observed for large objects (*N. lutea*, *Potamogeton lucens*). A utilization analysis of *N. lutea* flower stalks revealed that more eggs were laid in the thicker stalks. Oviposition occurred at depths down to 80 cm below water surface, although 75% of eggs were found in the first 20 cm below the surface. The majority of clutches contained up to 600 eggs, while 10% of those examined contained over a 1000 eggs. 19% of the examined clutches were infested with parasites. The time required for egg development varied, depending on water temperature, from 13(32°C) to 34(20°C) days. In the laboratory, at a water temperature of 32°C,

imagines hatched after just 45 days (14 days egg development plus 31 days larval development), but were considerably smaller and lighter than in the wild. The deposition of large numbers of eggs in a single substrate, the frequently observed aggregation of oviposition tandems (up to 6 tandems per flower stalk in the case of *N. lutea*) and the fact that oviposition is carried out completely submerged can be understood as providing protection from interfering ♂♂ and as a strategy for avoiding predators.

- (10548) GUBBELS, R.E.M.B., J.T. HERMANS & R.F.M. KREKELS, 1995. De Zuidelijke Oeverlibel na 93 jaar weer in Nederland. – Dragonfly *Orthetrum brunneum* returns to the Netherlands after 93 years. *Natuurh. Maandbl.* 84(12): 284-291. (Dutch, with Engl.s.). – (Second Author: Hertestraat 21, NL-6067 ER Linne).

In July 1995, the sp. was sighted at 3 localities in Zuid Limburg prov.; 2 of these support small, but probably reproducing populations. The sp. has not been recorded in the Netherlands since 1902. The habitats are described and their odon. fauna is listed. *Ophiogomphus cecilia* and *Crocothemis erythraea* are among the nationally noteworthy spp.

- (10549) HERMANS, J.T., 1995. De Zuidelijke Glazenmaker weer in Limburg waargenomen. – The return of the Southern Migrant Hawker *Aeshna affinis* to Limburg. *Natuurh. Maandbl.* 84(10): 242-245. (Dutch, with Engl.s.). – (Hertestraat 21, NL-6067 ER Linne).

In July-Aug. 1995, the sp. was evidenced at 5 localities in the prov. of Limburg, the Netherlands, from where it has not been recorded since 1951. The localities are briefly described and habitat requirements of the sp. in that part of Europe are summarized.

- (10550) HOEFFNAGEL, W.J.A., 1995. *Odonata (libellen) van de Hilversumse Bovenmeent in 1995. (Een verkennende inventarisatie).* – [Odonata (dragonflies) of the Hilversumse Bovenmeent in 1995. A pilot survey]. Hoeffnagel, Hilversum, ii+13 pp. (Dutch). – (Krekemeent 72, NL-1218 ED Hilversum).

Annotations on the occurrence of 4 spp.; – nr Hilversum, the Netherlands.

- (10551) HOEFFNAGEL, W.J.A., 1995. *Odonata (libellen) van het Laegieskamp in 1995.* – [Odonata (dragonflies) of the Laegieskamp in 1995].

Hoeffnagel, Hilversum. ii+25 pp. (Dutch). – (Krekellemeent 72, NL-1218 ED Hilversum).

20 spp. are reported and briefly discussed from this locality nr Bussum, the Netherlands.

- (10552) INBERG, H. & R. KETELAAR, 1995. Some observations on butterflies (Rhopalocera), dragonflies (Odonata) and plants in Slovenia. – Nekatera opazovanja metuljev (Rhopalocera), kačjih pastirjev (Odonata) in rastlin v Sloveniji. In: A. Bibič, [Ed.], Training course "Nature conservation", Rakov Škocjan, 23.6-3.7.95, pp. 67-75, ZOTKS, Ljubljana. (Bilingual: Engl./Slovene). – (Second Author: Zwinststraat 18, NL-7417 CJ Deventer). Records of 12 odon spp. from Rakov Škocjan (Inner Carniola) and the Škocjan Bay (Slovene Littoral), Slovenia.

- (10553) INOUE, K., 1995. Madara Naniwa-tombo *Sympetrum maculatum*. *Insectarium, Tokyo* 32(9): 265, col. cover phot. by T. ANDOH excl. (Jap., with taxon. nomencl.). – (5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA). *S. maculatum* does not change colour during maturation, which is a unique case in the genus. It has been described from Osaka; "Naniwa" is the old name for that city. Recently, all its habitats there were destroyed, though the sp. is widespread in numerous prefectures, Japan (a map is incl.). It has a non-contact flying oviposition on damp soil. The eggs are resistant also under extraordinary dry conditions, as evidenced during the unusually dry summer-autumn-winter period in 1994. At Aonogohara Pond, Hyogo pref., teneral adults were sighted in mid July, 1994.

- (10554) ISHIZAWA, N., 1995. Observations on migrating *Sympetrum frequens* Selys (Libellulidae, Odonata). *Gekkan-Mushi* 293: 22-27. (Jap., with Engl. title). – (1644-15, Yamaguchi, Tokorozawa, Saitama, 359, JA). – Author's unabridged Engl. translation is available also from the Eds of *Odonatologica*. The systematic observations were conducted at several highland and lowland localities in Hokkaido, Nagano and Saitama. They cover the evidence on the migration of tenerals to the highlands, and that of mature individuals to the lowlands, and include a wealth of fresh information, e.g. in migrating tandem, ♂ body temperature is higher (27.0°C) than in ♀ (23.0°C); the migrating speed in an autumnal migration was ca 7 km/h; etc.

- (10555) ISHIZAWA, N., 1995. Population dynamics in the genus *Sympetrum* at Tokiwabashi Park, Tokyo. *Insectarium, Tokyo* 32(7): 192-194. (Jap., with Engl. title). – (1644-15, Yamaguchi, Tokorozawa, Saitama, 359, JA). – Author's unabridged Engl. translation is available also from the Eds of *Odonatologica*.

This is a report on population dynamics of *S. darwinianum*, *S. frequens* and *S. infuscatum*, under the extreme climatic conditions of 1994, when the max. temperature in Tokyo reached 39.1°C.

- (10556) JOHANSSON, F., 1995. Increased prey vulnerability as a result of prey-prey interactions. *Hydrobiologia* 308: 131-137. – (Dept Anim. Ecol., Univ. Umea, S-90187 Umea).

The indirect effects were examined in a trophic system with 3 levels, consisting of 2 prey spp., a top predator and an intermediate predator. Qualitative data showed that the activity of both the top predator, *Aeshna juncea*, and the active prey, *Heterocope saliens* (Copepoda), caused bouts of swimming in the sedentary prey, *Sida crystallina* (Cladocera). These swimming bouts caused encounters, reactions, attacks and captures of *S. crystallina* by the intermediate predator, *Coenagrion hastulatum*. Quantitative data showed that *C. hastulatum* had a higher encounter frequency and a higher attack frequency on the sedentary prey when the active prey was present. This result was an effect of encounters between the 2 prey which increased swimming activity of the sedentary *S. crystallina*. The results suggest that interactions between prey 1 and prey 2, and between prey and predators, could influence the structure of natural communities.

- (10557) *JOURNAL OF THE BRITISH DRAGONFLY SOCIETY*, Vol. 11, No. 2 (Oct. 1995) – (c/o Dr W.H. Wain, Haywain, Hollywater Rd, Bordon, Hants, GU35 0AD, UK).

