ODONATOLOGICAL ABSTRACTS

1985

(11038) TOPACHEVSKIY, V.A., [Ed.], 1985. Otryad strekozy (Odonata). – [Order dragonflies (Odonata)]. *In*: V.A. Topachevskiy, [Ed.], Priroda Ukrainskoy SSR: Zhivotnyy mir, pp. 67-68, Naukova Dumka, Kiev. (Russ.)
A similar encyclopaedia article as that listed in *OA* 10768, but dealing with the Ukraine, and missing a statement on the precise status of the national fauna.

1987

(11039) HANDEL, A., 1987. *Insekten: Käfer, Libellen und andere.* Kaiser, Klagenfurt (BLV Verlagsgesellschaft, München-Wien-Zürich). 63 pp. ISBN 3-7043--9998-1. – [Dreipunkt-Buch: Finden, bestimmen, kennen, 1017].
A mini "field guide' (size 9.5×14.0 cm), containing col. portraits, brief descriptions and notes on ecology and behaviour of 8 European odon. spp., referable to 5 families.

(11040) JARZEMBOWSKI, E.A., 1987. *Early Cretaceous insects from southern England.* PhD thesis, Univ. Reading, Reading. 421 pp. – (Maidstone Mus. & Art Gallery, St Faith's St., Maidstone, Kent, ME14 1LH, UK).
[Not available for abstracting.] – Contains the descriptions of, and the comments on several odon. taxa.

1988

(11041) CARLE, F.L., 1988. *State and global rankings for Virginia Zygoptera including number of known localities, population estimates, distribution types, and preferred habitat types.* Div. Nat. Heritage, Va Dept Conserv., Richmond/VA, 2 pp. – (146 Mountain View Rd, Warren, NJ 07059, USA).
[Not available for abstracting.]

1989

(11042) CARLE, F.L., 1989. The endangered dragonfly fauna of New Jersey. *In*: F.F. Karlin, [Ed.], New Jersey's rare and endangered plants and animals, pp. 119--148, 239, Inst. Environ. Stud., Ramapo Coll. New Jersey, Mahwah/NJ. – (146 Mountain View Rd, Warren NJ 07059, USA).
[Not available for abstracting.]

(11043) SCHMITZ, O., 1989. Die Tierwelt der Wahner Heide. Libellenwelt: Veränderungen und Perspektiven. *In*: H. Böller & U. Schmitz, [Eds], Die Wahner Heide, pp. 165-168, Rheinland-Verlag, Köln, ISBN 3-7927--1104-4. – (Author's address unknown).
A general assessment of the odon. fauna of the Wahner Heide, a rich wetland area in the Köln-Bonn region, Germany. Many spp. are named, but a checklist is not given.

1990

(11044) MILFORD, P.J. & A.G. IRWIN, 1990. The dragonflies of Norfolk. *Trans. Norfolk Norwich Nat. Soc.* 28(5): 357-380. – (First Author: 24 Lloyd Rd, Taverham, Norwich, Norfolk, NR8 6LL, UK).
The results of a 3-yr survey are compiled with older records, to present an account of the distribution and status of the 29 spp. that have occurred in the county this century. Tetrad distribution maps are provided for all spp.

1991

(11045) CARLE, F.L., 1991. Dragonflies. *In*: K. Terwilliger, [Coordinator], Virginia's endangered species, pp. 197-214, McDonald & Woodward, Blacksburg/VA. – (146 Mountain View Rd, Warren, NJ 07059, USA).
[Not available for abstracting.]

1992

(11046) SMITH, E.M., 1992. *Field identification chart for Anisoptera (dragonfly) exuviae found in Scotland.* Odonata Recording Scheme, Monks Wood. ii+10 pp. – (33 Hunter Terrace, Loanhead, Midlothian, Scotland, EH20 9SJ, UK).
A pictorial key for identification of 13 spp.

1993

(11047) NEL, A. & X. MARTINEZ-DELCLOS, 1993. Nuevos Zygoptera y Anisoptera (Insecta: Odonata) en el Cretacico Inferior de España. *Estud. geol.* 49: 351--359. (With Engl. s.). – (First Author: 8 av. Gassion, F-13600 La Ciotat).
In addition to descriptions of larval Samarura sp. and an unidentified libellulid larva, Hoyaeshna cretacica gen. n., sp. n. (adult) is described and illustrated from the Lower Cretaceous lithographic limestone of Las Hoyas, Cuenca prov., Spain.

(11048) SCHWEIGERT, G. & C.G. KOBAN, 1993. Ein besonderes Fossil. *Paläont. Z.* 67(3/4): 237-238. – (First Author: Staat. Mus. Naturk., Rosenstein 1, D--70191 Stuttgart).
An unusually well preserved impression of a Sympetrum sp. is described and illustrated from the Pleistocene interglacial travertine of Stuttgart-Bad Cannstatt, Germany.

