

ODONATOLOGICAL ABSTRACTS

1972

- (12473) JANKOWSKAJA, A.I., 1972. Freaticheskaya i rodnikovaya fauna severnogo Tyan'-Shanya i yushnyh Kyzylkumov. — Phreatic and spring fauna of northern Tien-Shan and southern Kisilkum. *Trudy zool. Inst. Akad. Nauk SSSR* 51: 5-56. (Russ., with Engl. title). — (Author's current address unknown).
Contains a statement on the odon. represented in the Karasu R. samples (p. 45); no species list and no other references.

1974

- (12474) WILLOCK, C., 1974. *Africa's Rift Valley*. Time-Life International (Nederland), Amsterdam. ISBN none. On p. 101, a phot. is shown of a libellulid, overcome by heat and fumes during its low-level hunting, and drowned in the hot waters of a soda spring, S of Lake Naivasha, Kenya.

1984

- (12475) SAINI, R.S. & Y.P. SINGH, 1984. Comparative studies on the larval forms of Odonata: head and its appendages. *Rec. zool. Surv. India* 81(3/4): 185-201. — (Coll. Sci., Rewa, Madhya Pradesh, India).
The study is based on 6 spp., as listed in OA 8782, all from various localities in Rewa, Madhya Pradesh, India. The position of various sutures and areas of the head, the structure, shape and size of antennae and location of ocelli are described and their interspecific variation discussed.

1986

- (12476) SMITH, W.A., 1986. *Insect muscle redifferen-*

tiation. PhD diss. Univ. Amsterdam. 139 pp. — (Author's current address unknown).

The transformation during metamorphosis of the slowly contracting larval m. obliquus lateralis caudalis II into the synchronous flight muscle, m. obliquus lateralis dorsalis, was studied in the Colorado beetle with light and electron microscopy and with immunohistochemical methods. The work also contains several references to the situation in the odon. (*Aeshna mixta* etc.).

1989

- (12477) RUDOLPH, R., 1989. *Kartierung westfälischer Libellen, vorläufige Zusammenstellung bis Februar 1989*. Vol. 1. *Artmonographien und Verbreitungskarten, Bibliographie zur Libellenkunde bis Februar 1989*. Rudolph, Münster. Pagination unknown. — (Author: Zum Emstal 12b, D-48231 Warendorf).
[Not available for abstracting; reference from the work listed in OA 12528].

1991

- (12478) RAI, K. & M.Z. ANSARI, 1991. *Bibliography of Indian zoology*, Vol. 25. *Zool. Surv. India*, Calcutta. viii+21 pp. — Price: US \$ 10.- net.
Covers some 1981 and most of the 1982 titles, and includes 9 odonatul. entries, some with a brief abstract.

1992

- (12479) DE MARCO, P., 1992. *Estrutura de comunidade e co-ocorrência de espécies em larvas de Odonata: uma abordagem morfológica*. Tese de mestrado, UNICAMP, Campinas. 92 pp. (Port.). — (Lab. Ecol. Quantitativa, Depto Biol. Geral, Univ. Fed. Viçosa,

BR-36571-000 Viçosa, MG).

[Not available for abstracting.]

- (12480) HAZRA, A.K., 1992. Ecological studies on the distributions of fauna in three major ecosystems along the national high way No. 2 in West Bengal. A preliminary report. *Rec. zool. Surv. India* 90(1/4): 69-89. — (Zool. Surv. India, M Block, New Alipore, Calcutta-700053, India).

Quantitative data are presented on the odon. occurrence at 4 localities along the historical Grand Trunk Road, between Dankuni and Durgapur, ca 120 km off Calcutta. Species names are not stated.

- (12481) REDDY, M.V. & J.R.B. ALFRED, 1992. Consumer & decomposer arthropods in pine plantations of Meghalaya, NE India: a biodiversity and ecological analysis. *Rec. zool. Surv. India* (Occ. Pap.) 152: iv+129 pp. — (Second Author: Zool. Surv. India, 234/4 A.J.C. Bose Rd, Calcutta-700020, India).

The study area is located nr Shillong. A petromax light trap was operated from March 1976 to March 1978. Only 2 odon. individuals were represented in the total catch. They were recorded in June, at 2100-2200 h and 0200-0300 h, resp. Species names are not stated.

1993

- (12482) ALFRED, J.R.B. & M.Z. ANSARI, 1993. *Bibliography of Indian zoology*, Vol. 27. Zool. Surv. India, Calcutta. viii+199 pp. — Price: US \$ 9.- net. Covers mostly the 1984 titles, and includes 20 odonotol. entries, some with abstracts.

- (12483) ALFRED, J.R.B., G.N. SAHA & M.Z. ANSARI, 1993. *Bibliography of Indian zoology*, Vol. 26. Zool. Surv. India, Calcutta. viii+211 pp. — Price: US \$ 9.- net.

Covers the 1983 titles, incl. 7 odonotol. entries, some with abstracts.

- (12484) FORBES, M.R.L., 1993. Parasitism and host reproductive effort. *Oikos* 67(3): 444-450. — (Dept Biol., Univ. Regina, Regina, SK, S4S 0A2, CA).

This is a theory paper, with reference to Author's research publication as listed in OA 8488. — Adaptive changes in reproductive effort (RE) of parasitized hosts may account for both inverse and positive relationships between host reproductive output and incidence or degree of parasitism. This hypothesis can be made more general (adaptive changes in patterns of alloca-

tion to reproductive functions), but has been largely ignored in the fields of behavioral and evolutionary ecology. In fact, definitive examples of such adaptive responses are lacking. Yet theory on life-history trade-offs predicts that hosts may minimize the impact of parasites by altering their own RE. Such alterations may occur with or without induction of defenses against parasites. Several empirical approaches exist for studying adaptive changes in host RE; all of these approaches require a firm understanding of the natural history of the parasite-host association under study. Tests of adaptive changes in host RE (and patterns of allocation) should provide a better understanding of parasite-host interactions and coevolution as well as insights into the evolution of adaptive phenotypic plasticity.

- (12485) NANDI, N.C., S.R. DAS, S. BHUINYA & J.M. DASGUPTA, 1993. Wetland faunal resources of West Bengal. 1. North and South 24-Parganas district. *Rec. zool. Surv. India* (Occ. Pap.) 150: iv+50 pp. — (Zool. Surv. India, 234/4 A.J.C. Bose Rd, Calcutta-700020, India).

In brackish water wetlands of Bakkhali, Baunia Abad and Frasergunje, 7 odon. spp. were evidenced and are here listed.

- (12486) SEMLITSCH, R.D., 1993. Effects of different predators on the survival and development of tadpoles from the hybridogenetic *Rana esculenta* complex. *Oikos* 67(1): 40-46. — (Inst. Zool., Univ. Zürich, Winterthurerstr. 190, CH-8057 Zürich).

The predation effects on 2 genotypes of the *Rana lessonae*-*R. esculenta* complex (from Katzenssee, canton Zürich, Switzerland) were studied. Tadpoles were reared at 2 larval densities, in artificial ponds with fish, newt, and *Anax imperator* and *Cordulia aenea*, and in a control with no predators. Survival was significantly reduced in the presence of predators, 70.8% survived with odon. In ponds with odon., the survival of *R. esculenta* was higher than that of *R. lessonae*; the higher survival appears to be correlated with lower activity of tadpoles.

1994

- (12487) KLEIN, J.-P., E. BUCHEL, F. GEISSERT & J.-P. BERCHTOLD, 1994. Restauration écologique d'une mare dans la réserve naturelle d'Erstein. *Bull. Soc. ind. Mulhouse* 832: 37-45. — (First Author: Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy).

Includes a commented list of 18 odon. spp. from the Erstein Nature Reserve, Alsace, France.

- (12488) KLEIN, J.-P., G. MAIRE, F. EXINGER, G. LUTZ, J.-M. SANCHEZ-PEREZ, M. TREMOLIERES & P. JUNOD, 1994. The restoration of former channels in the Rhine alluvial forest: the example of the Offendorf Nature Reserve (Alsace, France). *Wat. Sci. Tech.* 29(3): 301-305. — (First Author: Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy). 4 odon. spp. are mentioned from the Reserve, incl. *Erythromma viridulum* and *Libellula fulva*.

1995

- (12489) ALFRED, J.R.B., G.N. SAHA & M.Z. ANSARI, 1995. *Bibliography of Indian zoology*, Vol. 28. Zool. Surv. India, Calcutta. viii+468 pp. — Price: US \$ 30.- net. Lists the 1985-1987 publications, incl. 10 odonotol. titles, some with abstracts.
- (12490) HERDER, I., 1995. *Libellen städtischer Stillgewässer: das Beispiel der Stadt Osnabrück*. HausArb. Staatsprüf. Lehramt Gymnasien, Osnabrück. iv+66 pp., Anhang excl. — (Author's current address unknown). The odon. fauna (21 spp.) of 5 ponds in the city of Osnabrück, Germany is described and discussed, incl. detailed descriptions of the habitats.
- (12491) KLEIN, J.-P. & G. LACOMETTE, 1995. La réserve naturelle de l'île de Rhinau et la diversité de la vie. *Bull. a. Ass. Amis Jardin bot. Saverne* 1995: 17-28. — (First Author: Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy). The Reserve harbours one of the most representative ecosystems of the Rhine Valley. It is described here in detail, and 9 odon. spp. are listed and briefly annotated. — Rhinau, S of Strasbourg, France.
- (12492) KLEIN, J.-P., F. ROBACH, A. VANDERPOORTEN & M. TREMOLIERES, 1995. Spatio-temporal aquatic vegetation patterns in former channels in relation to their isolation from the river Rhine (eastern France). *Acta bot. gallica* 142(6): 601-616. (With Fr. s.). — (First Author: Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy). The degree of connectivity between the Rhine R and its annexes varies according to the civil engineering work on the main river channel. This is expressed through the distribution and composition of aquatic phytocenoses. A good correlation between the latter and the odon. community exists in the upstream section of the Schutzengiessen (*Coenagrion mercuriale*, *Cordulegaster boltonii*). At Offendorf, the restoration of the original flow led to the modifications of the odon. fauna, the lentic *Coenagrion puella* has been replaced by the lotic *Calopteryx splendens*.
- (12493) METHVEN, K., M. JEFFORDS, R. WEINZIERL & K. MCGIFFEN, 1995. *How to collect and preserve insects*. Illinois Nat. Hist. Surv. [Special Publ. No. 17], Champaign/IL. iv+76 pp. — (Publishers: 607 East Peabody Dr., Champaign, IL 61820, USA). Gives suggestions for short-term and long-term preservation of adult and larval odon. specimens (p. 49).
- (12494) MOOG, O., U.H. HUMPESCH & M. KONAR, 1995. The distribution of benthic invertebrates along the Austrian stretch of the river Danube and its relevance as an indicator of zoogeographical and water quality patterns. 1. *Arch. Hydrobiol. (Suppl.)* 101(2): 121-213. — (First Author: Abt. Hydrobiol., Inst. Wasserversorge, Univ. Bodenkultur, Max-Emanuel-Str. 17, A-1190 Wien). The free-flowing main channel in connection with the floodplains provides the most diverse habitats, whereas the impounded stretches of the river possess fewer diversities. This is documented in the Appendix, where species composition is stated for each stretch. The odon. are dealt with on pp. 161-165; 59 spp. are listed, *Sympetrum depressiusculum* is considered extirpated.
- (12495) RAO, G.C., 1995. Bibliography on zoology of Andaman and Nicobar Islands (1845-1993). *Rec. zool. Surv. India* (Occ. Pap.) 158: vi+284 pp. — (Available as a book, at US \$ 24.- net; — orders to: Director, Zool. Surv. India, 234/4 A.J.C. Bose Rd, Nizam Palace, 13th floor, Calcutta-700020, India). Includes 13 odonotol. titles.
- (12496) RIDDIFORD, N., S. MCKELVEY & K. BOWEY, 1995. Invertebrate studies at S'Albufera Natural Park. *Monografies Soc. Hist. nat. Balears* 4: 125-129. (With Catalan s.). — (First Author: Schoolton, Fair Isle, Shetland, ZE2 9JU, UK). 11 odon. spp. are listed from the Park, Mallorca, Balearic Isls, Spain. — See also OA 11740.