*Perrin, V.L.*: Observations on *Lestes dryas* Kirby habitat in Norfolk: is there a typical inland site for this species? (pp. 25-26); – *Winsland, D.C.*: Predation of emerging Odonata by the Black Ant (*Lasius niger* [L.]) (pp. 26-27); – An elementary guide to environmental factors (pp. 27-28); – *Brownnett, A.*: Observations on the distribution and phenology of *Cordulia aenea* (L.) in vice-county 23 (pp. 29-30); – *Radford, A.P.*: *Sympetrum sanguineum* (Müller) ovipositing on dry land (p. 30); – *Cham, S.*: Distribution and habitat of the Downy Emerald Dragonfly *Cordulia*

- aenea (L.) (Odonata: Corduliidae) in Britain and Ireland (pp. 31-35); – *Smith, E.M. & R.J.W. Smith*: *Somatochlora metallica* (Vander Linden) in Scotland (pp. 36-41); – *Goodyear, K.G.*: Comparison of aquatic larval habitats in *Libellula fulva* Müller (pp. 42-45); – *Paine, A.*: Notes and observations (pp. 46-48); – *Askew, R.R.*: [Book review] A. Hine, Woodland pond management (p. 48).
- (10558) KATO, M., T. INOUE, A.A. HAMID, T. NAGAMITSU, M.B. MERDEK, A.R. NONA, T. ITINO, S. YAMANE & S. YUMOTO, 1995. Seasonality and vertical structure of light-attracted insect communities in a dipterocarp forest in Sarawak. *Res. Pop. Ecol.* 37(1): 59-79. – (First Author: Biol. Lab., Yoshida Coll., Kyoto Univ., Sakyo, Kyoto, 606-01, JA).  
Close to 113000 (mean 112803.9) individuals of nocturnal flying insects, pertaining to 23 orders, were collected monthly, during 13 months, at 3 vertical levels, using ultra violet light traps. The odon. were hardly represented, viz. (mean) 0.4, 0.5 and 0.3 individuals in, resp., the canopy (35 m), subcanopy (17 m) and on the floor (1 m). The names are not stated.
- (10559) KEIM, C., 1995. Les libellules en Valais. *Info-Nature, Sion* 45: 1 (title & cover phot.), 3-16. (With abridged Germ. text appended). – (Finettes 10, CH-1920 Martigny).  
A general presentation of the Valais dragonfly world, Switzerland; without a complete species list. So far, 56 spp. are known from 250 localities. – For a monographic treatment of the cantonal fauna cf. OA 9419.
- (10560) KETELAAR, R., 1995. De libellen van zuidwest Drente. – [Dragonflies of southwestern Drente]. *Amoeba, Amst.* 69(5): 179-184. (Dutch). – (Zwinstraat 18, NL-7417 CJ Deventer).  
It mainly deals with the 25 spp., recorded in July 1993 in the Uffelte area. So far 36 spp. are known from SW Drente, the Netherlands. All are listed and some are briefly discussed. Some suggestions for the forthcoming odon. field work in the province are added.
- (10561) KETELAAR, R., H. INBERG & W. WAKKIE, 1995. Slovenie: een paradijs voor natuurliefhebbers. – [Slovenia: a paradise for nature fans]. *Amoeba, Amst.* 69(5): 197-202. (Dutch). – (First Author: Zwinstraat 18, NL-7417 CJ Deventer).  
Contains a chapter on odonatological impressions, with a few records from the area of Ptuj, Styria, NE Slovenia (*Coenagrion ornatum*, *Cordulegaster heros*, etc.).
- (10562) KHALIQ, A., H.G. MURTAZA & M.R. KHAN, 1995. Description of the naiads of three species of genus *Orthetrum* (Libellulidae: Odonata). *Pakistan J. Zool.* 27(3): 245-247. – (Dept Ent., Univ. Coll. Agric., Rawalakot, AK, Pakistan).  
Ultimate instar larvae of *O. anceps*, *O. taeniolatum* and *O. t. triangulare* are described and illustrated from Rawalakot, alt. 1700 m, Pakistan. Some field notes are added.
- (10563) KIAUTA, B. & M. KIAUTA, 1995. The karyotypes of *Somatochlora meridionalis* Nielsen from Slovenia, and *S. metallica* (Vander L.) from Switzerland, with a tentative note on the origin of the central European *S. metallica* (Odonata: Corduliidae). *Opusc. zool. flumin.* 137: 1-5. – (Odonatologica Ed. Office, P.O. Box 256, NL-3720 AG Biltoven).  
The karyotypes are compared with the previously available evidence from Finland. On the strength of the variation in size gradients at metaphase I, it is tentatively postulated, the Finnish *metallica* population is the "oldest", and the Swiss the "youngest" of the 3. Consequently, the European *metallica* is likely to originate from a NE (Siberian) stock, the chromosome features of which were largely retained also in the mediterranean *S. meridionalis*.
- (10564) KIMMINSIA. *Newsletter of the U.K. National Office of the International Odonatological Society (SIO)*, Vol. 6, No. 2 (Nov. 1995). – (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK).  
Under various headings, the issue presents personal news from ca 20 members. – Signed articles: *Silsby, J. & P. Miller*: XIII Symposium in Essen, August 20-25th (pp. 10-11); – *Endersby, I.*: *Cordulephya pygmaea* in a suburban garden (p. 11); – *Averill, M.*: Night sighting of *Hemianax ephippiger* on migration (p. 11); – *Donnithorne, N.*: Sussex tetrad atlas (p. 12); – *Miller, P.*: Some dragonflies in Uganda (pp. 12-13); – *Mayhew, P.*: Odonatologist off-the-leash (pp. 13-14; Hawaii); – *Orr, B.*: Odonata of a Bornean rainforest (pp. 14-15). – A concise report of the Essen Plenary Business Meeting and of the Council meetings (by *J. Silsby*), and the directory of the contributors to the newsletter were circulated with this issue.

- (10565) Kladnik, B. [photographs] & I. Geister [text], 1995. *Večni krog. – Eternal cycle*. Zaklad, Ljubljana. 114 pp. – ISBN 961-90062-4-0. Hardcover, 22.0 × 28.5 cm. (Bilingual: Slovene/Engl.). – (Publishers: Bratovševa pl. 16, SI-1113 Ljubljana). Sensitive verses, radiating the experience of the beauties of waters, and superb photographs of various aquatic motifs in Slovenia. Dragonfly verses appear on pp. 28, 30-31. Of particular interest is the appellation, "modrasov hlapec" (= "horned viper's hireling"), used in the Slovene dialect of the Tolmin region (W Slovenia), published for the first time by J. Pleteršnik (1895, *Slovensko-nemški slovar*, Vol. 1, p. 596, Knezoškofijstvo, Ljubljana).
- (10566) Koomen, P., V.N. Ellis & L.P.S. Van Der Geest, [Eds], 1995. *Insekten onderzoeken: een overzicht van vijftig jaar entomologisch onderzoek in Nederland*. – [A review of fifty years of entomology research in the Netherlands]. Ned. Ent. Ver., Amsterdam. 248 pp. ISBN 90-71912-13-2. (Mostly in Dutch, no Engl.s's). – (Publishers: Plantage Middenlaan 64, NL-1018 DH Amsterdam).  
A collection of papers, by various authors, published on the occasion of the 150th anniversary of the Netherlands Ent. Soc. (since 1845), and containing very few and incidental references to the Odon. Of interest is a little known portrait of Dr M.A. Lieftinck (p. 191; 1948, Sorong, Indonesia).
- (10567) Kotarac, M., 1995. *Favna kačjih pastirjev (Odonata) na področju agromelioracije Hotiza-Polana*. – [Dragonfly fauna (Odonata) in the Hotiza-Polana drainage area]. Kotarac, Miklavž. 4 pp. (Slovene). – (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).  
A commented list of 15 sp. (incl. *Coenagrion ornatum*); SE Prekmurje region, NE Slovenia.
- (10568) Kotarac, M., 1995. *Ocena vpliva izgradnje in obratovanja AC na vodno območje v Pesniški dolini. (Projekt št. 89). Kačji pastirji (Odonata)*. – [Assessment of the impact of the superhighway construction and operation on the hydrographic system of the Pesnica R. valley. (Project No. 89). Dragonflies (Odonata)]. Kotarac, Miklavž. 8 pp. (Slovene). – (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).  
The assessment is based on a 2-month field work (Pesnica R. basin, Styria, Slovenia). 21 spp. are mentioned, incl. several national Red List candidates. Of particular regional interest is the occurrence of *Coenagrion ornatum*, at 2 of the 9 localities studied.
- (10569) Krishnaradj, R. & G. Pritchard, 1995. The influence of larval size, temperature, and components of the functional response to prey density on growth rates of the dragonflies *Lestes disjunctus* and *Coenagrion resolutum* (Insecta: Odonata). *Can. J. Zool.* 73(9): 1672-1680. (With Fr.s.). – (Second Author: Div. Ecol., Dept Biol., Univ. Calgary, Calgary, AB, T2N 1N4, CA).  
Larval growth of *L. disjunctus* was completed in 70 d in the field, whereas in *C. resolutum* it took 10-22 months. This was not simply the result of occupying warmer microhabitats, because *L. disjunctus* larvae grew faster than *C. resolutum* at all constant temperatures between 10 and 25°C in the laboratory. Multiple regression analysis showed that growth rates of both sp. were positively related to temperature and negatively related to larval size and to the square of temperature. The latter term is necessary to describe the decrease in growth rate at high temperatures. The equation predicted that the growth rate of *L. disjunctus* reached a maximum at 28.8°C, whereas that of *C. resolutum* decreased above 22.4°C. Small and medium-sized larvae of *L. disjunctus* ate more prey (*Daphnia magna*) in 15 min than *C. resolutum* at all prey densities. In 15 min experiments the attack coefficient for small *L. disjunctus* larvae was significantly larger than for small *C. resolutum* larvae and handling time for medium larvae was shorter. Other comparisons had large associated sampling errors, but the trends were the same. These differences may be associated with the relatively longer labia of *L. disjunctus* and its ability to change hunting methods from ambush to active search.
- (10570) La Lettre des Sociétaires [of the] Société Française d'Odonatologie, No. 6 (Dec 15, 1995). – (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois-d'Arcy).  
Among the various management news, the following are of particular general interest: (1) The SFO General Business Meeting is to take place at Bois-d'Arcy on 20 Apr. 1996; – (2) Those who need collecting permits for 1996 should get in touch with Mr Dommanget (address above).
- (10571) LibellenNieuwsBRIEF, Hilversum, Vol. 3, No. 5 (Sept., 1995) (Dutch). – (c/o V. Kalkman, Rijsterborghweg 8, NL-7412 VA Deventer).