(11049) SRIVASTAVA, V.D. & C. SINHA, 1993. [Fauna of West Bengal]. Insecta: Odonata. *State Fauna Ser.* 3(4): 51-168. – (Zool. Surv. India, M Block, New Alipore, Calcutta-700053, India).
A checklist of 185 spp. recorded from West Bengal, India, with a monographic treatment of 178 spp., incl. the synonymy, locality data, descriptions, and various remarks. 9 spp. are new to the regional fauna.

(11050) TERZANI, F., 1993. Ricerche odonatologiche in Toscana. 5. Lago Boracifero (Grosseto). *Atti Mus. civ. Stor. nat. Grosseto* 15: 97-106. (With Engl. s.). – (Mus. Zool. "La Specola", Univ. Firenze, Via Romana 17, I-50125 Firenze).
An annotated and commented list of 21 spp., 5 of which (incl. Hemianax ephippiger) were not previously reported from Grosseto prov., Tuscany, Italy. – For the Grosseto odon. fauna cf. *OA* 5991, for the record of an erratic Trithemis annulata cf. *OA* 8011.

1994

(11051) TILDEN, A.R., V.H. HUTCHISON, W.J. ANDERSON & J. WARES, 1994. Melatonin in insect nervous tissue and hemolymph. *Am. zool.* 34(5): 80A [abstract only]. – (First Author: Dept Zool., Univ. Oklahoma, Norman, OK 73019-0235, USA).
[Verbatim:] Melatonin (MEL) levels were measured with radioimmunoassay (RIA) in Ischnura verticalis and Enallagma civile, and in the tobacco hornworm, Manduca sexta. In damselflies, MEL was found primarily in the heads (nervous tissue). I. verticalis had higher MEL levels during scotophase; E. civile had no MEL cycle. In M. sexta, MEL was measured in hemolymph, and we found a significant peak during scotophase. MEL may be an important transducer of environmental information in invertebrates as well as vertebrates. – See also *OA* 9914.

1995

(11052) BROWN, T., 1995. *A survey of the dragonflies of eastern Norfolk for the season 1995.* Gt Yarmouth Naturalists' Soc., Gt Yarmouth. 28 pp. – (Author: 16 Mariners Park Close, Hopton, Gt Yarmouth, Norfolk, NR31 9DQ, UK).
This is a very detailed account on 21 spp. from E Norfolk and the adjacent Suffolk border area, UK, with numerous valuable field- and biological notes. A review of the first and last 1995 sightings is also included (Aeshna mixta and Sympetrum striolatum, on resp., 6 and 15 Nov.). Among the observations of general interest are, e.g. a note on a mixed Ischnura elegans /Erythromma najas ♀ tandem, a record of Aeshna grandis coming to rest beside the light (which also attracted many moths), the evidence on numerous Sympetrum striolatum exuviae, found up to 140 cm high on the tree trunks, some at a distance of about 15 m from the water's edge, etc. – (*Abstracter's Note*: A similar report for the 1996 season is to appear shortly.)

(11053) CHAO, H.-f., 1995. Keys to genera of dragon-

flies from Fujian province, China (order Odonata). *Wuyi Sci. J.* 12: 51-79. (Chin., with Engl. s.). – (Biol. Control Res. Inst., Fujian Agric. Univ., Fuzhou, Fujian-350002, P.R. China).
A pictorial key for larvae of 82 genera (17 fam.).

(11054) CHAO, H.-f., 1995. New or little known gomphid dragonflies from China, 1 (Odonata: Gomphidae). *Wuyi Sci. J.* 12: 1-47. (Chin. & Engl.). – (Biol. Control Res. Inst., Fujian Agric. Univ., Fuzhou, Fujian-350002, P.R. China).
This is the first pt of a series of papers dealing with corrections on, and additions to the volume listed in *OA* 7911. Various Gomphinae and Onychogomphinae taxa are considered, and the following are described as new: Davidius truncus sp. n. (holotype ♂, allotype ♀: Fujian, Tachulan, ♂ no date, ♀ 7-V-1942; larva), D. zhoui sp. n. (holotype ♂, allotype ♀: Yunnan, Luku, 2-V-1983), and Lamelligomphus choui tienfuensis ssp. n. (holotype ♂: Sichuan prov., no date). – This is a valuable revision, with redescriptions and new synonymies.

(11055) CHAO, H.-f. & Z. YANG, 1995. A new species of gomphid dragonfly of the genus Davidius from Shaanxi province (Odonata: Gomphidae). *Wuyi Sci. J.* 12: 48-50. (Chin. & Engl.). – (Biol. Control Res. Inst., Fujian Agric. Univ., Fuzhou, Fujian-350002, P.R. China).
D. triangularis sp. n. is described and illustrated from southern Shaanxi prov., China (holotype ♂, allotype ♀, in copula: Zhenba Co., 28-VII-1987; deposited in Hanzhong Teachers Coll.).