1996

- (12497) AAGAARD, K. & D. DOLMEN, [Eds], 1996.

Limnofauna norvegica: katalog over norsk ferskvannsf fauna. Tapir, Trondheim. 310 pp. + diskette. ISBN 82-519-1214-8. — Price: DKK 350.- net. (Norweg., with Engl. Introduction, s. and fig. captions).

The odon. catalogue appears on pp. 139-145. It covers 45 spp. and it is authored by D. Dolmen.

- (12498) ENGLUND, G. & T. OLSSON, 1996. Treatment effects in a stream fish enclosure experiment: influence of predation rate and prey movements. *Oikos* 77(3): 519-528. — (Dept Anim. Ecol., Univ. Umea, S-901 87 Umea).

As far as the odon. are concerned, the paper only gives information on mean number (0.1 ± 0.5) and relative abundance (0.3%) of "Coenagrionidae" in the diet of sculpins, *Cottus gobio*.

- (12499) HOLZINGER, W., 1996. Libellen (Odonata).

In: K. Krainer et al., [Eds], Entwicklung im Flachwasserbiotop Neudenstein, pp. 55-58, Österreichische Elektrizitätswirtschaft AG, Wien. — (Inst. Faunistik u. Tierökol., Bergmannsgasse 22, A-8010 Graz).

The man-made Neudenstein lake was completed in 1990-1991 (Drau R., Völkermarkt distr., Carinthia, Austria). The odon. succession was studied during 1992-1995. The community, consisting of 14 limnophilous, wide-spread spp., is analysed and the succession is discussed.

- (12500) KLEIN, J.-P., J.M. SANCHEZ-PEREZ & M. TREMOLIERES, 1996. Conservation and management of the Rhine nature reserves in France. *Arch. Hydrobiol.* (Suppl.) 113(1/4): 345-352. — (First Author: Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy).

At present, ca 700 ha of the Rhine riverine landscape are protected by 4 nature reserves. These also harbour a rich odon. fauna, viz. Petite Camargue Alsacienne (39 spp.), Rhina (31 spp.), Erstein (33 spp.), and Offendort (24 spp.). Species lists are not supplied here.

- (12501) PERRON, J.-M., 1996. Une demoiselle capturée pour la deuxième fois au Québec à l'anse du Moulin banal, Saint-Augustin-de-Desmaures. *Naturaliste can.* 120(2): 39-41. — (Dépt Biol., Univ. Laval, Québec, QC, G1K 7P4, CA).

The western *Enallagma civile* is recorded from the bay of Moulin Banal, Saint-Augustin-de-Desmaures, Québec, Canada, 4-VII-1995.

- (12502) WARREN, P.H. & M. SPENCER, 1996. Com-

munity and food-web responses to the manipulation of energy input and disturbance in small ponds. *Oikos* 75(3): 407-418. — (Dept Anim. & Plant Sci., Univ. Sheffield, Sheffield, S10 2TN, UK).

The work was carried out in experimental ponds, set up at the Univ. Sheffield Exp. Gardens, Scotland. 30 taxa, incl. *Coenagrion puella*, are listed and cross-referenced to those for which evidence suggests they may be capable of feeding on. These links form the basis for the 'core' web analysed in this study.

1997

- (12503) [AUBERT, J.] SARTORI, M., 1997. Obituary to Jacques Aubert (1916-1995). In: P. Landolt & M. Sartori, [Eds], Ephemeroptera & Plecoptera: biology-ecology-systematics, pp. 7-11, Mauron+Tingely & Lachat, Fribourg. ISBN 2-940187-01-0. — (Mus. Zool., Palais de Rumine, P.O. Box 448, CH-1000 Lausanne-17).

A comprehensive biography, with a portrait and complete bibliography of the Swiss plecopterologist. In odonatology are known his papers on insect migrations across the Col de Bretolet, Switzerland (*Mitt. schweiz. ent. Ges.* 35[1962]: 130-138; 36[1963]: 303-312; 37[1964]: 81-82; *Bull. Maurithienne* 81[1964]: 1-27).

- (12504) BREINL, K., K. COBURGER & F. LEO, 1997. Zum Kenntnisstand der Verbreitung von Libellen (Odonata) und Heuschrecken (Saltatoria) im Landkreis Greiz und der Stadt Gera. *Veröff. Mus. Gera* (Naturw.) 24: 5-93. (With Engl. s.). — (First Author: Büro ökol. Gutachten, Kahlaer Str. 3, D-07549 Gera).

A thoroughly annotated catalogue, with district distribution maps and adult phenology graphs of 43 odon. spp., known from the distr. of Greiz and the city of Gera, E Germany. Also described and analysed are odon. communities of various types of local habitats.

- (12505) CEMPIREK, J., 1997. Hejno subtropického šídla hnědého v jižních Čechách — A swarm of a subtropical darter dragon-fly in southern Bohemia. *Živa* 1997(1): 3 (col. phot.), 34-35 (text), 48 (summary). (Czech, with Engl. s.). — (Ločnice 123, CZ-373-22 Ločnice).

Hemianax ephippiger was reported in 1953 (printing error "1955") from southern Moravia. At Šitov fishpond, Vodňan, southern Bohemia, Czech Republic, 15-20 individuals were observed in 1995, and are brought here on record.

- (12506) KLEIN, J.-P., 1997. La Citadelle de Strasbourg ou la nature en ville. *Ares Flash* 326: 2-3. — (Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy). Several odon. spp. (French nomenclature only) are listed from the fort of the city of Strassbourg, France.
- (12507) KLEIN, J.-P., 1997. *Mécanismes d'échange rivière-nappe dans l'hydrosystème rhénan: relations entre les biocénoses alluviales, qualité de l'eau et connectivité*. Thèse de Doctorat, Univ. Louis Pasteur, Strasbourg. 439 pp. — (Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy).
For a published summary, see OA 12543.
- (12508) MATUSHKINA, N.A. & S.N. GORB, 1997. Skeletno-myshechnaya organizaciya yayceklada endofitnogo tipa u strekoz (Odonata) — Skeleton-muscle organisation of the endophytic ovipositor in Odonata. *Vest. Zool.* 31(5/6): 57-70. (Russ., with Ukr. & Engl. s's). — (First Author: Dept Biol., Univ. T. Shevchenko, Ul. Vladimirskaia 64, UKR-252033 Kiev).
Calopteryx splendens, *Lestes barbarus*, *Enallagma cyathigerum* and *Aeshna mixta* were studied. With 8 muscles, the ovipositor musculature system appears most complete in the Zygopt. The possible paths of reduction of ovipositor muscles in the Order are outlined and discussed, and some evidence is supplied for a future phylogenetic analysis.
- (12509) SARKAR, [N.K.] Nirmalakumar, 1997. Studies on Eugregarinida (Apicomplexa: Sporozoa: Septatina) of Indian odonates (Arthropoda: Insecta: Odonata): a synopsis of the genera and species. *Rec. zool. Surv. India* 96(1/4): 39-62. — (Dept Zool., Rishi Bankim Chandra Coll., Naihati-743165, W Bengal, India).
32 eugregarinid spp., referable to 11 genera, were so far described from 21 Indian odon. spp. This is an excellent and authoritative review-cum-key, with descriptions, figs, hosts (incl. information on infection site), localities, and a complete bibliography.
- (12510) SOLDAN, T., 1997. The Ephemeroptera: whose sister-group are they? In: P. Landolt & M. Sartori, [Eds], Ephemeroptera & Plecoptera: biology-ecology-systematics, pp. 514-519, Mauron+Tinguely & Lachat, Fribourg. ISBN 2-940187-01-0. — (Inst. Ent., Czech Acad. Sci., Branišovská 31, CZ-37005 České Budějovice).
The apomorphies of presumably apomorphic characters of Ephemeroptera within the former Paleoptera are discussed in view of the following possibilities: (1) Ephem. + Odon. (= Paleoptera) are a sister-group to Neoptera; — (2) Odon. are a sister-group to Ephem. + Neoptera; — and (3) Ephem. are a sister-group to Odon. + Neoptera. Taking into account solely neontological data, the last possibility seems to be persimonia. However, paleontological evidence shows the paleopteran assemblage as a well defined and compact group as compared with the neopteran orders. A review of the principal names applied in the higher pterygote classification is presented.
- 1998**
- (12511) BAPTISTA, D.F., L.F.M. DORVILLE, D.F. BUSS, J.L. NESSIMIAN & L.H.J. SOARES, 1998. Distribuição de comunidades de insetos aquáticos no gradiente longitudinal de uma bacia fluvial do sudeste brasileiro. *Oecol. brasil. (Insetos aquát.)* 5: 191-207. (Port., with Engl. s.). — (First Author: Lab. Comportamento, Depto Biol., IOC, FIOCRUZ, Av. Brasil 4356, Manguinhos, BR-21045-900 Rio de Janeiro).
The distribution and abundance of aquatic insects were studied along the longitudinal gradient of the Rio Macaé basin, Rio de Janeiro, Brazil. Some information is presented also for 11 odon. gen.
- (12512) BECHLY, G., 1998. Santana: [1] Die Schatzkammer fossiler Insekten; — [2] Forschungsgeschichte und Fauna. *Fossilien* 1998(2): 95-99; (3): 148-156. — (Breslauer Str. 30, D-71034 Böblingen). [Not available for abstracting.]
- (12513) BETHOUX, O., 1998. *Les Protozygoptera (Odonatoptera) permotriasiques: essai d'analyse phylogénétique, impact du choix du groupe externe sur les phylogénies*. Mém. DEA, Paris. — (Author's address not known).
[Abridged from an Engl. abstract in *Meganeura* 3(1999) p. 15:] Several new Permo-Triassic Protozygoptera and Triadophlebiomorpha are described, and some of the earlier known taxa are revised. A new interpretation of wing venation is proposed, and a computerised phylogenetic analysis is provided. It is argued, the modern Odon. are derived from some basal Protozygoptera.
- (12514) BÖNSEL, A., 1998. Verbreitung und Bestandsabschätzung der Hochmoor-Mosaikjungfer, *Aeshna*