- In addition to various management notes etc., the following are the signed articles: *van As, B., K. Mostert & T. van Schie*: A small invasion of *Aeshna affinis* in the autumn of 1995 along the coast, particularly near Hoek van Holland (pp. 2-4); – *van der Weide, M.*: Brief odonatological impressions from the Midden-Limburg NJN summer workshop (p. 5); – *Dijkstra, D.K., N. Dingemanse & P. Edelaar*: *Hemianax ephippiger* at Budel: a new species for the Netherlands (pp. 6-7); – *Wasscher, M.*: An invasion of *Sympetrum flaveolum* from the East (pp. 8-10); – *Kalkman, V.*: On the collecting of *Lestes virens* (p. 11).
- (10572) *LIBELLULA. Mitteilungsblatt der Gesellschaft deutschsprachiger Odonatologen (GdO)*, Vol. 14, No. 3/4 (Dec. 1995). – (c/o Mrs U. Krüner, Gelderner Str. 39, D-41189 Mönchengladbach).  
*Adomssent, M.*: Naturräumliche Gliederung der lauenburgischen Libellenfauna (Schleswig-Holstein) (pp. 125-156); – *Schlüpmann, M.*: Zur Bedeutung hydrochemischer Parameter stehender Kleingewässer des Hagerer Raumes für die Libellenfauna (pp. 157-194); – *Jakobs, W.*: Die Libellen im Naturschutzgebiet "Mittelsee" bei Lehnin, Landkreis Brandenburg (pp. 195-197); – *Jödicke, R.*: Die Bestands-situation von *Somatochlora flavomaculata* (Vander Linden) in Nordrhein-Westfalen (Anisoptera: Corduliidae) (pp. 199-202); – *Förster, S.*: Inverses Schlüpfen bei *Ischnura elegans* (Vander Linden) (Odonata: Coenagrionidae) (pp. 203-208); – *Heidemann, H. & G. Lehmann*: Nachruf auf Walter Rösch (pp. 209-212). – *Inlay*: Einladung zur Tagung "Klima-änderung: Konsequenzen für Flora, Fauna, Lebensräume", by *J. Ott*.
- (10573) *LOHMANN, H.*, 1995. *Das phylogenetische System der Anisoptera (Insecta: Odonata)*. DiplArb. Fak. Biol., Univ. Freiburg/Br. [pagination unknown; ca 150 pp.?]. – Copies available from the Author, at ca DEM 200.- net. [sic!]. – (Ziegelackerweg 1, D-79618 Rheinfelden).  
 [Not available for abstracting].
- (10574) *LOPAU, W. & A. WENDLER*, 1995. Arbeitsatlas zur Verbreitung der Libellen in Griechenland und umliegenden Gebieten. Rasterkarten nach den in der Literatur vorhandenen Nachweisen sowie unveröffentlichten Beobachtungen. *Naturk. Reiseber.* 5: 1-108. – (First Author: Kohstedtermoor 26, D-27442 Gnarenburg; – Second Author: Hartmannstr. 47, D-91052 Erlangen).
- This is a monographic treatment of the odon. fauna of Greece, with comments on status and taxonomy, and distribution maps of 71 spp. The work contains numerous previously unpublished data. The doubtful and infraspecific taxa are omitted, though briefly mentioned in the text. The regional bibliography includes over 100 titles. – This certainly is to become the key reference work on the Odon. of the Greek world though, unfortunately, the fauna of Cyprus is not considered.
- (10575) *MALANGPO. Newsletter of the Thai National Office of the International Odonatological Society (S.I.O.)*, No. 12 (Nov. 1995). – (c/o Bro. A. Pinratana, St Gabriel's Coll., 565 Samsen Rd, Bangkok-10300, Thailand).  
*Pinratana, A.*: Phu Kradung (pp. 87-88); – *Donnelly, N.*: Back to Thailand: Farangpo 94 (pp. 88-90); – *Silsby, J.*: Adventures in Thailand (pp. 91-93).
- (10576) *MALKMUS, R. & P. LENK*, 1995. *Libellen*. NatSchutz Bayern, Main-Spessart. 112 pp. [Flora u. Fauna im Landkreis Main-Spessart, Vol. 2]. ISBN 3-921535-43-3. – Price: DEM 20.- net. – (Orders to: Bund Naturschutz in Bayern, Petzoltstr. 21, D-97828 Marktheidenfeld).  
 The make-up and treatment are very similar to those of the work listed in OA 9432 (36 spp.); – Main-Spessart distr., Bavaria, Germany.
- (10577) *MARDEN, J.H.*, 1995. Large-scale changes in thermal sensitivity of flight performance during adult maturation in a dragonfly. *J. exp. Biol.* 198(10): 2095-2102, cover phot. excl. – (Dept Biol., Pennsylvania St. Univ., University Park, PA 16802, USA).  
 Newly emerged adult odon. are physiologically immature in a number of ways, including the mass, ultrastructure and biochemistry of their flight muscles. In *Libellula pulchella*, adult maturation of flight muscle is accompanied by striking changes in thermal physiology. Vertical force production during fixed flight attempts in newly emerged adults (tenerals) shows a broad plateau of near-peak performance, first attained at cool thoracic temperatures (typically 28-34°C) and maintained up to thoracic temperatures of 40-45°C [mean optimal thoracic temperature (OTT)=34.6°C; mean upper lethal temperature (ULT)=45.3°C]. In contrast, fully mature adults show narrow thermal sensitivity curves, wherein peak performance is approached only within a few degrees

of the thermal optimum, which invariably occurs at hot thoracic temperatures (38–50°C; mean OTT=43.5°C; mean ULT=48.6°C). These changes in the shape and position of thermal performance curves are compared with predictions from hypotheses for the evolution of thermal sensitivity.

- (10578) MARINOV, M., 1995. New data on dragonflies (Odonata) of the Bulgarian high mountain lakes and marshlands in Rila and Pirin mountains. *3rd Natn. scient. Conf. Ent., Sofia*, pp. 15–17. (With Bulg.s.). – (Meden Rudnik, P.O. Box 9, BG-8011 Bourgas).

*Lestes dryas*, *Coenagrion puella*, *Enallagma cyathigerum*, *Pyrrhosoma nymphula*, *Aeshna juncea* and *Somatochlora metallica* are reported from 7 wetland localities (alt. 200–2400 m) in the said mountain ranges.

- (10579) MARTENS, A. & M. GASSE, 1995. Die Südliche Mosaikjungfer *Aeshna affinis* in Niedersachsen und Sachsen-Anhalt (Odonata: Aeshnidae). *Braunschw. naturk. Schr.* 4(4): 795–802. (With Engl.s.). – (Zool. Inst., Techn. Univ., Pockelsstr. 10a, D-38106 Braunschweig).