(11056) CONRAD, R., 1995. 1. Beitrag zur Insektenfauna Thüringens (Dermaptera, Odonata, Hymenoptera). *Ent. Nachr. Ber.* 39(4): 232-233. – (Heinrichstr. 33, D-07545 Gera).
Contains a commented record of Calopteryx splendens from Eichenberg, E. Thuringia, E Germany.

(11057) FITZHUGH, G.H. & J.H. MARDEN, 1995. Age-related changes in contractile physiology of dragonfly flight muscle. *Am. Zool.* 35(5): 79A [abstract only]. – (Dept Biol., Pennsylvania St. Univ., University Park, PA 16802, USA).
[Verbatim:] Libellula pulchella dragonflies undergo a dramatic increase in flight performance during adult maturation. Here we report that the mechanistic basis for this transition involves a developmental change in protein expression, the consequences of which we have traced through subcellular tissue, and ultimately organismal levels of function. The alternatively spliced calcium regulatory protein troponin-t undergoes an isoform shift during adult maturation. Skinned (demembranated) fibers of mature flight muscle are up to seven times more sensitive to activation by calcium than skinned fibers from teneral (newly emerged adult) flight muscle. This difference provides a likely mechanism for the observed shorter time to peak tension (TTP) and longer time to half-relaxation (THR) during twitch contractions of intact mature flight muscle. Because it becomes activated more quickly and relaxes more slowly, mature flight muscle is able to generate with each twitch more force per unit area than teneral muscle; this difference in force becomes greater at high temperatures. There do not appear to be any age-related differences in actomyosin crossbridge properties, since teneral and mature flight muscles have very similar shortening velocities and tetanic tension. EMG traces show that there is usually a 1:1 relationship between neural events and wing beats in both age groups, i.e. dragonflies use high-frequency twitch contractions during flight, wherein sensitivity to activation and deactivation by calcium is a key determinant of overall muscle and organismal performance.

(11058) GUPTA, I.J., M.L. DE & T.R. MITRA, 1995. Conspectus of Odonata fauna of Calcutta, India. *Rec. zool. Surv. India* 95(1/2): 107-121. – (Third Author: 18/1 Dakshin Para Rd, Calcutta-700028, India).
An annotated list of 58 spp., with a brief discussion and regional bibliography.

(11059) HARRISON, F., 1995. Observed. *Wingspan* 1995 (June): 22. – (c/o Dr I.D. Endersby, 56 Looker Rd, Montmorency, Vic 3094, AU).
[Verbatim extract of the observation on the feeding behaviour of Striated Heron, Aug. 1989, in Mt Elliot National Park, nr Townsville, Australia:] The bird was [. . .] perched on a rock, several metres into the water [of a large waterhole]. It seemed to be staring at a dead, bright red dragonfly, floating on the water in front of the rock. After perhaps 30 s, the heron picked the insect up but, instead of swallowing it, flew to another rock a few metres away. Here it dropped the dragonfly into the water and watched with intense concentration as, after a couple of seconds, the water around the insect gently trembled from the attentions of small fish. Over the following 15-20 s the heron lunged its bill 3 times into this rippling area: each thrust evi-

dently fruitless. As the agitation subsided the bird continued to study the dragonfly for perhaps another min before again picking it up and flying to another rock a few metres to the left. The procedure was repeated and, this time, as the heron struck into the ripples, it brought out in the tip of its bill a fish some 5 cm long. Then the bird flew to the bank, leaving the insect floating in the water and, after swallowing its prey, began to preen for a few seconds before loafing in the sun for several minutes.

(11060) KLEIN, J.-P. & A. EXINGER, 1995. Oxygastra curtisi (Dale, 1834), une espèce d'odonate nouvelle pour l'Alsace. *Bull. Assoc. philomath. Alsace Lorraine* 31: 93-96. (With Engl. s.). – (First Author: 5 rue de Londres, F-67000 Strasbourg).
In May 1994, an emerging was discovered at a gravel pit, some 30 km S of Strasbourg, France. The sp. has not been previously recorded from the Alsace. A detailed description of the habitat is presented. Among the 15 other odon. spp. recorded at the same locality, there are Crocothemis erythraea, Leucorrhinia caudalis and Sympetrum depressiusculum.

(11061) MIELEWCZYK, S., 1995. Zmiany w faunie ważek (Odonata) Tatrzańskiego parku narodowego. – [Changes in the dragonfly fauna (Odonata) of the Tatra National Park]. *1 Ogolnopol. Konf. Przyr. Tatrzań. Parku narod.*, Zakopane, p. 39 [abstract only]. (Polish). – (Res. Cent. Agric. & Forest Envir., Pol. Acad. Sci., ul. Bukowska 19, PO-60-809 Poznań).
J. Fudakowsky (1930, *Spraw. Kom. fizjogr. pol. Akad. Umiej.* 64: 87-174, fold tab. excl.) recorded 39 spp. from the Tatra Mts, Poland. Under human impact, particularly the rheophilous taxa have recently suffered. Here, Lestes barbarus and Ischnura pumilio are recorded for the first time from the Polish Tatra, although the former sp. has been known previously from the Slowakian part of the mountain range. – (Cf. also *OA* 11119).