- subarctica Walker, 1908 in Mecklenburg-Vorpommern. *Naturschutz Arb. Mecklenburg-Vorpommern* 41(1/2): 32-38. — (Vasenbusch 15, D-18337 Gresenhorst).
- A. subarctica* [elisabethae] is recorded from Goldenitzer Moor, Teufelsmoor nr Gresenhorst and Grambower Moor, and its phenology, distribution and status in Mecklenburg-Vorpommern, E Germany, are discussed.
- (12515) BOS, F. & M. WASSCHER, 1998. *Veldgids libellen* — [*Dragonfly field guide*]. KNNV, Utrecht. 256 pp. ISBN 90-5011-101-7. — Price: NLG 50.- net (Dutch). — (Publishers: KNNV Uitgeverij, Oudegracht 237, NL-3511 NK Utrecht).
- The first edn of this work (OA 11557), printed in 4000 copies, has been completely sold-out within 9 months after appearance. The present, 2nd edn is significantly revised and updated, the few errors and/or shortcomings are corrected, several (of the 160) col. phot. are replaced, their reproduction is improved, and references to the Belgian and the Netherlands Red Lists are made where appropriate. Published in Dec. 1998, in 2500 copies, over 1000 copies were sold by early March 1999.
- (12516) BROCKHAUS, T., 1998. Die Winterlibelle *Sympecma fusca* (Van der Linden, 1820) in der Region Chemnitz-Erzgebirge (Odonata). *Ent. Nachr. Ber.* 42(4): 231-234. (With Engl. s.). — (An der Morgensonne 5, D-09387 Jahnsdorf/Erzgebirge).
- The population strength is documented for 1982-1998, and it is shown that it is strongly correlated with the respective winter temperatures, conditioning the adult survival.
- (12517) BRUNELLE, P.-M. [design & illustration], 1998. *The Maine damselfly and dragonfly survey*. Identification chart (21 × 62 cm). Maine Inland Fisheries & Wildlife, Bangor/ME. — (Unfolded copies available at US \$ 13.- net, from: MDDS, Endangered Species Group, Maine Inland Fisheries & Wildlife, 650 State St., Bangor, ME 04401, USA).
- Illustrations are presented (in col.) of morphological features of the 26 spp., that are in Maine endangered (*Williamsonia lintneri*), threatened (*Ophiogomphus howei*), or that are referable to the Species of Special Concern (SSC). Many reach the extremity of their range in the state's largely unspoiled inland waters. (So far, 155 odon. spp. are known to occur in Maine, USA).
- (12518) CARVALHO, A.L. & J.L. NESSIMIAN, 1998. Odonata do estado do Rio de Janeiro, Brasil: Hábitos e hábitos das larvas. *Oecol. brasil.* (Insetos aquát.) 5: 3-28. (Port., with Engl. s.). — (First Author: Depto Ent., Mus. Nac., UFRJ, Caixa Postal 68044, BR-21944-970 Cidade Universitaria, Rio de Janeiro, RJ).
- The information is presented on larval habitat preferences and habits for 133 spp., referable to 62 gen. Members of 27 gen. are lotic dwellers, those of 27 others are associated with lentic habitats, and spp. of 8 gen. occur in both types of waters. Most Zygopt. from lentic habitats and most aeshnids are climbers, but they become clingers in lotic habitats. Some Zygopt. are secondarily classified as swimmers. Almost all Gomphidae are burrowers, while almost all Corduliidae and Libellulidae are considered as sprawlers.
- (12519) COPPA, G., 1998. *Cordulegaster boltonii* (Dobson, 1807) et *Cordulegaster bidentata* Sélys, 1843 (Odonata, Cordulegastriidae) en région Champagne-Ardenne et dans le Laonnois (région Picardie): présentation cartographique. *Bull. Soc. Hist. nat. Ardennes* 88: 29-32. — (Rue du Courlis, F-08350 Villers-sur-Bar).
- The distribution of the 2 spp. in Champagne-Ardenne and in the adjacent regions is outlined and the maps are provided; — NE France.
- (12520) COSTA, J.M. & B.J. DE ARAÚJO MASCARENHAS, 1998. Catálogo de material-tipo de Odonata (Insecta) do Museu nacional. — Catalogue of the types of Odonata in the Museu Nacional, Rio de Janeiro, Brazil. *Publções avuls. Mus. nac., Rio de J.* 76: 1-30. (Port., with Engl. s.). — (Depto Ent., Mus. Nac., UNFRJ, Quinta da Boa Vista, BR-20942-040 Rio de Janeiro-RJ).
- The primary and secondary type material of 87 nominal spp., deposited in MNRJ, is listed. The following information is presented for each sp.: name of the nominal sp. in the original description, name of the author, year of publication, page of original description, and figs when available (this for primary types only). The specimens are grouped together in lots, each lot with a number corresponding to that of the general collection catalogue. Some comments, mainly on the state of conservation of the primary types, collection place, and current name of the sp. are also included. The number of specimens, sex, collecting place and date from labels and the original descriptions are given for the secondary types. Geographic coordinates corresponding to each locality, have been taken from origi-

nal publications, or from maps (Carta do Brasil ao Milionésimo). Collectors' names and bibliographic references are also included.

- (12521) DAHMEN, D., E.-G. DAHMEN & G. GELLERT, 1998. Einfluss extremer Schwermetallbelastungen auf die Zusammensetzung der Makrobenthoszönose eines Mittelgebirgsbaches in einem ehemaligen Erzabbaugebiet des Raumes Overath (Bergisches Land). *Decheniana* 151: 173-182. (With Eng. s.). — (Third Author: Staatliches Umweltamt Köln, Aussenstelle Bonn, Postfach 120523, D-53047 Bonn).
In the heavily polluted Grünewaldbach no odon. occur (Cd up to 0.13 mg/l, Zn up to 133 mg/l, Ni up to 2.18 mg/l, and lower concentrations of Pb and Cu). *Cordulegaster boltonii* was present in the nearby, moderately polluted Hellenthalbach. The carnivorous organisms, incl. *Cordulegaster*, showed the lowest concentrations of heavy metals.
- (12522) DANIELSSON, I., 1998. Mechanisms of sperm competition in insects. *Annls zool. fenn.* 35(4): 241-257. — (Anim. Ecol., Dept Zool., Göteborg Univ., Box 463, S-405 30 Göteborg).
A review, with some suggestions for future research. It also includes a brief outline of the history of the relative research in odon.
- (12523) DE GROOT, T., 1998. *De libellenfauna van Berkenheuvel* — [*Dragonfly fauna of the Berkenheuvel*]. Ver. Natuurmonumenten, 's-Graveland. iv+44 pp. — [O & B Rapp. No. 98-01]. (Dutch). — (Bolivarstraat 89, NL-3573 ZX Utrecht).
A thorough study of the odon. fauna (30 spp.) and odon. communities of 10 wetland localities in the Berkenheuvel, municipalities of Diever & Vledder, Drenthe prov., the Netherlands.
- (12524) DE KNIJF, G. & A. ANSELIN, 1998. Faunistic research on Odonata in Flanders as a base for conservation and management. *Biol. Jaarb. Dodonaea* 65: 128-129. — (First Author: Ploegstraat 33, B-9050 Gentbrugge).
The database of the Belgian Dragonfly Working Group "Gomphus" is described, with reference to its applicabilities in the species status research and in the dragonfly-friendly wetland management in Flanders, Belgium.
- (12525) DE MARCO, P. & A.O. LATINI, 1998. Estrutura de guildas e riqueza de espécies em uma comunidade de larvas de Anisoptera (Odonata). *Oecol. brasil.* (Insetos aquát.) 5: 101-112. (Port., with Engl. s.). — (Lab. Ecol. Quantitativa, Depto Biol. Geral, Univ. Fed. Viçosa, BR-36571-000 Viçosa, MG).
The odon. guild structure was studied in Lagoa Carioca, Rio Doce State Park, Minas Gerais, Brazil, based on microhabitat use. 2 macrophyte-dweller and 7 bottom-dweller spp. were evidenced.
- (12526) EHMANN, H., 1998. Beitrag zur Kenntnis der Libellenfauna Kärntens (Insecta: Odonata). *Carinthia* (II) 188(108): 607-617. (With Engl. s.). — (Hirschenhöhrstr. 25, A-5450 Werfen).
A checklist of 51 spp. from 31 localities, evidenced during 1991-1997. *Erythromma viridulum*, *Crocothemis erythraea* and *Leucorrhinia dubia* are for the first time recorded from Carinthia, Austria.
- (12527) ENGLUND, R., 1998. Response of the Orangeblack Hawaiian Damselfly (*Megalagrion xanthomelas*), a candidate threatened species, to increase in stream flow. *Occ. Pap. Bernice P. Bishop Mus.* 56: 19-24. — (Hawaii Biol. Surv., Bishop Mus., 1525 Bernice St., Honolulu, HI 96817, USA).
Formerly one of the most common spp., its O'ahu populations have been reduced to a ca 95 m stretch of stream habitat within the Tripler Army Medical Center. Introduced fish are believed to be the main factor responsible for its decline. Due to stable and adequate stream flow since June 1997, the quality of the habitat has much improved and the damselfly numbers increased. It is concluded, the sp. will thrive if given adequate habitat and protection from introduced fish. The translocation of the sp. in other suitable areas is considered utmost urgent.
- (12528) FELDMANN, R. & A. KRONSHAGE, 1998. Landesweite Projekte zur Erfassung und Kartierung der Fauna und Flora in Nordrhein-Westfalen. *LöbBf-Mitt.* 98(1): 52-62. — (First Author: Pfarrer-Wiggen-Str. 22, D-58708 Menden).
Includes a brief description of the Northrhine-Westphalia (Germany) odon. mapping scheme. Duration: 1996-2000, with a possible extension; collaborators: 210; the bibliography of hitherto published works contains 7 titles.
- (12529) FRAJMAN, B., A. FRUMEN & A. ŠKVARČ, 1998. *Naravovarstvena problematika Turnovih ribnikov v Krajskem parku Rački ribniki - Požeg* —