*A. affinis* is recorded from 2 localities in Lower Saxony and from 1 in Saxony-Anhalt; 1994. Details of the respective habitats are described, and the status of the sp. in N Germany is briefly discussed.

- (10580) MARTINIA. *Bulletin des odonatologues de France*, Vol. 11, No. 3 (Sept. 1995). – (c/o J.-L. Dommangeat, 7 rue Lamartine, F-78390 Bois-d'Arcy). *Dommangeat, J.-L.*: Secondes rencontres odonatologiques de France, Oulches (Indre), 16–19 juin 1995: Compte-rendu et premier bilan (pp. 51–69); – *Santos Quiros, R.*: *Enallagma cyathigerum* (Charpentier, 1840) et *Sympetrum fonscolombii* (Sélys, 1840) observés fin février dans le sud de l'Espagne (Odonata: Coenagrionidae, Libellulidae) (pp. 70–72); – *Dommangeat, J.-L.*: Rubrique bibliographique (pp. 72–76); – Dommangeat's report contains also abstracts of the following papers/slide programs presented at the Symposium: *Dommangeat, J.-L.*: Situation actuelle des programmes INVOD et BINVOD, perspectives et évolutions (p. 57); – *Greff, N.*: Atlas cartographique de la Bretagne (pp. 57–58); – *Schmitt, H.*: *Calopteryx haemorrhoidalis* (Vander Linden, 1825) dans le sud de la Charente (p. 58); – *Röhn, C.*: Ecologie de *Lestes dryas* Kirby, 1890 et de *Sympetrum flaveolum* (L., 1758) dans le sud-ouest de l'Allemagne (pp. 58–59);

– *Grand, D.*: Distribution de *Coenagrion ornatum* (Sélys, 1850) en France centrale (p. 59); – *Mulnet, D.*: Développement larvaire de *Leucorrhinia dubia* (Vander Linden, 1825) dans deux biotopes de tourbière (pp. 59–60); – Etude comparative de l'émergence de plusieurs espèces d'odonates de tourbière (pp. 60–61); – *Boudot, J.-P.*: Libellules de Grèce et de Turquie (p. 61); – *Jacquemin, G.*: Les odonates de Lorraine: conservation, rôle bio-indicateurs (p. 62); – *Jacquemin, G. & J.-L. Dommangeat* [Table ronde]: Conservation des espèces: protection et gestion des habitats (pp. 62–67).

- (10581) MAY, M.L., 1995. Dependence of flight behavior and heat production on air temperature in the Green Darner dragonfly *Anax junius* (Odonata: Aeshnidae). *J. exp. Biol.* 198(11): 2385–2392. – (Dept Ent., Cook Coll., New Jersey Agric. Exp. Stn, Rutgers Univ., P.O. Box 231, New Brunswick, NJ 08903–0231, USA).

The large, endothermic *A. junius* regulates the temperatures of its thorax ( $T_{th}$ ) and head ( $T_h$ ) during flight. At high ambient temperature ( $T_a$ ) it is able to dispose of excess heat from the thorax by increasing hemolymph circulation to the abdomen, but recent evidence suggests that heat loss to the abdomen is largely passive at  $T_a < 30^\circ\text{C}$ . Nevertheless, these insects continue to regulate  $T_{th}$  and  $T_h$  at least down to  $20^\circ\text{C}$  and probably at much lower values of  $T_a$ . As  $T_a$  declines, *A. junius* glide less, probably fly faster when feeding, and increase their wingbeat frequency when patrolling. Presumably as a result of these behavioral changes, heat production, and thus inferred flight metabolic rate, is inversely proportional to  $T_a$ . This is the first demonstration based on field data that an insect regulates body temperature while flying by altering heat production.

- (10582) MAY, M.L., 1995. Simultaneous control of head and thoracic temperature by the Green Darner dragonfly *Anax junius* (Odonata: Aeshnidae). *J. exp. Biol.* 198(11): 2373–2384. – (Dept Ent., Cook Coll., New Jersey Agric. Exp. Stn, Rutgers Univ., P.O. Box 231, New Brunswick, NJ 08903–0231, USA).

*A. junius* regulates thoracic temperature ( $T_{th}$ ) during flight. This sp., like several other intermittently endothermic insects, achieves control of  $T_{th}$  at least in part by increasing circulation of hemolymph to the abdomen at high air temperature ( $T_a$ ), thus facilitating heat loss from the thorax. In this paper, I demonstrate that heat transfer to the head is also under

active control, very probably owing to temperature-sensitive alteration of hemolymph circulation. As a result, head temperature ( $T_h$ ) is strikingly elevated above  $T_a$  during endothermic warm-up and flight. Furthermore, during unrestrained flight in the field,  $T_h$  is regulated actively by increasing hemolymph circulation from the warm thorax at low  $T_a$ . Concurrent measurements of abdominal temperature ( $T_{ab}$ ) confirm that the abdomen is used as a 'thermal window' at  $T_a > 30^\circ\text{C}$  but apparently not at lower  $T_a$ ; thus, some additional mechanism(s) must exist for regulation of  $T_{ab}$  at low  $T_a$ .

- (10583) MERMOD-FRICKER, F., 1995. Bibliographie concernant la faune entomologique suisse, 1993. *Bull. romand Ent.* 13: 111-125. – (Centre suisse Cartogr. Faune, Terreaux 14, CH-2000 Neuchâtel). Contains 12 odonatol. titles.

- (10584) MILLER, K.B. & M.A. IVIE, 1995. *Enallagma optimolocus*, a new species of damselfly from Montana (Odonata: Coenagrionidae). *Proc. ent. Soc. Wash.* 97(4): 833-838. – (Dept Ent., Montana St. Univ., Bozeman, MT 59717, USA).  
The new sp. is described and illustrated from streams in W Montana (holotype ♂: Flathead Co., Whitefish R. 4.5 km SW Whitefish, 27-VII-1993; deposited at MTEC, Bozeman). Garrison's key (cf. OA 4761) is modified to distinguish it from the related *E. carunculatum* and *E. civile*. The occurrence of *E. carunculatum* and *E. anna* in the collecting sites of the new sp., and the absence of *E. civile* from the areas surrounding the range of the new sp. are noted.

- (10585) MILLER, P.L., 1995. *Dragonflies. Naturalists' Handb.* 7. [2nd edn]. Richmond Publ. Co., Slough/UK. iv+118 pp., 4 col.pls (by R.R. Askew) excl. ISBN 0-85546-299-X (paper), 0-85546-300-7 (hardcovers). – (Publishers: P.O. Box 963, Slough, SL2 3RS, UK). This is a greatly revised, enlarged and updated edn of the work listed in OA 6031. The chapters are: "Introduction", "Eggs and larvae", "Adult life", "Flight", "Vision", "Reproductive biology", "Guarding and egg-laying", "Keys to larvae and adults" of British spp., "Dragonfly conservation and recording", and "Some methods for studying dragonflies". The comprehensive selected bibliography, and the annotated checklist and phenology tab. of adult British spp. will be also useful. – The Author is one of the greatest authorities on odon. biology. Although the emphasis is on British taxa, the book virtually presents a con-

cise review of the biology of the Order.

- (10586) MILLER, P.L., 1995. Some dragonflies of forests near Kampala, Uganda, with notes on their ecology and behaviour (Odonata). *Opusc. zool. flumin.* 136: 1-19. – (68 Blenheim Drive, Oxford, OX2 8DQ, UK).

A report is given of the occurrence of 52 spp., observed in or close to the margins of 2 small forest patches and one larger forest in Feb.-May 1995, and in earlier years. 20 spp., which are largely or entirely confined to forests and breed within them, are distinguished from those which seek the forest margin for feeding and roosting but breed elsewhere. It is argued that the survival of many specialised forest spp. is severely threatened by the rapid destruction of forest patches in this region as a result of logging, charcoal production and the spread of agriculture.

- (10587) MITRA, T.R., 1995. Taxonomic status of four Odonata species described by D.N. Sahni from Western Himalaya. *J. Bengal nat. Hist. Soc. (N.S.)* 14(1): 71-72. – (18/1 Dakshin Para Rd, Calcutta-700028, India).