(11062) MÜLLER, J., 1995. [Untere Havelniederung in Sachsen-Anhalt:] Libellen. *NatSchutz Sachsen-Anhalt* 32 (Sonderh.): 36-38. – (Frankefelde 3, D-39116 Magdeburg).
A brief review of the odon. fauna (39 spp.), Untere Havelniederung, Sachsen-Anhalt, Germany.

(11063) NOVELO GUTIERREZ, R., 1995. La nayade de Brechmorhoga praecox (Hagen, 1861) y notas sobre las nayades de B. rapax Calvert, 1898, B. vivax Calvert, 1906 y B. mendax (Hagen, 1861) (Odonata: Libellulidae). *Fol. ent. mex.* 94: 33-40. (With Engl. s.). – (Inst. Ecol., A.C., Apdo Postal 63, MX-91000 Xalapa, Veracruz).
The ultimate instar (from various Mexican localities) is described, illustrated and compared with its congeners. Also provided is a key to the larvae of the 6 spp. known to occur in Mexico.

(11064) NOVELO GUTIERREZ, R., 1995. Nayade de Brechmorhoga pertinax (Odonata: Libellulidae). *An. Inst. Biol. Univ. nac. auton. Mex.* (Zool.) 66(2): 181--187. (With Engl. s.). – (Inst. Ecol., A.C., Apdo Postal 63, MX-91000 Xalapa, Veracruz).
The ultimate instar (from various Mexican localities) is described and illustrated, and its structural features are compared with those in 4 congeneric spp.

(11065) PINTO-DA-ROCHA, R., 1995. Sinopse da fauna cavernicola do Brasil (1907-1994). *Papéis avul. Zool.* 39(6): 61-173. (Port., with Engl. s.). – (Mus. Zool., Univ. São Paulo, Caixa Postal 7172, BR-01064--970 São Paulo, SP).
A bibliographically cross-referenced catalogue of 613 taxa, recorded from 282 caves in Brazil, containing also numerous previously unpublished data. The odon. are listed suborder-wise only. – For a world review of odon. records from caves cf. *OA* 9614.

(11066) TAKAGI, M., W. POHAN, H. HASIBUAN, W. PANJAITAN & T. SUZUKI, 1995. Evaluation of shading of fish farming ponds as a larval control measure against Anopheles sundaicus Rodenwaldt (Diptera: Culicidae). *SEast Asian J. trop. Med. public Health* 26(4): 748-753). – (First Author: Dept Med. Ent., Inst. Trop. Med., Nagasaki Univ., 1-12-4 Sakamoto-machi, Nagasaki, 852, JA).
Larval density of A. sundaicus in shaded and unshaded fish farming ponds was monitored at a coastal village in North Sumatra, Indonesia. The average density in the experimentally shaded ponds with Nipa leaves was reduced to <1/10. Disappearance of algae and decline of water temperature also were observed, but the salinity did not change. The larval density was lower in ponds with Tilapia sp. than without fish, but that in ponds with Ophiocephalus sp. was not significantly lower. The "Agrionidae" and Libellulidae were among the dominant insects collected by dipping (species names are not stated). The larval density of Odon. and Notonectidae was higher in unshaded ponds. Taking into account longevity of the materials, and easiness

in construction and applicability, shading by Nipa leaves was an easy and effective larval control measure against A. sundaicus in non-operating small fish farming ponds if leaves were renewed once in every two months.

(11067) TERZANI, F., 1995. Odonati della regione di Aqaba (Giordania merid.). *Studi Ecol. Quaternario* 1995 (17): 135-136. – (Mus. Zool. "La Specola", Univ. Firenze, Via Romana 17, I-50125 Firenze).
3 spp. are listed from 6 localities in the Aqaba region, southern Jordan.

(11068) ZHU, H. & J. OUYAN, 1995. Redescription of Nihonogomphus ruptus (Selys) from Heilongjiang province, China (Odonata: Gomphidae). *Wuyi Sci. J.* 12: 80-83. (Chin., with Engl. s.). – (First Author: Dept Biol., Shanxi Univ., Taiyuan, Shanxi-030006, P.R. China; – Second Author: Heilongjiang Nonken Teacher's Coll., Acheng City-150301, P.R. China).
The adult of both sexes is described and illustrated.

1996

(11069) ANDO, H. & Y. KOBAYASHI, [Eds], 1996. *Insect embryology*, Vol. 1. Arthropodan Embryol. Soc. Jpn, Tokyo. viii+316 pp. ISBN 4-563-07735-6. – Price: ¥ 15000.- net. (Jap. with Engl. title).
The Odonata chapter (pp. 175-192) is authored by H. Ando.