- [*Conservation problematics of Turn Fishponds in Landscape Park Rački ribniki - Požeg*]. Seminarska naloga, Dept Biol., Univ. Ljubljana. 25 pp. (Slovene). — (Authors' addresses not stated).
Includes a list of 49 odon. spp. so far recorded in the Park; NE Slovenia.
- (12530) FREYHOF, J., 1998. Exuvien- und Larvenfunde der Asiatischen Keiljungfer *Gomphus flavipes* (Charpentier) im Rhein von Nordrhein-Westfalen. *LöBF-Mitt.* 1998(4): 4. — (Zool. Mus. A. Koenig, Adenauerallee 160, D-53113 Bonn).
In 1998, *G. flavipes* larvae and exuviae were recorded at 15 localities on the Rhine R., between Bingen and Köln. In western Germany the sp. was considered extinct, but it has reappeared recently in the Elbe, Weser and in the Rhine. Bibliographic references are provided.
- (12531) GEISTER, I., 1998. *Nakelska Sava*. MOP Uprava za varstvo narave, Ljubljana. 34 pp. ISBN 961-90179-9-4. (Slovene). — (Author: Kocjančiči 18, SI-6276 Pobegi).
A revised and enlarged book edn of the work listed in OA 10808.
- (12532) GOLDBERG, C., 1998. Fredede insekter i Danmark. 6. Internationale konventioner og direktivers betydning for beskyttelsen af danske insekter — [Protected insects in Denmark. 6. International conventions and directives of importance for the conservation of Danish insects]. *Ent. Meddr* 66(4): 97-103. (Dan.). — (Afd. miljøvurdering & natur, Rambøll, Teknikerbyen 31, DK-2830 Virum).
Lists *Ophiogomphus cecilia* and *Leucorrhinia pectoralis*, indicating their occurrence in Denmark.
- (12533) GOTTSCHALK, H.-J., 1998. Beitrag zur Odonaten-Fauna im Niederungsgebiet der Nebel. *NaturschutzArb. Mecklenburg-Vorpommern* 41(1/2): 46-50. — (Asterweg 8, D-18057 Rostock).
A commented list of 36 spp., evidenced during 1992-1994 in the Nebel Lowlands, Mecklenburg-Vorpommern, E Germany.
- (12534) GRONERT, R., 1998. Vlinder- en libellen-waarnemingen in het Windbreker-gebied, 6: 15 aug.-25 sept. — [Butterfly and dragonfly observations in the Petten-Den Helder area, 6: 15 Aug.-25 Sept.]. *Windbreker* 111: 10-11. (Dutch). — (Plein-1945, No. 9, NL-1755 NH Petten).
Casual records of 5 odon. spp.; vernacular nomenclature only; — Noord Holland prov., the Netherlands.
- (12535) HUTCHINSON, R., 1998. Observations de quelques émergences de *Lanthus parvulus* (Sélys) (Odonata: Gomphidae) à Port-au-Saumon (Charlevoix-Est). *Faberies* 23(3/4): 117-119. (With Engl. s.). — (12 ch. de la Savane, app. 12, Garineau, QC, J8T 1P7, CA).
20 emergences (6-7 June 1998) at this locality are brought on record, described in detail, and compared with the literature. This is the earliest emergence date for this sp. in Quebec, Canada.
- (12536) IL'YASHCHUK, B.P., 1998. Vliyanie aktivnoy reakcii vody na strukturu makrozoobentosa malyh lesnyh ozer yugo-zapada Karelii — The effect of water active reaction on the structure of zoobenthos of little forest lakes of south-west Karelia. *Gidrobiol. Zh.* 34(1): 49-56. (Russ., with Engl. s.). — (Inst. Zool., Russ. Acad. Sci., Sankt-Petersburg, Russia).
6 small forest lakes in Karelia were studied, Lake Splavinnoe is the most acid of these (pH 4.2). It harbours *Aeshna juncea*, *Leucorrhinia dubia* and *L. rubicunda*.
- (12537) ITO, Y., 1998. Species diversity of arthropods living in the forests of Yanbaru. *Insectarium, Tokyo* 35(11): 304-311. (Jap., with Engl. tab. titles & fig. captions). — (Author's address not stated).
Deals with the fauna of an area in northern Okinawa, Japan, and includes a phot. of *Chlorogomphus brunneus*.
- (12538) JARZEMBOWSKI, E.A., X. MARTINEZ-DELCLÒS, G. BECHLY, A. NEL, R. CORAM & F. ESCUILLIÉ, 1998. The Mesozoic non-calopterygoid Zygoptera: description of new genera and species from the Lower Cretaceous of England and Brazil and their phylogenetic significance (Odonata, Zygoptera, Coenagrionoidea, Hemiphlebioidea, Lestoidea). *Cretaceous Res.* 19(3/4): 403-444. — (c/o Dr A. Nel, Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
Parahemiphlebia cretacea gen.n., sp.n., *P. allendaviesi* sp.n. (both Coenagrionoidea or Hemiphlebioidea) from Brazil and England, resp., and *Cretarchistigma greenwoodi* gen.n., sp.n. (?Euarchistigmatinae), *Cretahemiphlebia rossi* gen.n., sp.n. (fam. undetermined) and *Cretalestes martinae* gen.n., sp.n. (?lestoid) from southern England are described. The phylo-

genetic relationships in the Lower Cretaceous Euarthistigmatinae and the Triassic Italophlebiidae are discussed, and the affinities of the Hemiphlebiidae are considered.

macroinvertebrate fauna were studied in a stream at Itatinga, Sao Paulo, Brazil. 10 odon. gen., pertaining to 5 families, are listed.

- (12539) JIANG, Y.-H., 1998. A new species of the genus *Ephthalma* (Odonata: Corduliida) from China. *Chin. J. Ent.* 18: 231-234. (With Chin. s.). — (Lianyungang City Yuntaixiang Diversified Management Office, Jiangsu-222064, P.R. China).
E. kuani sp.n. is described, illustrated and its affinities are pointed out. Holotype ♂: China, Jiangsu: Yuntai Mt, Donley, alt. 250 m, 15-V-1994; deposited at Nanjing Forestry Univ. The new sp. is similar to *E. elegans* (Br.) and *E. f. frontalis* Sel. but can be differentiated from both by: (1) sup. app. without yellow spots at base, (2) pronotum with little touches of yellow on anterior margin of anterior lobe, (3) posterior hamule arc-shaped at end, with curved teeth on venter, and (4) end of the penis with 3 long flagella. Female unknown.
- (12540) KÄHLERT, J., 1998. Libellen Spiele. *Foto-Magazin* 98(2): 110-115. — (Rotkehlchenweg 4, D-25712 Burg).
Technical hints for dragonfly photographers, with some splendid field photos.
- (12541) KETELAAR, R. & B. VAN DE WETERING, 1998. *De Groene Glazenmaker in Groningen* — [*Aeshna viridis* in the province of Groningen, the Netherlands]. Rapport VS 98.39, De Vlinderstichting, Wageningen. 19 pp. (Dutch). — (First Author: De Vlinderstichting, Postbus 506, NL-6700 AM Wageningen).
The biology and distribution in the Netherlands are briefly outlined. Currently, in Groningen there are 3 populations, 2 of which are small. The habitat, status and conservation aspects of these are described. The *A. viridis* conservation prospects in the Netherlands are considered reasonable, and some short-term practical measures are suggested.
- (12542) KIKUCHI, R.M. & V.S. UEDA, 1998. Composição da comunidade de invertebrados de um ambiente lótico tropical e sua variação espacial e temporal. *Oecol. brasil.* (Insetos aquát.) 5: 157-173. (Port., with Engl. s.). — Depto Zool., Campus Botucatu, Univ. Estad. Paulista, Caixa Postal 510, BR-18.618-000 Botucatu, São Paulo).
The composition and distribution patterns of
- (12543) KLEIN, J.-P., 1998. Mécanismes d'échanges nappe-rivière dans l'hydrosystème rhénan: relations entre biocénoses alluviales, qualité de l'eau et connectivité. *Écologie* 29(3): 497-499. — (Lab. Aubert, 22 rue des Carmes, B.P. 664, F-54063 Nancy). This is a comprehensive summary of the Thèse de Doctorat, Univ. Strasbourg (1997; cf. OA 12507). The odon. represent one of the main subjects of the work, in which the aquatic vegetation and the bryophytes are also assessed.
- (12544) LANGE, L., 1998. Beitrag zur Libellenfauna des einstweilig gesicherten NSG "Plauer Stadtwald". *NaturschutzArb. Mecklenburg-Vorpommern* 41(1/2): 72-74. — (Deichreihe 21, D-25599 Wewelsfleth).
A commented list of 33 spp. from a locality in SW Mecklenburg, E Germany.
- (12545) LOPEZ, L.C.S., A.M.A. D'ELIAS & R. IGLESIAS-R., 1998. Fatores que controlam a riqueza e a composição da fauna aquática em tanques da bromélia *Aechmea bromeliifolia* (Rudge) Baker na Restinga de Jacarépiá-Saquarema/RJ. *Oecol. brasil.* (Insetos aquát.) 5: 91-100. (Port., with Engl. s.). — (First 2 Authors: Lab. Ecol. de Comunidades, Depto Ecol., CCS-UFRJ, Brazil).
The effect of water volume, sun exposure and soil inundation on the richness and species composition of the aquatic communities in *Aechmea bromeliifolia* is analysed. Quantitative data are presented for *Leptagrion* sp.
- (12546) LOTZING, K., 1998. Ergebnisse von Bestandserfassungen zur Libellen-Fauna (Odonata) in ausgewählten Biotopen am Südrand der Magdeburger Börde. *Abh. Ber. Naturk., Magdeburg* 20: 19-35. — (Strasse der Deutschen Einheit 7, D-39418 Stassfurt).
Habitat descriptions, a commented list of 36 spp., and an analysis of the fauna of Stassfurt distr., Sachsen-Anhalt, E Germany.
- (12547) MARCHAL-PAPIER, F., 1998. *Les insectes du Buntsandstein des Vosges (NE de la France): biodiversité et contribution aux modalités de la crise biologique du Permo-Trias*. PhD thesis, Univ. Strasbourg. 161 pp., 30 pls excl. — (Inst. Geol., Univ. Louis Pasteur, 1 rue Blessig, F-67084 Strasbourg).