The following synonymies are established: *Disparoneura bhatnagari* Sahni = *Copera marginipes* (Ramb.), *Anisopleura kusimi* Sahni = *A. lestoides* Sel., *Acrogomphus mohani* Sahni = *Anisogomphus bivittatus* (Sel.), and *Orthetrum gangi* Sahni = *O. glaucum* (Br.). – Cf. also M. HÄMÄLÄINEN, 1989, *Odonatologica* 18: 13-20.

- (10588) MÖCKEL, R., 1995. Zur Libellenfauna des NSG Reptener Teiche bei Vetschau. *Biol. Stud., Luckau* 24: 77-86. – (Author's address not stated). An outline of the fauna (22 spp.), as evidenced (1994) at a locality in distr. Calau, Niederlausitz, E Germany.

- (10589) MOLA, L.M., 1995. Post-reductional meiosis in *Aeshna* (Aeshnidae, Odonata). *Hereditas* 122: 47-55. – (Bulnes 781 10°A, AR-1176 Buenos Aires). A careful analysis of meiotic chromosome behaviour in *A. bonariensis*, *A. confusa* and *A. cornigera planaltica* indicates that, in these spp., autosomal bivalents divide post-reductionally. Bibliographic evidence also supports this type of meiosis in other odon. spp., suggesting it is characteristic of the order.

- (10590) MÜLLER, O., 1995. *Ökologische Untersuchungen an Gomphiden (Odonata: Gomphidae) unter besonderer Berücksichtigung ihrer Larvenstadien.*



Cuvillier, Göttingen [Diss. Humboldt-Univ., Berlin]. viii+236 pp. ISBN 3-89588-179-1. (With Engl.s.). – Available from the Author, at DEM 35.- net). – (Author: Grosse Müllroser Str. 8, D-15232 Frankfurt/Oder).

The life cycles of *Gomphus vulgatissimus*, *G. flavipes* and *Ophiogomphus cecilia* were studied in a combination of field and laboratory experiments on larval development, and field studies on larval population structure. Larval development of the 2 *Gomphus* spp. takes 2-3 yr, with up to 14 larval instars. In *O. cecilia* this could not be identified. Within early instars, cohort splitting takes place. The flexibility of life cycles was compared with other spp. A flexible life history has an adaptive significance for continuity of the population expansion. – The emergence parameters provide information on the duration of development and on the reproductive success. These, as caused by the environmental factors, were studied during 6 yr. Emergence phenology was correlated with water temperature, it was shifted in time from year to year. There were only slight fluctuations in the sex ratios (1:1), with ♀ usually emerging later than ♂♂. – The changes in abundance could be caused by several factors. Cohort splitting, induced by variation in temperature, might lead to interference between larvae of different ages, resulting in abundance variation. The wagtails, *Motacilla alba* and *M. flava*, are important predators during emergence, accounting for 2.5-22.8% of mortality. – Much of the work deals with the results of the inquiry into the significance of substrate composition, current velocity and prey spectra for colonization and larval behaviour.

- (10591) MURRAY, K., 1995. Development of the caudal lamellae in *Austroargiolestes isabellae* Theischinger & O'Farrell (Odonata: Megapodagrionidae). *Austr. Ent.* 22(2): 43-46. – (41 Stanley St., Croydon Park, NSW 2133, AU).

The caudal lamellae are described and illustrated. The appendages are strongly nodate for much of the larval development.

- (10592) NAVASIA. *Noticiario de la Oficina ibérica de la Sociedad Internacional de Odonatología (S.I.O.) – Noticiario de Oficina ibérica de Sociedade Internacional de Odonatologia (S.I.O.)*, Córdoba, Vol. 4 (Sept. 1995). – (c/o Dr M. Ferreras-Romero, Depto Biol. Animal/Zool., Fac. Cien., Univ. Córdoba, Avda San Alberto Magno s/n, ES-14004 Córdoba).

[Ferreras Romero, M.]: Cuentanos como te va (p. 1; Editorial); – Cordero, A.: 13 International Symposium on [sic!] Odonatology, Essen (Alemania) (pp. 1-3); – Jurzitza, G.: Colonización de una charca ornamental en el jardín del autor por tres especies de zigópteros (pp. 4-5); – García Izquierdo, L.A.: Copias fotográficas de alas de odonatos (pp. 5-6); – Martín, R.: Una excursión a los lagos de Meranges (Pirineos de Girona) (p. 6); – Santos-Quirós, R.: Nuevos datos sobre *Hemianax ephippiger* (Burmeister, 1839) en la provincia de Sevilla, Andalucía, sur de España (Anisoptera: Aeshnidae) (p. 7); – Muñoz-Pozo, B.: Nuevas observaciones de *Oxygastra curtisi* (Dale, 1834) en Córdoba (p. 7); – Jurzitza, G.: Expulsion violenta de bolitas fecales por las larvas de un libelulido (p. 8); – *Novidades de la odonatología ibérica* (pp. 9-10). – The issue also contains several announcements, unsigned notes, etc.

- (10593) NAWA, H., 1995. *Mushi no ii hanashi*. – [Interesting stories about insects]. Chuo Hoki, Tokyo. xi+185 pp. ISBN 4-8058-1379-2. – Price: ¥ 1648.- net. (Jap., with taxonomic nomenclature). – (Author: Nawa Insect Mus., Gifu Park, 2-18, Omiya-cho, Gifu, 500, JA; – Publishers: 2-27-4, Yoyogi, Shibuya-ku, Tokyo, 151, JA).

The book is directed at the general reader, and contains brief "essays" on selected spp. of various orders, incl. *Macromia amphigena*, *Somatochlora uchidai*, *Nannophya pygmaea*, and *Sympetrum darwinianum*/frequens.

- (10594) NEWSLETTER [OF THE] BRITISH DRAGONFLY SOCIETY, No. 28 (Autumn 1995). – (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK). 16 pp. of concise reports, announcements and management news. Among the items of more general interest are e.g. "Reports of 1995 field trips" (pp. 5-7; with records), the article, by J. Silsby, on "The 1995 darter invasion" (pp. 11-13; very detailed records and field notes on *Sympetrum flaveolum* throughout England, and the first UK record of *S. pedemontanum*: N of Ebbw Vale, Powys, Wales, 16/17-VIII-1995, photographic evidence only), and the "First & last dates, 1995", by A. Paine (p. 14). In Junior Section (p. 16) is reproduced (without bibliographic reference) the text of a story, said "to be used in many African schools to explain 'Life after Death'". It is a modified and abridged version of that listed in OA 8888.