(11070) *ARGIA*. The news journal of the Dragonfly Society of the Americas, Vol. 8, No. 3 (15 Oct. 1996). – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA).
[Signed articles:] *Garrison, R.W.*: A neotropical nomad in the Sonoran desert (pp. 4-6); – *Orr, R.*: The Odonata of the Chesapeake and Ohio Canal National Historical Park (pp. 6-10); – *Daigle, J.J.*: The Rat Patrol's excellent Ecuador expedventure (pp. 10-13); – *Brunelle, P.-M.*: Pantala in the Maritimes (pp. 13-15); – *Garrison, R. & J. Garrison*: A Thailand trek, or leeches in your boots (pp. 15-18); – *Wagner, D. & M. Thomas*: Odonata husbandry (pp. 18-19); – *Beckemeyer, R.*: Dragonflies as road kill (pp. 19-20); – *White, H./Daigle, J./Beckemeyer, R.*: E-mail corner (pp. 20-21); – *O'Brien, M.*: Michigan Odonata survey under way (pp. 21-22); – Changes abound in the Univ. of Michigan Museum of Zoology Odonata collection (pp. 22-23); – *Daigle, J.*: Bugs caught in list of bug names (pp. 23-24); – *Donnelly, N.*: [Book review] M.J. Westfall & M.L. May, Damselflies of North America (pp. 24-27); – *Garrison, R.*: [Book Review] Book on Mexican biodiversity (p. 28). – The issue also contains 3 meeting announcements, 3 IORI sell listings [cellophane envelopes and books], and the updated e-mail list.

(11071) ASAHINA, S., 1996. Records of the northern Vietnamese Odonata taken by the expedition members from the National Science Museum, Tokyo. 3. Aeschnidae [sic!] Corduliidae and Libellulidae. *Bull. natn. Sci. Mus. Tokyo* (A) 22(2): 69-80. – (Takadanobaba 4-4-24, Shinjuku-ku, Tokyo, 169, JA).
22 spp. are dealt with. As new are described and illustrated: Planaeschna tamdaoensis sp. n. (holotype ♂: Tam Dao, Vinh Phu prov., alt. 950 m, 24-IX-1994), P. tomokunii sp. n. (holotype ♀: same locality, 22-IX--1994), and Macromia pinratani vietnamica ssp. n. (holotype ♂: Mt Tan Vien, Ba Vi, Ha Tay prov., alt. 980 m, 28-IV-1995). Somatochlora dido Needh. (♂), and Lyriothemis bivittata (Ramb.) (♀) are redescribed. – (For pts 1 & 2, cf. *OA* 10674, 10832).

(11072) BACCETTI, B., 1996. An outline of the history of the Italian entomology. *Proc. 20th Int. Congr. Ent.*, Firenze, pp. xi-xv. – (Dept. Evol. Biol., Univ. Siena, I-53100 Siena).
The history is traced from ca 200 BC until ca 1950. The review includes several references to the odon., and numerous names of Italian odonatologists.

(11073) BACCETTI, B., 1996. Comparative spermatology in insect taxonomy and phylogeny. *Proc. 20th Int. Congr. Ent.*, Firenze, pp. xiii-xxiv. – (Dept. Evol. Biol., Univ. Siena, I-53100 Siena).
A general picture of insect sperm features is presented, ordering the various findings into a phylogenetic tree. – The first, real pterygote sperm is present in Odon. Dragonflies have a bilayered acrosome, a 9+9+2 classic axoneme, with 16 protofilaments in the wall of accessory tubules, 2 partially crystallized mitochondrial derivatives (crystallomitin protein synthesis starts at this level) and 2 compact accessory bodies, flanking the axoneme. No involved or aflagellate forms are present in the order, which exhibits the most classic insect sperm model. From several points of view, the Ephem. and the Odon. seem to be absolutely independent orders, and the Palaeoptera appear to be a quite artificial taxon.

(11074) BROCKHAUS, T. & K. REINHARDT, 1996.

Drei neue Libellenarten für die Tucheler Heide, Bory Tucholskie (Nordpolen). *Ent. Nachr. Ber.* 40(2): 127. – (First Author: An der Morgensonne 5, D-09387 Jahnsdorf/Erzgebirge).
Sympecma paedisca, Lestes viridis and Anax imperator are reported from 3 lakes in Bory Tucholskie, N Poland. Various other spp. are also listed from the respective localities.