- [Abridged from an Engl. abstract in *Meganoura* 3(1999), p. 15:] 5300 spec., referable to 200 spp. of various orders, incl. the odon., were recovered from the Upper Buntsandstein (early Middle Triassic) of Grès à Voltzia, Vosges, France. This is the only hitherto known insect fauna from the stratigraphic levels close to the Permo-Triassic boundary. The systematic study of various taxa, incl. odon., indicates that in the early Mesozoic the archaic Palaeozoic forms coexisted with those showing a mixture of archaic and modern features. A diversity analysis of the orders and families at the Permo-Triassic boundary shows a continuous turnover of taxa, but it does not render a firm evidence on the Permo-Triassic biological crisis.
- (12548) McCOBB, L.M.E., I.J. DUNCAN, E.A. JARZEMBOWSKI, B.A. STANKIEWICS, M.A. WILLS & D.E.G. BRIGGS, 1998. Taphonomy of the insects from the Insect Bed (Bembridge Marls), Late Eocene, Isle of Wight, England. *Geol. Mag.* 135(4): 553-563. — (Last Author: Dept Earth Sci., Univ. Bristol, Queen's Rd, Bristol, BS8 1JR, UK).
This is the first study of a fossil insect biota (incl. odon.), other than amber, combining unbiased sampling, statistical analysis, comparison with modern insect faunas, and a detailed consideration of taphonomy. The Bembridge Marls insect fauna is characteristic of a primary sub-tropical/tropical forest subject to significant seasonal rainfall. The insects of Bembridge Marls are remarkable in preserving cuticle and mineralized internal tissues in a largely uncompacted state. Chemical analysis (py-GC/MS) reveals that the cuticle is composed of an aliphatic polymer, possibly due to polymerization of cuticular waxes during diagenesis. No chitin was detected. The soft tissues, which include sarcolemma and muscle fibres, are preserved through replacement in calcite.
- (12549) MOORHEAD, D.L., D.L. HALL & M.R. WILLIG, 1998. Succession of macroinvertebrates in playas of the Southern High Plains, USA. *Jl N. Am. benthol. Soc.* 17(4): 430-442. — (First Author: Dept Biol., Univ. Toledo, Toledo, OH 43606-3390, USA). Playas are ephemeral wetlands in the Southern High Plains, USA, that usually are briefly inundated each year. Invertebrates rapidly colonize these habitats, so that a progression of spp. follows initial inundation. As transient spp., *Enallagma civile*, *Lestes disjunctus*, *Anax junius* and early instars of *Tramea*, *Pantala* and *Sympetrum* were identified; — nr Lubbock, W Texas, USA.
- (12550) NEL, A. & E.A. JARZEMBOWSKI, 1998. New protomyrmeleontid dragonflies from the Lower Cretaceous of southern England (Insecta, Odonata, Archizygoptera). *Cretaceous Res.* 19(3/4): 393-402. — (First Author: Lab. Ent., Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
Protomyrmeleon cretacicus sp.n. and *Saxomyrmeleon keatingei* gen.n., sp.n. are described. It is apparent, the Archizygoptera were well represented and widely distributed during the Early Cretaceous.
- (12551) NOVELO-GUTIERREZ, R., 1998. Description of the larva of *Remartinia secreta* and notes on the larva of *Remartinia luteipennis florida* (Odonata; Aeshnidae). *Can. Ent.* 130(6): 893-897. (With Fr. s.). — (Depto Ent., Inst. Ecol., A.C., Apdo Postal 63, MX-91000 Xalapa, Veracruz).
A detailed description and illustrations of the larva of *R. secreta* (Calv.) are provided. The main features that distinguish the larva of this sp. are dark brown coloration; prementum 0.25 times longer than its widest part, with a dorsal row of small spiniform setae close to the lateral margins; length of the lateral spine on abdominal segment six 0.4-0.5 mm; lateral valvae of ♀ gonapophyses shorter than central ones; and ♀ epiproct longer than cerci. Larvae were found living in a lagoon densely covered by aquatic phanerogams such as *Eichhornia* sp. (Pontederaceae) and *Typha* sp. (Typhaceae). Larva of *R. secreta* is compared to that of *R. luteipennis florida* (Hag.), its only sympatric congener.
- (12552) ORENDT, C., 1998. Macroinvertebrates and diatoms as indicators of acidification in forest spring brooks in a region of eastern Germany (Leipzig-Halle-Bitterfeld) highly impacted by industrial activities. *Arch. Hydrobiol.* 143(4): 435-467. — (Hildegardstr. 13, D-80539 München).
6 brooks were surveyed in Saxony and Saxony-Anhalt, E Germany. Along the acidity gradient, pH 6.34-3.76, the aquatic communities changed from acid-sensitive to acid-tolerant. 6 odon. spp. were considered. *Cordulegaster boltoni* ranged from pH 6.34 to pH 3.79. *Platycnemis pennipes*, *Pyrrhosoma nymphula*, *Lestes viridis*, *Aeshna cyanea* and *Libellula quadrimaculata* were restricted to the pH 3.79 class.
- (12553) PEDEMONTANUM. Mitteilungsblatt der AG Odonatenfauna Sachsen-Anhalt der Entomologen-Vereinigung Sachsen-Anhalt e.V., No. 2 (Feb. 1998). — (c/o Dr J. Müller, Frankefelde 3, D-39116

Magdeburg).

Müller, J.: Editorial (p. 1); – Martens, A.: Aktuelle Funde von *Cercion lindenii* in Salzgitter (p. 1); – Lotzing, K.: Kurzübersicht einiger Odonatenfunde im ehemaligen Landkreis Stassfurt für den Zeitraum 1980 bis 1996 (pp. 2-3); – Müller, J. & R. Steglich: Ergebnis der "Aktion flavipes 1997" (pp. 3-4); – *Aeshna affinis* hat 1996/1997 erfolgreich überwintert (pp. 4-5); – Müller, J.: Aufruf zur Mitarbeit: *Anax parthenope* in Sachsen-Anhalt (p. 5); – Buschendorf, J.: Zur Bedeutung von UVP für die Odonaten-Faunistik (pp. 5-6); – (Anonymous): Arbeiten zur Odonatenfauna Sachsen-Anhalts und angrenzender Gebiete (pp. 6-8; 23 titles, 1992-1997).

- (12554) PERRON, J.-M. & Y. RUEL, 1998. Deux gomphides rares, *Stylurus amnicola* (Walsh) et *Stylurus spiniceps* (Walsh) (Odonata, Gomphidae), à l'anse du Moulin Banal, Saint-Augustin-de-Desmaures, Québec. *Fabries* 23(3/4): 131-133. (With Engl. s.). – (First Author: 963 rue Granjean, app. 506, Sainte-Foy, QC, G1X 4P9, CA).

In view of the new records from Moulin Banal, the currently known distribution of the 2 spp. in Quebec, Canada is outlined and mapped.

- (12555) [PETERS, G.], 1998. Zum fünfundsechzigsten Geburtstag von Prof. Dr. Günther Peters. *Beitr. Zool.* 50(1): 5-17. – (Inst. Syst. Zool., Mus. Naturk., Humboldt-Univ., Invalidenstr. 43, D-10115 Berlin). This was published in celebration of the 65th birthday of Professor G. Peters. A portrait and his complete bibliography (128 titles) are included, and the text is authored as follows: *Obst, F.J.*: Vorbemerkungen (p. 5); – *Paepke, H.-J.*: Laudatio für Prof. Dr. Günther Peters, gehalten anlässlich seiner Verabschiedung aus dem Museum für Naturkunde der Humboldt-Universität zu Berlin zum Festkolloquium am 29. September 1997 (pp. 6-14); – *Peters, G.*: Erwiderung des Jubilars (pp. 14-17; incl. a statement on his current research project on the phylogeny of the Aeshnidae). – A shorter biography and appreciation of his work, with a different portrait and complete bibliography, were published (1998) in *Mitt. Mus. Naturk. Berlin (Zool.)* 24(1): 5-9.

- (12556) RAMIREZ, A. & C.M. PRINGLE, 1998. Structure and production of a benthic insect assemblage in a neotropical stream. *Jl N. Am. benthol. Soc.* 17(4): 443-463. – (Inst. Ecol., Univ. Georgia, Athens, GA 30602, USA).

The study was done on the Caribbean slope of Costa Rica, and in the transition zone between the coastal plain and the foothills of the central mountain range, Cordillera Central. Quantitative data are provided for *Hetaerina*, *Argia*, *Epigomphus* and *Palaemnema*. Their abundance and biomass were highly variable and were slightly higher in riffles (peaks in Feb., March and Sept.) than in pools.

- (12557) RUSSELL, R.W., M.L. MAY, K.L. SOLTESZ & J.W. FITZPATRICK, 1998. Massive swarm migrations of dragonflies (Odonata) in eastern North America. *Am. Midl. Nat.* 140(2): 325-342. – (Second Author: Ent. Dept, Rutgers Univ., Blake Hall-93, Lipman Dr., New Brunswick, NJ 08901-8524, USA). Massive autumn migrations which occurred at Chicago, IL (14-IX-1978), Cape May, NJ (11-IX-1992), and Crescent Beach, FL (3/5-IX-1993) are described. Estimated numbers of migrant odon. involved in these flights were approx. 1.2 million, > 400.000, and 200.000, resp. Also documented are other recent observations of large swarm migrations of dragonflies in eastern N America. These show several distinct patterns: (1) all reports fell between late July and mid-Oct., with a peak in Sept.; (2) most of the large flights occurred along topographic leading lines such as coastlines and lakeshores; (3) massive swarm migrations generally followed the passage of synoptic-scale cold fronts; and (4) *Anax junius* was the principal sp. involved in the majority of these flights. Striking parallels between the patterns of seasonal timing, geographical distribution and meteorological context of dragonfly migrations and those of birds suggest that similar causal factors are involved.