- (10595) OGGIER, P.-A., 1995. *Erkenne die Natur im Wallis. Die Fauna*. Pillet, Martigny. 280 pp. ISBN 2-940145-02-4. – Price: CHF 51.-.  
A good general impression of the fauna of Valais, Switzerland. The odon. are dealt with on pp. 157-163, text is mainly based on the recent papers by C. Keim, etc.
- (10596) OTT, J., 1995. Die Beeinträchtigung von Sand- und Kiesgruben durch intensive Angelnutzung. Auswirkungen auf Libellenfauna und planerische Lösungsansätze. *Limnol. aktuell* 7: 155-170. (With Engl.s.). – (L.A.U.B., Hölzengraben 2, D-67657 Kaiserslautern).  
During 1985-1993, the odon. fauna of 33 Rhineland-Palatinate sand- and gravel pit habitats was investigated; Germany. The negative impact of fish stocking was everywhere apparent (up to 80% decrease in spp. numbers and abundance); it was most severe in the grass carp ponds. The situation is thoroughly analysed and various management suggestions are offered.
- (10597) OTT, J., 1995. Libellen und Klima. *NatSchutz LandschPlan*. 27(6): 204. – (L.A.U.B., Hölzengraben 2, D-67657 Kaiserslautern).  
The information is presented on the recent formation of the SIO Specialist Group, "Odonata and Climate Change", and its first symposium, "Climate Change: its Impact on Flora and Fauna" is announced (Berlin, March 22-23, 1996).
- (10598) PEISSNER, T., B. KAPPUS & R. STEINER, 1995. Zur Köcherfliegen- und Libellenfauna eines Standortübungsplatzes bei Stuttgart (Landkreis Böblingen, Baden-Württemberg). *Lauterbornia* 22: 131-142. (With Engl.s.). – (First Author: Silcherstr. 41, D-73614 Schorndorf).  
A commented list of 24 odon. spp.; – Böblingen, Baden-Württemberg, SW Germany.
- (10599) SANTOS-QUIROS, R., 1995. Algunos odonatos de la provincia de Huelva (Andalucía, sur de España). *Boln Soc. ent. aragon*. 11: 16-18. – (c/ Pacheco y Núñez de Prado 38, 1°C, ES-41002 Sevilla).  
A briefly annotated list of 15 spp., from 3 localities in Huelva prov., Andalusia, Spain.
- (10600) SCHNEIDER, W., 1995. Eine Paarungskette zwischen *Orthetrum sabina* (Drury, 1770) und *Crocotemis erythraea* (Brullé, 1832) (Odonata: Anisoptera: Libellulidae). *Ent. Z., Essen* 105(23): 462-463. (With Engl.s.). – (Zool. Abt., Hessisches Landesmus., Friedensplatz 1, D-64283 Darmstadt).  
An intergeneric tandem, between *O. sabina* ♂ and *C. erythraea* ♀ is reported from Jiddah, Saudi Arabia. Oviposition took place in the tandem position. By heavy wing movements the ♀ tried to disconnect the tandem.
- (10601) SCHNEIDER, W. & H.J. DUMONT, 1995. *Arabineura* n. gen., a new protoneurid genus from Arabia, with the description of the hitherto unknown female of *Arabineura khalidi* (Schneider, 1988) comb. nov. (Insecta: Odonata: Protoneuridae). *Biol. Jaarb. Dodonaea* 62 [1994]: 114-120. – (First Author: Zool. Abt., Hessisches Landesmus., Friedensplatz 1, D-64283 Darmstadt).  
The new genus is erected to accommodate *Elatoneura khalidi* Schneider, 1988, so far known only from the extreme NE of Arabia (Oman, United Arab Emirates). It is peculiar in the morphology of the ♂ superior anal appendage and in the structure of the ♀ pronotum.
- (10602) SCHÖLL, F., C. BECKER & T. TITTIZER, 1995. Das Makrozoobenthos des schiffbaren Rheins von Basel bis Emmerich 1986-1995. *Lauterbornia* 21: 115-137. (With Engl.s.). – (Bundesanst. Gewässerök., Kaiserin-Augusta-Anlagen 15-17, D-56068 Koblenz).  
From various sections, 6 odon. spp. are listed. Larval *Onychogomphus forcipatus* is evidenced between Basel and Strasbourg.
- (10603) SILFVERBERG, H., 1995. Insects in the Finnish Museum of Natural History. *Memo. Soc. Fauna Flora fenn.* 71(2): 39-49. – (Finn. Mus. Nat. Hist., Zool. Mus., P.O. Box 17, FIN-00014 Helsingfors).  
The Mus. harbours ca 7 million specimens, the oldest of these originate from the middle of the 18th century. The odon. collection of K.J. Valle (1887-1956) was acquired in 1958.
- (10604) SIOJA. [Information bulletin of the SIO Japan Branch Office], Osaka, 1995, No. 1 (Dec. 10). (Jap.). – (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA).  
In addition to several notifications, the issue contains a report on the 13th Int. Symp. Odonatol. (Essen, 1995), by K. Inoue (pp. 2-3).

- (10605) SIVA-JOTHY, M.T. & R.E. HOOPER, 1995. The disposition and genetic diversity of stored sperm in females of the damselfly *Calopteryx splendens xanthostoma* (Charpentier). *Proc. R. Soc. Lond. (B)* 259: 313-318. – (Dept Anim. & Plant Sci., Univ. Sheffield, Sheffield, S10 2UQ, Scotland, UK).  
 ♀♀ of this sp. have discrete sperm storage organs and secure oviposition in 1 of 2 ways: a ♀ either mates with a ♂ who subsequently guards her whilst she oviposits (MAG), or ♀♀ can secure access to an oviposition site without copulating with the resident ♂ (SAG). Random amplified polymorphic DNA (RAPD) analysis of the genetic diversity of sperm from individual sperm storage organs revealed that the spermathecae contained sperm of a greater genetic diversity than sperm in the bursa copulatrix. ♂♂ cannot remove sperm from the spermathecae during copulation, and it is proposed that the spermathecae might function as a sperm cache for the sperm of previous mates. ♀♀ that conduct SAG ovipositions have a higher genetic diversity of stored sperm than MAG ♀♀. It is suggested that ♀♀ which gain access to oviposition sites without remating have the potential to exercise post-copulatory choice during oviposition, on the basis of: (i) the observed patterns of sperm precedence in other calopterygids; (ii) the variation in genetic diversity of stored sperm; and (iii) the avoidance of recopulation in SAG ♀♀.
- (10606) SOMEYA, T., 1995. [On Cordyceps from Gozenyama, Ibaraki prefecture: the first record of C. odonatae Kobayasi in Japan? (Fungi: Ascomycotina)]. *Okeira* 59: 1-6, col. phot. on journal cover excl. (Jap.). – (2-4313-9, Ishikawa-cho, Mito, 310, JA).  
 2 parasitic ascomycotine fungi are known infesting dragonflies, viz. *Hymenostilbe odonatae* (producing conidia on fruit bodies; widespread in Japan) and *C. odonatae* (forming asci and producing filamentary spores; hitherto known only from Irian Jaya, Indonesia; here for the first time recorded from Japan: Aikawa R., on *Planeaschna milnei*, 22-I-1994, and on *Sympetrum infuscatum*, 13-II-1994). The paper mostly deals with the description of habitats, listing of odon. host spp., and with the description of the life history of *H. odonatae*. – For Engl. translation cf. OA 10537.
- (10607) SPARRIUS, L., 1995. Insekten in de Veerstal-blokboezem. *Amoeba, Amst.* 69(5): 176-178. (Dutch). – (Kongsbergstraat 1, NL-2804 XV Gouda).  
 Contains a briefly commented list of 16 odon. spp.; – Nature Reserve “Veerstalblokboezem” nr Gouda, the Netherlands. Of particular interest is the record of *Aeshna viridis*.
- (10608) SPURIS, Z., 1995. Entomologiska ekskursija Engures ezera apkaimē. – An entomological excursion in the neighbourhood of Lake Engure. *Latv. Ent. Arhivs* 2: 41-42. (Latvian, with Engl. title). – (Miera iela 9-16, LV-2169 Salaspils).  
 Lists 8 odon. spp. from the area visited (16-VIII-1995); Latvia.
- (10609) STERNBERG, K., 1995. Experimentelle Erzeugung androchromer Weibchen durch Einwirkung hoher Temperaturen bei Arten der Libellen-Gattung *Aeshna* (Anisoptera: Aeshnidae). *Entomol. gener.* 20(1/2): 37-42. (With Engl.s.). – (Schillerstr. 15, D-76297 Stutensee-Friedrichstal).  
 Fully developed larvae and freshly emerged imagines of *A. cyanea*, *A. juncea* and *A. subarctica elisabethae* were kept at 16°C and 30°C in the laboratory for several weeks. ♀♀ *A. caerulea* were collected in the field shortly after emergence and were kept under natural conditions, at max. day temp. 18°C and 25-32°C. All individuals originated from Black Forest, SW Germany. All ♀♀ (except *subarctica*) that were kept at high temp. gained the ♂-like blue colouration, while those kept at low temp. developed the normal heterochrome colour. In *subarctica*, the temp. had no effect on colouration, and high temp. did not produce the interlineata form. Also in the field, during the very hot 1994 summer, more androchromic *cyanea* ♀♀ were recorded than under “normal” conditions.
- (10610) STERNBERG, K., 1995. Populationsökologische Untersuchungen an einer Metapopulation der Hochmoor-Mosaikjungfer (*Aeshna subarctica elisabethae* Djakonov, 1922) (Odonata, Aeshnidae) im Schwarzwald. *Z. Ökol. NatSchutz* 4: 53-60. (With Engl.s.). – (Schillerstr. 15, D-76297 Stutensee-Friedrichstal).  
 The sp. lives in several sphagnum bogs in Black Forest (=Schwarzwald), Baden-Württemberg, S Germany. Due to a more or less intense exchange of individuals, the local populations interact with each other, therefore these together could be considered a single super- or meta-population. The sp. occupies 3 types of habitats, each of which plays a different role in the meta-population. The “stem-habitats”, with

large populations, provide the emigrants, supporting the small populations of the "secondary" and "latency" habitats. The populations of the latter 2 are unable to survive without the supply of fresh immigrants from a stem-habitat. – In a 9 yr study it was shown how the populations of the different habitats interact with each other, and how the meta-population became stabilized.