(11075) BROWNETT, A., 1996. *The dragonflies of Oxfordshire*. Brookside Books, Banbury. 60 pp. ISBN 0--9515647-2-2. – Price: £ 7.- net. – (Publishers: 28 Colesbourne Rd, Brookside, Bloxham, Banbury, Oxon, OX15 4TB, UK).
Yet another British county dragonfly exposition, directed at the general naturalist, but containing some information that will be of considerable interest also to the non-British worker. The emphasis is on the exhaustive species accounts (30), enhanced by good photographs of some, and county distribution maps of all spp. Valuable are references to the generally less well known habitat types of some spp., such as e.g. the riverine habitats of Lestes sponsa, a calcareous fen supporting an appreciable Sympetrum danae population, etc. A good point makes the statement on the actual lack of precise knowledge relative to pond size and water depth at the Libellula depressa breeding sites, suggesting a systematic inquiry into the subject. Useful are a classification table of the local habitats, the adult phenology table and, above all, the review of abundance levels and habitat preferences of the Oxfordshire spp. Convenient is also the (bibliographically crossreferenced) list of the hitherto recorded Oxfordshire avian predators of odon. – For a similar regional work, by the same Author cf. *OA* 7780.

(11076) *BULLETIN OF AMERICAN ODONATOLOGY*, Vol. 4, Nos 1 & 2 (both 15 Oct. 1996). – (c/o Dr & Mrs T.W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903, USA).
[No. 1]: *May, M.L. & F.L. Carle*: An annotated list of the Odonata of New Jersey, with an Appendix on nomenclature in the genus Gomphus (pp. 1-35) [Analysis of distribution; history of recording since 1861; catalogue of 172 spp., with the first & last adult seasonal records, etc.]. – [No. 2]: *Orr, R.L.*: The Odonata of Patuxent Wildlife Research Center and vicinity (pp. 37-67) [Maryland; 105 spp. catalogued by date, number, and location; phenograms; notes on status, habitats, migratory spp., etc.].

(11077) CANNINGS, R., 1996. The Blue Damers. Dragonflies of the genus Aeshna in British Columbia. *Cordillera* 1996 (Summer): 28-38. – (Royal British Columbia Mus., P.O. Box 9815, Stn Prov. Govt, Victoria, BC, V8W 9W2, CA).
This is an excellent review of the 13 British Columbia spp., published in the new magazine of the Federation of BC Naturalists: concise, very informative, with easy-to-read descriptions, ecology notes and outline of the BC distribution of all spp. The appended, well illustrated field key to the adults (with emphasis on colour and colour patterns, which are less easy to see in dried specimens) will certainly help in the popularisation of this group among the BC naturalists, Canada. – (*Abstracter's Note*: Unfortunately, the very popular BC dragonfly handbook, as listed in *OA* 2055, is completely out-of-print. Drs R. & S. Cannings and Dr D. Paulson are now working on the preparation of a new field guide that will cover the region from Alaska and Yukon south to Oregon, and in which special emphasis will be given on behaviour and colour, and on illustrated keys.)

(11078) CHACIN, M.E., J.A. CLAVIJO & J. DE MARMELS, 1996. Xylophanes fernandezi sp. n., ein neuer Schwärmer aus Venezuela (Lepidoptera: Sphingidae). *Mitt. ent. Ges. Basel* 46(2/3): 78-84. (With Engl. s.) – (Inst. Zool. Agric., Fac. Agron., Univ. Central Venezuela, Aptdo 4579, Maracay 2101-A, Venezuela).
It is emphasised, the lowland insect taxa of various orders are in the Guayana highlands often replaced by closely associated dark forms. Aeshna draco is given as an odon. example.

(11079) CHIVERS, D.P., B.D. WISENDEN & R.J.F. SMITH, 1996. Damselfly larvae learn to recognize predators from chemical cues in the predator's diet. *Anim. Behav.* 52(2): 315-320. – (First Author: Dept Zool., Oregon St. Univ., Cordley Hall 3029, Corvallis, OR 97331-2914, USA; – other Authors: Dept Biol., Univ. Saskatchewan, Saskatoon, SK, CA).
Chemosensory recognition of predators by naive prey may be facilitated if the predator's diet chemically 'labels' the predator. In a laboratory experiment, behaviour patterns were quantified in individual damselfly larvae, Enallagma spp., that had never been exposed to pike, Esox lucius, before and after exposing the damselflies to one of three chemical stimuli: water from a tank that held pike fed a diet of (1) damselflies, (2) fathead minnows, Pimephales promelas, or (3)

mealworms, Tenebrio molitor. Damselflies decreased their frequency of feeding bites, head bends and moves in response to stimuli from pike fed damselflies and pike fed fathead minnows, but not to stimuli from pike fed mealworms. Damselflies are sympatric with fathead minnows in the population tested, and probably have many of the same predators. A response to stimuli from pike fed fathead minnows indicates that damselflies associate predation risk with stimuli from injured minnows. In a second experiment, responses of damselflies previously exposed to stimuli from pike fed one of the three treatment diets (damselfly, fathead minnow or mealworm) were tested for a response to stimuli from pike fed mealworms. Damselflies that had been exposed to stimuli from pike fed damselflies or fathead minnows in the first experiment responded to stimuli from pike fed mealworms in the second experiment, but damselflies exposed to pike fed mealworms in the first experiment did not. Thus (1) pike-naive damselflies may initially respond to chemical stimuli from pike based on stimuli of conspecifics or familiar heterospecifics in the pike's diet, and (2) damselflies can learn to recognize chemical stimuli of pike irrespective of the pike's recent feeding regime based on the initial association with damselflies or minnows in the pike's diet.