- (12558) SANTOS, M.B.L., L.A. ROCHA, M.M.G.S.M. MARQUES & F.A.R. BARBOSA, 1998. Diversidade e abundância da fauna bentônica de cinco lagoas do karste do planalto de Lagoa Santa, Minas Gerais. *Oecol. brasil. (Insetos aquát.)* 5: 77-89. (Port., with Engl. s.). – (Lab. Limnol., Depto Biol. Geral, Univ. Fed. Minas Gerais, Caixa Postal 486, BR-30161-970 Belo Horizonte, MG).

5 lakes from the karstic plateau of Lagoa Santa, Minas Gerais, Brazil are compared with reference to the benthic macroinvertebrate taxa they harbour. These are listed family-wise and for different seasons.

- (12559) SCHMIDT, E., 1998. Aphorismen zur Odonatenfauna der Ruhraue bei Mülheim. *Verh. westdt. EntTag., Löbbecke-Mus.* 1987, pp. 205-212.

- (Biol. Didaktik, FB-9/SO 5, Univ. Essen, D-45117 Essen).
The odon. fauna (26 spp.) of the Ruhr oxbow nr Mülheim is described and discussed; – Rhineland-Westphalia, Germany. *Libellula fulva* and *Sympetrum pedemontanum* are of particular local interest.
- (12560) SCHMIDT, E.G., 1998. Die ökologische Nische von *Sympetrum flaveolum* (L., 1758) und die Problematik von Artenschutz und Einstufung in Rote Listen bei Odonaten mit temporärer Habitat-Besiedlung (Odonata: Libellulidae). *Entomol. gen.* 23(1/2): 129-138. (With Engl. s.). – (Biol. Didaktik, FB-9/SO 5, Univ. Essen, D-45117 Essen).
Based on field work in various areas of NW Germany, the principal habitat requirements of *S. flaveolum* are defined, and it is emphasized that an adequate category for the redlisting of spp. confined to only temporarily fitting breeding microhabitats is lacking.
- (12561) SERRANO, M.A.S., W. SEVERI & V.J.S. TOLEDO, 1998. Comunidades de Chironomidae e outros macroinvertebrados em um rio tropical de planície, Rio Bento Gomes/MT. *Oecol. brasil.* (Insetos aquát.) 5: 265-278. (Port., with Engl. s.). – (First Author: Depto Biol. & Zool., Inst. Biociên., Univ. Fed. Mato Grosso, Av. Fernando Correa da Costa, s/n, BR-78.060-900 Cuiabá, MT).
A helocrene-limnocrene and a limnocrene-rheocrene station were sampled in Mato Grosso, Brasil. Temporal occurrence of 5 odon. families is outlined.
- (12562) SOBCZYK, T. & H. SCHNABEL, 1998. Bemerkenswerte Libellenfunde aus der nordwestlichen Oberlausitz. *Veröff. Mus. Westlausitz* 20: 107-110. – (First Author: Am Bahndamm 13, D-02977 Hoyerswerda).
A review of recent records of *Gomphus vulgatissimus* and *Ophiogomphus cecilia* in Upper Lusatia, E Germany, with a brief discussion.
- (12563) SPARRIUS, L. & A. VAN DER HEYDEN, 1998. Libellen in de Reeuwijkse Hout – [Dragonflies of the Reeuwijkse Hout]. *Amoeba, Amst.* 72(4): 150-151. (Dutch). – (First Author: Kongsbergstraat 1, NL-2804 XV Gouda).
17 spp., incl. *Erythromma viridulum*, *Aeshna viridis* and *Sympetrum flaveolum*, are listed from various wetland localities in the Reeuwijkse Hout nr the city of Gouda, the Netherlands.
- (12564) STOKS, R., L. DE BRUYN & E. MATTHYSEN, 1998. Population structure of the damselfly *Lestes viridis*. *Biol. Jaarb. Dodonaea* 65: 176 [abstract only]. – (Dept Biol., Univ. Antwerp, Groenenborgerlaan 171, B-2020 Antwerpen).
A capture-mark-recapture study, but the abstract is indicative only. – See also OA 12173.
- (12565) TORRALBA BURRIAL, A. & M. ORTEGA MARTINEZ, 1998. Libélula comedora de ranas. *Boln Soc. ent. aragon.* 21: 14. (With Engl. s.). – (First Author: Av. Menéndez Pidal 9/2F, ES-22003 Huesca).
At Zaragoza, Spain, 13-IX-1997, an *Anax* larva was seen devouring an adult frog, *Rana perezi*. The frog was bigger than the dragonfly.
- (12566) TÓTH, S., 1998. A Duna-Dráva Nemzeti Park Dráva menti területének szitakötő (Odonata) faunája. – Data to the dragonfly fauna of the Duna-Dráva National Park, South Hungary (Odonata). *Studia pannon.* (A) 9: 135-150. (Hung., with Engl. & Germ. s's). – (Széchenyi u. 2, H-8420 Zirc).
55 spp. were recorded during 1992-1997, and locality data are listed here for 11864 adult and larval specimens. Among the locally/regionally interesting spp. are mentioned *Aeshna grandis*, *A. viridis*, *Leucorrhinia caudalis*, *L. pectoralis*, etc. – Cf. also OA 10615.
- (12567) VAN DER HEYDEN, A. & L. SPARRIUS, 1998. [De Südheide in vogelvlucht]. *Libellen – [Dragonflies]. Amoeba, Amst.* 72(4): 143-144. (Dutch). – (First Author: Struisgras 17, NL-2804 NM Gouda).
A briefly annotated list of 35 spp., evidenced in July 1998 in Nature Reserve "Südheide", Lüneburger Heide, between Hamburg and Hannover, Germany.
- (12568) VAN GOSSUM, H., R. STOCKS, L. DE BRUYN & E. MATTHYSEN, 1998. Can a difference in survival between sexes in *Ischnura elegans* (Odonata, Coenagrionidae) explain a biased sex ratio at the pond? *Biol. Jaarb. Dodonaea* 65: 185 [abstract only]. – (Dept Biol., Univ. Antwerp, Groenenborgerlaan 171, B-2020 Antwerpen).
A capture-mark-recapture experiment, but the abstract is indicative only, and no answer to the question posed is provided.
- (12569) VAN TOL, J., 1998. The Odonata of Sulawesi and adjacent islands. 4. A new genus and species of Chlorocyphidae from south-east Sulawesi. *Zool. Verh. Leiden* 323: 441-448. – (Dept Ent., Natn. Mus. Nat.

- Hist., P.O. Box 9517, NL-2300 RA Leiden).
 Watuwila vervooti gen.n., sp.n. is described and illustrated (holotype ♂: Indonesia, Sulawesi, Gunung Watuwila, alt. 1050 m, 2/4-XI-1989, deposited at RMNH, Leiden; ♀ unknown). A preliminary phylogenetic analysis of the fam. indicates that the genus represents a relatively old lineage. — (*Abstracter's Note*: This conclusion is in agreement with the suggestion on the phylogeny of the family, based on karyotypic analysis, as outlined in the paper listed in OA 4572.)
- (12570) VAN TOL, J., 1998. [Book review] F. Bos & M. Wasscher, 1997, Veldgids libellen. *Tijdschr. Ent.* 141(2): 136. (Engl.). — (*Natn. Mus. Nat. Hist.*, P.O. Box 9517, NL-2300 RA Leiden).
 This is a comprehensive appreciation of the 2nd (revised and updated) edn of the work, which was published in Dec. 1998 (rather than "1997", as stated erroneously in the above title of the review!), and which is described in OA 12515.
- (12571) WILLIAMS, D.D. & N.E. WILLIAMS, 1998. Freshwater invertebrates from the Bermuda Islands and their zoogeographical affinities. *Trop. Zool.* 11(2): 353-369. — (*Div. Life Sci.*, Univ. Toronto, 1265 Military Trail, Scarborough, ON, M1C 1A4, CA).
 Larval *Ischnura ramburii*, *Anax junius* and *Tamea abdominalis* (?) are listed from 3 localities. 6 other odon. spp. were recorded from the Bermudas earlier by L. Ogilvie (1928, *The insects of Bermuda*, Bermuda Dept Agric.).
- (12572) ZHOU, W., 1998. A new species of the genus *Anotogaster* from China (Odonata: Cordulegasteridae). *Wuyi Sci. J.* 14: 16-17. (Chin., with Engl. s.). — (*Dept Ent.*, Zhejiang Nat. Hist. Mus., Gu-shan, Hangzhou-310012, P.R. China).
 A. chaoi sp.n. is described, illustrated and its affinities are discussed. Holotype ♂, allotype ♀: Ruili, Yunnan prov., 6-V-1984. The new sp. is similar to *A. gregoryi* Fraser. The main features separating it from the latter are: black coloration of segm. 1, without a dorsal spot; segm. 2 has a bright lemon-yellow ring; segm. 10 is completely unmarked; ♀ wings are yellow.
- (12573) ZHOU, W., 1998. A report on *Petaliaeschna corneliae*. *Wuyi Sci. J.* 14: 1-2. (Chin., with Engl. title). — (*Dept Ent.*, Zhejiang Nat. Hist. Mus., Gu-shan, Hangzhou-310012, P.R. China).
 No abstract is included, but a fig. of ♀ terminalia is provided.
- (12574) ZHU, H. & Y. OU, 1998. A note on the allotype of *Macromia manchurica* Asahina from Heilongjiang, China (Odonata: Corduliidae). *Wuyi Sci. J.* 14: 3-4. (Chin., with Engl. s.). — (First Author: Shanxi Univ. 42-38, Taiyuan-030006, Shanxi, P.R. China).
 The first ♀ is described and its structural features are illustrated (Dong-ning, Heilongjiang prov., China; 6-VII-1994).