- (10611) THEISCHINGER, G., 1995. A second species of Austropetalia Tillyard from Australia (Odonata: Austropetaliidae). *Linz. biol. Beitr.* 27(1): 291-295. – (20 Leawarra St., Engadine, NSW 2233, AU).

*A. tonyana* sp.n. is described, illustrated and compared with *A. patricia* Till. Holotype ♂: New South Wales, Gibraltar Falls, ACT, 7/10-XI-1973; in ANIC; a series of paratypes of both sexes.

- (10612) THEISCHINGER, G., 1995. The Eusynthemis guttata (Selys) group of species from Australia (Odonata: Synthemistidae). *Linz. biol. Beitr.* 27(1): 297-310. – (20 Leawarra St., Engadine, NSW 2233, AU).

What was hitherto known as *E. guttata* is shown to be a group of sibling spp. The complex includes *E. guttata* (Sel.), *E. aurolineata* (Till.) and *E. tillyardi* sp.n. (holotype ♂: NSW, Berowra Heights, 18-XII-1976; in ANIC; with a series of paratypes of both sexes). To these, *E. barbarae* (Moulds) (here transferred from *Choristhemis*) and *E. tenera* sp.n. (holotype ♂: Quid, Myee Creek, alt. 2100 ft, Palmerston Natn Park, 2-XII-1967; in ANIC), which is very close to *barbarae* are added. Diagnostic characters and distributional data are given for all spp., and the biogeography of the group is discussed. *Metathemis guttata melanosoma* Till. is considered a junior synonym of *E. aurolineata* (Till.).

- (10613) THIELE, V., D. MEHL, A. BERLIN & U. THAMM, 1995. Schmetterlinge, Köcherfliegen und Libellen – Bioindikatoren für den ökologischen Zustand von Niederungsbereichen der Nebel, Kreis Güstrow, Mecklenburg-Vorpommern. *Mitt. dt. Ges. allg. angew. Ent.* 9(4/6): 831-834. (With Engl.s.). – (Firs Author: Biota, Postfach 173, D-18262 Güstrow).

Presents general considerations on the odon. application in quality assessment of aquatic habitats, with hardly any reference to a particular sp. – The paper is apparently based on the same work as reported in OA 9478.

- (10614) TOMBO TSUSHIN – [DRAGONFLY NEWS-LETTER], Nagisa, No. 18 (Sept., 1995). (Jap.). – (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA).

The newsletter is published by the "Left Bank of the Yodo River Regional Sewage Works Association", and it is directed at persons involved in the Osaka Prefecture sewage treatment system. The present issue contains an exhaustive account by K. Inoue, relative to his 1995 Europe tour and the 13th Int. Symp. Odonatol., Essen (pp. 4-5). Also included is a dragonfly haiku (Engl.), by M. Kiauta (p. 5).

- (10615) TÓTH, S., 1995. A Dráva mente szitakötő (Odonata) faunájának előzetes vizsgálata. – Preliminary report on the dragonfly (Odonata) fauna of the Dráva Region, Hungary. *Dunántúli Dolg. Term. tud. Sorozat* 8: 41-52. (Hung., with Engl. & Germ.s.). – (Széchenyi u. 2, HU-8420 Zirc).

51 spp., recorded 1992-1994, are listed. The regionally interesting taxa are *Calopteryx v. virgo*, *Aeshna grandis*, *A. viridis*, *Gomphus flavipes*, *Epitheca bimaculata*, *Leucorrhinia caudalis* and *L. pectoralis*.

- (10616) WALKERIA. Newsletter of the Canadian National Office of the International Odonatological Society – Bulletin du Bureau national canadien de la Société entomologique internationale, Vol. 9, No. 2 (not published), Vol. 10, No. 1 (June 1995). – (c/o Ms N.L. House, 116 Irving Ave., Ottawa, ON, K1Y 1Z4, CA).

Kiauta, B.: Odonatological periodicals in-print (pp. 1-4); – plus various announcements.

- (10617) WASSCHER, M., 1995. Odonata – Libellen. *NieuwsBr. Europ. Invert. Survey-Nederland* 24: 4. (Dutch). – (Minstraat 15 bis, NL-3582 CA Utrecht). Contains a brief review of the noteworthy 1995 observations in the Netherlands. *Orthetrum brunneum* was "sighted" at 2 localities in Zuid-Limburg and at Winterswijk (90 yr after the last record!), *Aeshna affinis* was reported from ca 20, *Crocothemis erythraea* from 3, and *Hemianax ephippiger* from 1 locality. With the E winds came large numbers of *Sympetrum flaveolum* and *S. sanguineum*, and a single *Ophiogomphus cecilia*. No reference is made to voucher specimens, if any.

- (10618) WATANABE, Y. & H. ANDO, 1995. Twinned embryos of dragonflies (Odonata, Insecta). *Proc.*

- Arthropod. Embryol. Soc. Jpn* 30: 31. – (First Author: 2-20-205 Suehiro, Nishinomiya, Hyogo, 662, JA; – Second Author: Sugadaira Montane Res. Cent., Univ. Tsukuba, Sanada, Nagano, 386-22, JA). Among the *Epiophlebia superstes* (Kifune, Kyoto pref.) and *Gynacantha japonica* (Kawasaki, Kanagawa pref.) eggs, collected in 1993, there were several with twinned embryos: 1 in the former, 6 (incl. 1 with a triple embryo) in the latter sp. Micrographs are included. This is the first case on record. – Cf. also OA 10033.
- (10619) WENGER, O.-P., 1995. *Libellenbeobachtung in Südfrankreich und Spanien (Odonata)*. – *Observaciones de libélulas en el sur de Francia y en España (Odonata)*. Oficina ibérica de la SIO, Córdoba. 29 pp. – (Orders to: Dr M. Ferreras Romero, Depto Biol. Animal/Zool., Fac. Cien., Univ. Córdoba, Avda San Alberto Magno s/n, ES-14004 Córdoba). A bilingual (Germ./Span.) edn of the German work, published originally (1963) in *Mitt. schweiz. ent. Ges.* 35(3/4): 255-269.
- (10620) WERZINGER, S. & J. WERZINGER, 1995. *Dokumentation zur "Bestandsaufnahme" von Gomphus vulgatissimus an Aisch, Rauher und Reicher Ebrach in den Jahren 1994 und 1995*. Werzinger, Nürnberg. 22 pp. – (Authors & Publishers: Zvernberger Weg 29, D-90449 Nürnberg). A collection of annotated maps of the 1994-1995 *G. vulgatissimus* survey areas in Bavaria, Germany.
- (10621) WESTERMANN, K., 1995. Literaturbesprechung. *NatSchutz südl. Oberrhein* 1: 58. – (Buchenwald 2, D-79365 Rheinhauten). Brief summaries of the publications listed in OA 9266, 9603 [Heitz], 9905, 10310, 10506.
- (10622) WESTERMANN, K. & S. WESTERMANN, 1995. Ein Massenvorkommen der Kleinen Zanglibelle (*Onychogomphus forcipatus*). *NatSchutz südl. Oberrhein* 1: 55-57. (With Engl.s.). – (Buchenwald 2, D-79365 Rheinhauten). In 1994, 4700 *O. forcipatus* exuviae were collected along a canal nr Kenzingen, Co. Emmendingen, Baden-Württemberg, S. Germany. The total population is estimated at some 10000 emerged larvae, and it is considered of vital importance for the colonization of suitable habitats in the region.
- (10623) WESTERMANN, K., S. WESTERMANN, A. HEITZ & S. HEITZ, 1995. Schlüpfperiode, Schlüpfhabitat und Geschlechterverhältnis der Gemeinen Keiljungfer (*Gomphus vulgatissimus*) am südlichen Oberrhein. *NatSchutz südl. Oberrhein* 1: 41-54. (With Engl.s.). – (Last 2 Authors: Moosweg 15, D-77749 Hohberg). At 9 water bodies in the Upper Rhine region, SW Germany, *G. vulgatissimus* emergence lasts from late April to early June. The ♂♂ emerge significantly earlier than the ♀♀. The insects emerge 0-460 cm (average 15-90 cm) from open water, 4-210 cm (average 25-70 cm) above the water surface.
- (10624) WILDERMUTH, H., 1995. Notizen zur Libellenfauna des Engadins, Graubünden, Schweiz und des angrenzenden Tirols, Österreich (Odonata). *Opusc. zool. flumin.* 129: 1-8. (With Engl.s.). – (Haltbergstr. 43, CH-8630 Rüti). A commented list is given of 22 spp., recorded (1981-1995) from 17 localities, 6 of them situated in Tyrol. *Lestes sponsa*, *Cordulegaster bidentata* and *Orthetrum coerulescens* are of special interest.
- (10625) WOODALL, P.F., 1995. Notes on the habitat, flying speed and behaviour of *Austrophlebia costalis* (Tillyard) (Odonata: Aeshnidae) in Brisbane Forest Park, Queensland. *Austr. Ent.* 22(2): 33-36. – (Dept Anat. Sci. & Cent. Conserv. Biol., Univ. Queensland, Brisbane, Qld 4072, AU). At this locality, the sp. was recorded from Nov. to Feb. (1991-1994). Most observations were from flowing streams in open or closed forest but 2 were next to a dry, rocky creek-bed in eucalypt open forest. 3 dawn-to-dusk surveys in Dec., Jan. and Feb. indicated that *A. costalis* was active from 0600 to 1800 h EST with no marked crepuscular peaks in activity but low activity from 0900-1200 h EST. The mean speed of the hawking flight was 6.2 km/h and that of fast flight was 17.7 km/h. The fastest timed speed was 34.1 km/h.
- (10626) YOKOI, N. & T. MITAMURA, 1995. A record of the dragonfly in central Laos in last week of April. *Gekkan-Mushi* 294: 6-11. (Jap., with Engl. title & taxon. nomencl.). – (First Author: Kaisei 2-37-11, Koriyama-shi, Fukushima, 963, JA; – Second Author: Sekiai 7-4, Koori-machi, Fukushima 969-16, JA). Annotated list of 27 spp.
- (10623) WESTERMANN, K., S. WESTERMANN, A.