(11080) CLARKE, A., P.A. PRINCE & R. CLARKE, 1996. The energy content of dragonflies (Odonata) in relation to predation by falcons. *Bird Study* 43: 300--304. – (Brit. Antarctic Surv., High Cross, Madingley Rd, Cambridge, CB3 0ET, UK).
The odon. are important prey for many small falcons, and the recent expansion of the breeding range of the Hobby into eastern England has been associated with an increased availability of dragonfly prey to juveniles. The energy content and elemental composition, therefore, were measured in some common British odon. spp. Carbon and nitrogen contents were typical of aquatic invertebrates and did not vary with dragonfly size, whereas ash content was significantly reduced in larger species. The mean energy content of dragonfly tissue was 24.6 kJ/g (dry mass) and showed no significant variation between species. The energy content of an individual dragonfly ranged from 0.8 to 9.4 kJ for the sp. examined in this study. Data on the energy requirements of free-living falcons suggest that a juvenile Hobby in late summer could meet its daily energy requirements by capturing between 75 and 90 Aeshna mixta or 200-250 Sympetrum striolatum individuals each day.

(11081) DAMER, G., A. LAURENTZI, J. STEGNER & R. WARNKE-GRÜTTNER, 1996. Errichtung und Sicherung schutzwürdiger Teile von Natur und Landschaft mit gesamtstaatlich repräsentativer Bedeutung. Naturschutzgrossprojekt: Presseler Heidewald- und Moorgebiet, Sachsen. *Natur u. Landschaft* 71(7/8): 324-329. (With Engl. s.). – (First Author: Zweckverband "Presseler Heidewald", Schlossstr. 7, D-04680 Weidenheim).
Includes a list of 39 odon. spp., evidenced at the "Presseler Heidewald- und Moorgebiet", distr. Leipzig, Germany.

(11082) DELL'ANNA, L., E. DE MATTHAEIS, M. COBOLLI & C. UTZERI, 1996. Genotypic structure and reproductive isolation between syntopic populations of Chalcolestes viridis and C. parvidens in central Italy (Odonata: Lestidae). *Proc. 20th Int. Congr. Ent.*, Firenze. p. 250 [abstract only]. – (Dipto Biol. Anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma).
Text basically similar to that in *OA* 10968.

(11083) *DIGEST OF JAPANESE ODONATOLOGICAL SHORT COMMUNICATIONS*, No. 5 (Oct. 1996). – Published by N. Ishizawa (1644-15, Yamaguchi, Tokorozawa, Saitama, 359, JA).
This is an "abridged Eng. edn" of the *Nature & Insects* issue, as listed in *OA* 11011. – *Ueda, T.*: Some aspects of diversified reproductive behaviour in Sympetrum dragonflies (pp. 1-4); – *Inoue, K.*: Genus Sympetrum of the world (pp. 5-6); – *Watanabe, Y.*: Embryonic development and early instar larvae of Sympetrum (pp. 7-9); – *Ishizawa, N.*: Thermoregulation in dragonflies of Sympetrum (pp. 10-11); – *Arai, Y.*: Adaptation of red-dragonflies in Japanese paddy fields (pp. 12-13); – *Matsura, T.*: Sympetrum using swimming pools as a habitat (pp. 14-15); – *Naraoka, H.*: Some Sympetrum dragonflies arrive at Japan across seas (p. 16).

(11084) *The DRAGON-FLIER*. Newsletter of the Ohio Dragonfly Survey, Columbus, Vol. 6, No. 3 (Sept. 1996). – (c/o B. Glotzhober, Ohio Hist. Soc., 1982 Velma Ave., Columbus, OH 43211-2497, USA).
The issue contains a number of highly relevant news items, incl. a preliminary schedule of the 4 1997 field trips. – On the Scotio R., Neurocordulia molesta may occasionally fly before sunset, though its main period of activity is after sunset. – Fascinating is the account on Cordulegaster erronea, caught in malaise traps.

Until 3 yr ago there were just 7 specimens known from Ohio. In the first week of Sept. 1996, at Wahkeena, 3 dozen individuals were taken, marked and released. Some of these were recaptured 2-3 times, and larvae were found in every small hollow in a certain area (the precise localities and the circumstantial evidence are stated.).