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- (12575) ARGIA. The news journal of the Dragonfly Society of the Americas, Vol. 11, No. 1 (10 March 1999). — (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903 USA).
 [Signed articles:] *Paulson, D.*: Dragonflies down under (pp. 5-8; Australia); — *Donnelly, N.*: Back to Borneo (pp. 8-11); — *Bright, E.*: An interesting new larval morphology of *Argia* (pp. 11-13); — *Sibley, F.*: A beginners random observation on winter dragonflies (pp. 13-15); — *Westover, D.*: Observations on the possibility of overwintering larvae of *Anax junius* in Wisconsin (pp. 15-16); — *Ramos Hernandez, J.M.*: Development VS dragonflies (p. 16); — *Sibley, F.*: Unusual invasion of dragonflies on Guana Island, British Virgin Islands (pp. 16-19); — *Steiner, W.E. & O.S. Flint*: Dragonflies on Navassa Island (pp. 19-21); — *Sibley, F.*: List of dragonflies from Guadeloupe, West Indies (pp. 21-22); — *Beckemeyer, R.*: *Ischnura barberi* Currie, 1913, "a salty fork-tale" (pp. 22-23); — *Dunkle, S.*: Odonata of Pyramid Lake, Nevada (pp. 23-24); — *Donnelly, N.*: History of Odonata study in North America: James G. Needham (pp. 24-26); — *Callig, P.M.*: Notes on *Enallagma trivium* westfalli in Ontario (pp. 26-27); — *Pratt, P.*: 1998 summary for southwestern Ontario (p. 27); — *Hummel, S.*: *Argia lugens* from South Dakota (pp. 27-28); — *Paulson, D.*: New county records of South Dakota Odonata, with five new species for the state (pp. 28-29); — *Mauffray, B.*: Georgia Odonata update (p. 29); — Louisiana Odonata update (p. 29); — *Hummel, S.*: A twenty-six year old record for *Tamea calverti* in Iowa (p. 29); — *Beckemeyer, R.*: Some interesting developments in species descriptive taxonomy (pp. 29-30); — Dragonflies, lice, and "Schwartz's law of odonatology" (p. 30); — *Johnson, J. & D. Paulson*: Spineless *Epitheca spinigera*: a cautionary note (p. 30); — *Donnelly, N.*: Dot-map project update (pp. 30-31); — *Rith, J.*: Minnesota dragonfly survey project (pp. 31-32); — *Sibley, F.*: Further comments on collecting limits (p. 33); — *White, H.*: "What do we do with 'em'?" (pp. 33-34); — *Walter, S.*: North American late date (p. 35; *Telebasibysers*); — Which falcon catches dragonflies? (p. 35). —

In addition to several meeting announcements and other notifications, the traditional web site review, *Tramea*, was this time contributed by *N. Donnelly* (p. 37).

- (12576) FERRERAS-ROMERO, M., M.D. ATIENZAR & P.S. CORBET, 1999. The life cycle of *Onychogomphus uncatus* (Charpentier, 1840) (Odonata: Gomphidae) in the Sierra Morena mountains (southern Spain): an example of protracted larval development in the Mediterranean basin. *Arch. Hydrobiol.* 144(2): 215-228. — (Third Author: Crean Mill, Crean St Buryan, Cornwall, TR19 6HA, UK).

The life cycle was studied for 3 consecutive years, mainly by systematic sampling of larvae in a permanent upland stream, towards the southern part of this sp. range. During larval development a hatching cohort divides into 'fast' and 'slow' components which respectively complete development in 2 and 3 years and correspond in their mode of seasonal regulation to summer and spring species. In these respects the life cycle resembles closely that of certain other Odon. near the northern limit of their distribution in the United Kingdom and Sweden. Advanced metamorphosis (in the last larval instar) and emergence were confined to spring and summer respectively, but unusually low autumn temperatures correlated with the appearance in autumn, rather than in winter or spring of intrastadial changes foreshadowing metamorphosis.

- (12577) FINCKE, O.M., 1999. Organization of predator assemblages in neotropical tree holes: effects of abiotic factors and priority. *Ecol. Ent.* 24(1): 13-23. — (Dept Zool., Univ. Oklahoma, Norman, OK 73019, USA).

(1) Water-filled tree holes in a lowland forest in Panama harbour an assemblage of large predators consisting of the larvae of 5 common odon. spp., the mosquito *Toxorhynchites theobaldi*, and tadpoles of *Dendrobates auratus*. Odon. ♀♀ oviposit in both large and small tree holes. However, the 3 largest spp. emerge from larger tree holes, on average, than do the 2 smallest spp. Can assembly rules explain this and other patterns of predator distribution? — (2) Past experiments suggested that fast growth of the largest, but later-colonizing odon. enabled them to out-compete the smaller, slower-growing *Mecistogaster* in large holes. In small holes, however, the first predator, regardless of species, should presumably kill any later arrivals. Priority effects in small holes were tested for their consistency across predator species. 2 alternative explanations for differential odon. survivorship were also

tested: abiotic conditions and the effect of non-odon. predators. — (3) Diurnal fluctuations in oxygen content, pH, and temperature within holes were as great as the variation found between large and small tree holes; abiotic conditions were poor predictors of species occupancy. — (4) Exchanging the largest and smallest odon. spp. from their original holes did not affect survivorship, suggesting that the observed patterns of emergence are unlikely to result from differential tolerance to abiotic factors that were not measured. — (5) When larger and smaller predators were paired in 400-ml pots and provided with alternative prey, typically only the larger predator survived, regardless of species. The exception was *T. theobaldi*, which was often killed by odonates and tadpoles smaller than itself. — (6) Between May and July, the occurrence of *Mecistogaster* in large tree holes declined, before larvae could have emerged. Neither abiotic effects nor differential predation by non-odon. could explain this habitat-specific decrease in survivorship. This temporal pattern is most consistent with the previous conclusion that in large holes, *Mecistogaster* suffer intraguild predation from later-colonizing, but faster-growing *Megaloprepus* and aeshnids. Whereas *Mecistogaster* can pre-empt guild members from small tree holes, they cannot do so in large holes where predators with fast initial growth realize a competitive advantage.

- (12578) FRASERIA (New Series). South Asian Bulletin of Odonatology, Vol. 4, No. 1/2 (dated 1 Dec. 1997; published March 1999). — (Orders outside SE Asia: c/o Odonatologica, P.O. Box 256, NL-3720 AG Bilthoven; — Annual subscription: US \$ 10.- net). *Andrew, R.J. & D.B. Tembhare*: Collection of Odonata from Nagpur city, Maharashtra state, India (pp. 1-4); — *Subramanian, M.A., A. Reni Prabha & G. Varadaraj*: Effect of tannery effluent on biochemistry of larvae of the dragonfly *Pantala flavescens* (Fabricius) (Libellulidae: Anisoptera) (pp. 5-8); — *Walia, G.K. & R. Sandhu*: Karyotypic studies on five species of *Ischnura* (Zygoptera: Coenagrionidae) (pp. 9-12); — *Srivastava, V.K. & B. Suri Babu*: Annotations on the dragonfly collection from Sagar, central India (pp. 13-15); — *Kiauta, B.*: News (pp. 16-17); — *A list of odonatologists of South-Asian region* (pp. 18-20; 54 addresses in Bangladesh, India, Nepal and Pakistan).

- (12579) GEISTER, I., 1999. Živali in rastline Krajinskega parka Dragonja — [Animals and plants of the Dragonja Landscape Park]. *Sopotnik, Koper* 1999(2):

- 8-15. (Slovene). — (Kocjančiči 18, SI-6276 Pobegi). A record of *Onychogomphus forcipatus*; Dragonja R., Istria, Slovenia.
- (12580) *GOMPHUS*. Mededelingsblad van de belgische libellenonderzoekers — Bulletin de liaison des odonatologues belges. Vol. 15, No. 1 (Feb. 1999). (Dutch & Fr., with Engl. & Fr. s's). — (c/o G. de Knijf, Ploegstraat 33, B-9050 Gentbrugge).
Tailly, M.: Editorial (p. 1); — *Goffart, P.*: Un phénomène à suivre: l'expansion vers le nord d'espèces méridionales (pp. 1-2); — *De Block, M. & R. Stoks*: The dragonfly fauna of an isolated pond in Merchtem, Vlaams-Brabant (pp. 3-11); — *Goffart, P.*: Un premier cas de reproduction effective de *Sympetrum fonscolombei* Sélys, 1840 en Wallonie (pp. 12-17); — *Meuris, L.*: Dragonfly census in Flanders: the first results of a pilot project in the "Kalmthoutse Heide", Antwerp in 1998 (pp. 18-28); — *Ternaat, T.*: Discovery of a population of *Coenagrion mercuriale* (Charpentier, 1840) near Virton (pp. 29-30); — *Van der Schoot, P. & G. de Knijf*: Compte-rendu de l'excursion [...] dans la vallée du Visbeek-Kindernouw à Lille-Welchelderzande en Campine anversoise (pp. 31-33); — *De Knijf, G.*: Compte-rendu de l'excursion [...] en Gaume (pp. 33-36); — *Compte-rendu de l'excursion [...] dans les marais de St-Boëtien [...]*, France (pp. 36-38); — *Demolder, H.*: Compte-rendu de l'excursion [...] dans le domaine militaire "Vloetenveld" près de Bruges (pp. 38-41); — *Soors, J.*: Compte-rendu de trois jours en Gaume (pp. 41-45); — *Stoks, R.*: Publications odonatologiques récentes (pp. 46-49).
- (12581) KALKMAN, V. & R. KETELAAR, 1999. Interessante libellenwaarnemingen in 1998 (Odonata). — Interesting new records of Odonata in the Netherlands in 1998. *Ned. faun. Meded.* 8: 85-88. (Dutch, with Engl. s.). — (c/o Muddegoorn 79, NL-9403 NK Assen).
Gomphus flavipes, *G. vulgatissimus*, *Anax parthenope*, *Sympetrum depressiusculum* and *S. pedemontanum* seem to have become more common. The status of *Calopteryx virgo*, *Sympecma paedisca*, *Coenagrion hastulatum* and *Cordulegaster boltonii* in the Netherlands is briefly outlined.
- (12582) KETELAAR, R., 1999. Winterjuffers: curieuze koudefreaks. *Vlinders* 14(1): 23. (Dutch). — (Vlinderstichting, Postbus 506, NL-6700 AM Wageningen).
A casual gossip on *Sympecma fusca* and *S. paedisca* in the Netherlands, in a popular, national butterfly quarterly.
- (12583) KETELAAR, R. & C. PLATE, 1999. *Handleiding libellenmonitoring* — [*Dragonfly monitoring manual*]. De Vlinderstichting, Wageningen & Centraal Bureau voor de Statistiek, Voorburg. [VS99.01]. 36 pp. (Dutch). — (First Author: De Vlinderstichting, Postbus 506, NL-6700 AM Wageningen).
The systematic monitoring commenced in the Netherlands in 1996 (for preliminary instructions see *OA* 10744), a more detailed manual appeared in 1997 (*OA* 11455), of which the present booklet is a revised and significantly enlarged edn. The results of the 1998 work are reported in the publication listed in *OA* 12595.
- (12584) *LIBELLENNACHRICHTEN*. Mitteilungsblatt der Gesellschaft deutschsprachiger Odonatologen e.V., GdO (ISSN 1437-5621), No. 1 (15 Feb. 1999). Edited by W. Piper & U. Krüner. — Supplied free to the GdO members; annual subscription for all others: DEM 8.-net). — (c/o Mrs U. Krüner, Gelderner Str. 39, D-41189 Mönchengladbach).
As a GdO newsletter, this is to replace *Hagenia*, to which its scope, lay-out and publication frequency remain identic. [After a due reorganisation, *Hagenia* is expected to continue as a specialized SIO periodical, in Engl.] — The first issue contains the following traditional headings: "GdO" (incl. the Editorial), "Termine", "Literatur", "Kooperation und Mitarbeit", "Verschiedenes" and "Reiseberichte". The newsletter is open to all odonatol. organizations for publication of their notifications. The non-German texts will be translated by the Eds.
- (12585) MACKENZIE DODDS, R., 1999. Foreword. *In*: D. Powell, A guide to the dragonflies of Great Britain, p. 5, Arlequin Press, Chelmsford. — (Natn. Dragonfly Mus., Ashton Wold, Ashton nr Oundle, Northants, PE8 5LZ, UK).
A rather autobiographic Foreword in the book described in *OA* 12590, by the Director of the (British) National Dragonfly Museum. Dated in 1996, it includes also his dragonfly poem.
- (12586) *NIEUWSBRIEF VAN DE NEDERLANDSE VERENIGING VOOR LIBELLENSTUDIE*, Vol. 3, No. 1 (Feb. 1999). (Dutch). — (c/o W.J. Hoeffnagel, Krekemeent 72, NL-1218 ED Hilversum).
Includes the agenda of the 1999 Annual Meeting (Utrecht, 13 March 1999), the 1998 Balance Account