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- (10627) ARAI, Y., 1996. On the resting posture of dragonflies at night. *Nature & Insects* 31(1): 33-35. (Jap., with Engl. title). – (1233-2 Sueno, Yorii-machi, Oosato-gun, Saitama, 369-12, JA).  
[Abstract not available].

- (10628) ISHIZAWA, N., 1996. *Calendar 1996: Dragonflies of Japan*. Ishizawa, Tokorozawa. – (1644-15, Yamaguchi, Tokorozawa, Saitama, 359, JA).  
A beautiful, hand-made calendar, with a col. dragonfly phot. on each 2-month page, and with 3 pp. of explanatory Engl. text.

- (10629) JÖDICKE, M. & R. JÖDICKE, 1996. Changes in diel emergence rhythm of *Orthetrum cancellatum* (L.) at a Mediterranean irrigation tank (Odonata: Libellulidae). *Opusc. zool. flumin.* 140: 1-11. – (Grossenging 14, D-49699 Lindern).  
Daily emergence was analysed during 8 weeks in May and June 1993. Absence of diapause in hibernating final instar larvae, and the long emergence period with an extension over 5 months are in accordance with the criteria of a typical summer sp. The composition of larval age groups in March, May, and June suggests the ability to complete more than one annual generation. The emergence curve showed a continuous progress without synchronisation. Sex ratio was adequate to unity. The diel rhythm of emergence changed from a diurnal pattern during cool days to a nocturnal pattern when temperature shifted. The position of the exuviae along the border of the tank revealed no relationship to the direction of the sun. The duration of a complete emergence process lasted more than 3 h within a temperature range of about 18°C in the shade. Distribution and abundance of the sp. in arid Mediterranean regions may broadly depend on occasional chances of colonization in irrigation tanks.

- (10630) KIAUTA, B., 1996. *Snake associations in the European "dragonfly" appellations: distributional patterns reflecting the Urnfield culture expansion during the first millennium B.C.*? Abstract of a paper scheduled for presentation at the 2nd Odonatol. Symp. Alps-Adriatic Reg. Commun., Vienna, 14-18 July 1996, 1 p. – (P.O. Box 256, NL-3720 AG Bilt-hoven).  
[Verbatim]: The folk expressions for "dragonfly" represent one of the standard items in lexical lists

and in dialectological vocabularies. Estimated roughly, some 2500 authentic appellations were so far evidenced in various European languages. These include over 100 expressions, in which any kind of association between the dragonfly and the snake is expressed. Some examples are: in Breton ("adoue èr", "marc'h aer", "nadoz-aer"), Catalan (e.g. "aspie dimonis", "el kabal de ser[p]"), Cornwall/Gaelic (=Celtic) ("nademargh", "tarbh-nathrach"), Croat ("kačin pastir", "zmijak", "zmijin stric"), Czech (e.g. "hadi hlava"), Danish ("Orm-spy"), English (UK) (e.g. "adderbolt", "flying asp"), French, incl. Occitan (e.g. "cap dé sèr", "éspéouyo-sèr", "Piu d'arpan"), German (e.g. "Natterhalter", "Natterschwester", "Schlangen-hüter"; in Lausitz also "Uttrop"), Hungarian ("kígyó pásztor", "kígyó őrző"), Italian ("pyoéy d're serp"), Ladin ("špádamadrák"), Norwegian (e.g. "bror til hoggormen", "ormesting"), Slovene ("kačji hlapec", "kačji pastir", "modrasov hlapec"), Polish (e.g. "wazoguoła") and in Welsh ("gwaell y neidr", "gwas y neidr"). – The geographic range of this nomenclature is centred upon central Europe, but the well defined outer borders of the area run as follows: In the East: from the SE border of Slovenia, over W Croatia, westernmost Hungary, Austria, Czech Republic and Slovakia, include most of the German area, up to the Baltic and to Norway. In the West: from Slovenia and Friuli, across N Italy (Piedmont) to S France. The southern branch runs from the Provence, to the Mediterranean and on to Languedoc and Catalonia. The northern part of the fork stretches from W Switzerland, over Savoy and westward to the Limousin. Brittany (in France) and Cornwall, Wales and Anglia (in Britain) form a separate unit. Outside this territory such appellations appear unknown. – Like often is the case in various ethnographic features and folk superstitions, the distribution of the dragonfly/snake appellations is not restricted to a certain language or a language group. Rather, it seems to reflect a much older cultural tradition, prevailing in this area before the present languages have evolved. The distribution patterns fit almost perfectly with those of the Urnfield cultures, as formed in the first millennium B.C., after the expansion from their original centre in Lausitz, in E Germany. The Catalan occurrence is supported by an Urnfield centre in Catalonia. – Ethnographically, the Urnfield cultures were recently attributed to the ancient Venets. It is amazing, therefore, the distribution of dragonfly/snake folk names corresponds generally very well also with the area, where a "Venetic element" ap-

- pears preserved in numerous topographic names (cf. J. Šavli et al., 1996, *Veneti, first builders of European community*, Edit. Veneti, Vienna).
- (10631) MITRA, T.R., 1996. Additions to the odonate fauna of Manipur, eastern India (Odonata). *Opusc. zool. flumin.* 141: 1-6. – (18/1 Dakshin Para Rd, Calcutta-700028, India).  
17 spp. are added to the fauna of the state, from which 52 spp. are now known. *Coeliccia rotundata* Asahina and *C. schmidtii* Asahina have so far not been found outside the state.
- (10632) MITRA, T.R., 1996. Additions to the odonate fauna of Tripura, eastern India (Odonata). *Opusc. zool. flumin.* 141: 7-9. – (18/1 Dakshin Para Rd, Calcutta-700028, India).  
*Pseudagrion r. rubriceps* Sel., *Aciagrion pallidum* (Sel.), *Agriocnemis splendidissima* Laidl., *Vestalis g. gracilis* (Ramb.), *Vestalis s. smaragdina* Sel., *Libellago l. lineata* (Burm.), *Paragomphus lineatus* (Sel.), *Bradinopyga geminata* (Ramb.), and *Trithemis pallidinervis* (Kirby) are added to the fauna of the state, from which 22 spp. are now known.