- and the 1999 Estimates of the Society. *K.-D.B. Dijkstra* continues his account on dragonflies along French streams (pp. 7-8; for pt 1 see OA 12159).
- (12587) OUWENDIJK, H., 1999. [Waarnemingen nazomerweekend 28, 29 augustus, Beugen, N. Brabant] Libellen. *Veelpoot* 10(:): 14. (Dutch). – (Author's address not stated).
6 spp. are listed from Bleyenbeek, Noord Brabant prov., the Netherlands; 28/29-VIII-1998.
- (12588) PIETERS, F.F.J.M. & D. WINTHAGEN, 1999. Maria Sibylla Merian, naturalist and artist (1647-1717): a commemoration on the occasion of the 350th anniversary of her birth. *Archs nat. Hist.* 26(1): 1-18. – (First Author: Fac. Biol. & Artis Libraries, Univ. Amsterdam, Plantage Middenlaan 45, NL-1018 DC Amsterdam).
A comprehensive biography and appreciation of work. For some of her odonatol. work see OA 6428.
- (12589) PLANT, C.W., 1999. [Book review]. A checklist of Irish aquatic insects, by P. Ashe et al. *Ent. Rec. J. Var.* 111(1): 46-47. – (14 West Rd, Bishops Stortford, Hertfords., CM23 3PQ, UK).
A comprehensive book review of the work listed in OA 12386. – Another book review was published (1999) by P.C. Barnard, in *Ent. Gaz.* 50(1): 4.
- (12590) POWELL, D., 1999. *A guide to the dragonflies of Great Britain*. Arlequin Press, Chelmsford. 127 pp. ISBN 1-900159-01-5. Softcover (14.5×21.0 cm). – Price: NLG 70.- net. – (Publishers: 26 Broomfield Rd, Chelmsford, Essex, CM1 1SW, UK).
This is a handbook for dragonfly watchers, richly and beautifully illustrated with Author's aquarelles. A brief Foreword was contributed by R. Mackenzie Dodds (see OA 12585). – Concisely, the book presents all the information on dragonfly biology, behaviour, habitats, and on field peculiarities of single spp. that is required by a serious, non-professional watcher. It also provides in an easy species identification, while the British Isles distribution maps will facilitate the assessment of records. – The (superb!) aquarelles represent a special feature of this work. They are not merely "technical figures", most of them are rather true "pieces of art", by a professional, highly skilled artistic painter and a meticulous observer of dragonfly life. – The scope and the refreshing mode of presentation of this volume differ significantly from the more "traditional" books on British dragonflies.
- (12591) REINBOUD, W., T. DE GROOT & M. WASSCHER, 1999. *Odon-tabel voor het op naam brengen van libellen zonder te vangen* – [Odonata identification key for non-collectors]. Jeugdbonds-uitgeverij, Utrecht. 80 pp. ISBN none. – Price: NLG 7.50 net. (Dutch). – (Orders to: JNM, Oude Gracht 42, NL-3511 AR Utrecht).
The 1st edn was published in 2 slim vols in 1990 & 1991 (cf. OA 7551 & 8262). The 2nd edn has appeared in a single volume in 1993. This is the 3rd, revised and enlarged edn. The keys are entirely based on adult features that are visible in the field, and cover the fauna of Belgium and the Netherlands.
- (12592) SUHLING, F., 1999. Effects of fish on the microdistribution of different larval size groups of *Onychogomphus uncatus* (Odonata: Gomphidae). *Arch. Hydrobiol.* 144(2): 229-244. – (Zool. Inst., Univ. Braunschweig, Fasanenstr. 3, D-38092 Braunschweig).
4 types of field experiments were carried out. (1) The effects of the bottom feeding fish *Barbatula barbatula* on 3 size groups of the burrowing *O. uncatus* in 3 types of substrate: sand, gravel and stones, were recorded using field enclosure cages. The densities of small sized larvae inhabiting cages with stones and gravel were reduced in the presence of fish compared with fish-free controls. No effects due to fish presence were found in larger larvae. (2) The colonisation of sand, gravel and stones in the field by different size groups of *O. uncatus* was studied using frames filled with substrates. Substrate as well as size specific effects were found. The low density of small larvae in coarse substrates is interpreted mainly as a direct effect of predation by *B. barbatula* which exclusively colonised these substrates. (3) To test the effect of exclusion of all fish on colonisation of *O. uncatus*, frames filled with stones were exposed in a running water and half of these were protected by cages. The densities of very small and medium sized larvae in the protected substrates were higher than in those without cages. (4) In cages with a wide mesh size, which allowed a free exchange of dragonfly larvae and *B. barbatula* but prevented predation by large fish, the density of small larvae of *O. uncatus* was reduced. *B. barbatula* were found exclusively inside the cages. It is suggested that predation by *B. barbatula* using the cages as a shelter against predation by large fish was responsible for this reduction.
- (12593) *SULZBACH-ROSENBERGER LIBELLEN-*

BRIEFE, No. 9 (Jan. 1999), No. 10 (Feb. 1999). – (c/o R. Seidenbusch, Klenze Str. 5, D-92237 Sulzbach-Rosenberg).

[No. 9:] *Seidenbusch, R.*: Verfall zweier seltener Biotope im Gemeindebereich Hahnbach (Lkrs. Amberg-Sulzbach) als Folgeerscheinung menschlicher Eingriffe (pp. 1-16, figs incl.). – [No. 10:] *Seidenbusch, R.*: Description of three last instar larvae of the South Turkish area: *Brachythemis fuscopalliata* Selys, 1887; *Sympetrum haritonovi* Borisov, 1983; *Onychogomphus assimilis* Schneider, 1845 (pp. 1-11, figs incl.); – Choosing best ratios (pp. 12-13).

(12594) VAN HOORN, M., 1999. [Waarnemingen voorjaarsweekend 16, 17 mei 1998, Epe, Gelderland] Libellen. *Veelpoot* 10(1): 8. (Dutch). – (Author's address not stated).

12 spp. are listed from 3 localities in the Epe area, Gelderland prov., the Netherlands, 16/17-V-1998.

(12595) VAN SWAAY, C., R. KETELAAR & K. VELING, 1999. *Dagvlinders en libellen onder de meetlat: jaarverslag 1998 – Monitoring butterflies and dragonflies in the Netherlands: results for 1998*. De Vlinderstichting, Wageningen & Centraal Bureau voor de Statistiek, Voorburg [VS99.02]. 29 pp. (Dutch, with Engl. s.). – (Second Author: De Vlinderstichting,

Postbus 506, NL-6700 AM Wageningen).

In 1998, dragonfly data were collected at 114 sites, covering also the line-transect counts. 42 spp. were recorded. Brief chapters are devoted to the migrant *Lestes barbarus* and *Sympetrum fonscolombei*, and to *Aeshna viridis* and *Brachytron pratense*. *Enallagma cyathigerum* was the most abundant sp., *Ischnura elegans* was the sp. found at the highest number of sites. – Very useful is the Dutch-Taxonomic Glossary of names in the Appendix. – For the 1997 report see OA 12319.

(12596) WILLIAMSONIA, Vol. 3, No. 2 (Apr. 1999). Published by the Michigan Odonata Survey. – (c/o Dr M.F. O'Brien, Insect Div., Mus. Zool., Univ. Michigan, 1109 Gaddes Ave, Ann Arbor, MI 48109-1079, USA).

Ross, S.: The Odonata of Mecosta Co., Michigan, with recent additions (pp. 1-4); – Bright, E.: *Nannothemis bella* larval habitat (p. 4); – O'Brien, M.: Changes to the 1999 Michigan Odonata list (pp. 4-5); – Beckemeyer, R. / Pintor, L.M.: A refuge for Hine's Emerald (p. 7); – Michigan Odonata Survey: Checklist of Michigan Odonata, April 1999 (p. 9). – The issue also contains various announcements, book & other commercial notifications, description of a self-made kick-net, etc.