(11085) FINCKE, O.M. & S. YANOVIAK, 1996. Consequences of obligate killing on the population dynamics of odonates and their mosquito prey in tropical tree holes. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 337 [abstract only]. – (Dept Zool., Univ. Oklahoma, Norman, OK 73019, USA).
[Verbatim:] Water-filled tree holes in the neotropics are a poorly known, but important habitat for a diversity of aquatic macrofauna. In a seasonal Panamanian forest, the larvae of 4 odon. spp. are top predators in this unique community. Experiments with Megaloprepus coerulatus revealed that larvae kill conspecifics even when well-fed. Under field conditions where prey are scarce, cannibalism and intraguild predation reduce predator density to only 1-2 larvae/liter. Such regulation permits maximal larval growth, increasing the chance that the surviving larvae emerge before the habitat dries out seasonally. Given that the odon. reduce their own numbers to such low levels, what, if any, effect does this guild of predators have on the populations of tree holes mosquitoes, their most ubiquitous prey? – In a field experiment, using 0.4 l artificial holes seeded with a natural level of detritus, odon. reduced both the total number of mosquito larvae and those surviving to population, relative to controls. With high initial nutrient input (a small fruit), the total number of mosquito larvae did not differ between controls and holes containing an odon. predator. Surprisingly, in the treatment with M. coerulatus, the number of mosquito larvae actually increased, suggesting that this predator may chemically attract ovipositing mosquitoes. Nevertheless, in all predator treatments, the number of mosquitoes surviving to population was significantly reduced relative to controls. This result is explained by the finding that odon. preferentially ate the largest mosquito larvae. The work suggests that the ultimate size as well as the behaviour of the prey species determine the impact tree hole odon. have on these sylvan mosquitoes.

(11086) FOLLETT, P., 1996. *Dragonflies of Surrey*. Surrey Wildlife Trust, Pirbright/Woking. viii+88 pp., 16 pls excl. ISBN 0-9526065-1-8. – Price: £ 12.- net. – (Publishers: School Lane, Pirbright, Woking, Surrey, GU24 0JN, UK; – Author: 105 Rickwood Park, Beare Green, Dorking, Surrey, RH5 4PR, UK).
With the 35 ever recorded spp., of which 28 spp. are currently breeding, Surrey certainly harbours one of the richest British county faunas. Its recording goes back to 1815. The proximity to London and the circumstance, Surrey was the home of several great odonatologists, such as e.g. A.E. Gardner and C.O. Hammond, certainly also reflect favourably in the high degree of the county's dragonfly exploration. The beautiful, hardcover book differs from all hitherto published British county treatments also by the inclusion of over a dozen fossil spp., some of which are still undescribed and unnamed (cf. *OA* 11099); their line drawings and high quality photographs will be particularly valuable. – General treatment of the county fauna is similar to that in other works of this kind, incl. the very detailed species accounts and the standard distribution maps. The former contain numerous field notes on biology and habitats, which will be of extralimital interest as well. The attractivity of the book is enhanced by 13 col. phot. of habitats, and 56 col. phot. of most of the spp.

(11087) [FRANKOVIĆ, M.], 1996. Vretenca [Dragonflies]. *In*: A. Randić, [Coordinator], Plan gospodarenja okolišem Cresko-Lošinskog otočja, p. 31, St. Direct. Environ., Rijeka. (Croatian; the book has also an Engl. title & s.). – (Barutanski breg 30, HR-10000 Zagreb). Contains a list of 13 hitherto on the island of Cres (Croatia) recorded spp. – (Abstracter's Note: The island is the site of the 1998 venue of the 3rd Odonatol. Symp. of the Alps-Adriatic Regional Community, of which the Author is the Org. Secretary. – Cf. also *OA* 11145).

(11088) GARRISON, R.W. & M.R. WILLIG, 1996. Arboreal invertebrates. *In*: D.P. Reagan & R.B. Waide, [Eds], The food web of a tropical rain forest, pp. 183-245, Univ. Chicago Press, Chicago & London, ISBN 0-226-70599-4 (cloth), 0-226-70600-1 (paper). – (First Author: 1030 Fondale St., Azusa, CA 91702-0821, USA).
This is a chapter in the book that represents a unique effort to study all the spp. of a tropical rain forest, their natural histories, and the interconnections among them. It is based on an analysis of the El Verde rain forest, Puerto Rico. Although over 1500 invertebrate spp. have been recorded at El Verde, diversity is poor compared to similar mainland ecosystems. For exam-

ple, 10 odon. spp. are found there compared to over 130 spp. recorded from a rain forest site in Brazil.

(11089) *GOMPHUS.* Mededelingsblad van de belgische libellenonderzoekers. – Bulletin de liaison des odonatologues belges, Vol. 12, No. 3 (Sept. 1996) (Dutch & Fr.). – (c/o G. De Knijf, Hofstraat 58, B-9000 Gent).
Tailly, M./P. Goffart: [Editorial] (pp. 73-74); – *Titeux, H.*: Ben-Ahin, un site de grand intérêt odonatologique dans la vallée de la Meuse (pp. 75-89); – *De Knijf, G.*: [Dutch vernacular names for European dragonflies] (pp. 90-95); – *Publications odonatologiques récentes* (pp. 98-101, by *R. Stoks*); – *Compte-rendu d'excursions* (De Meinweg, the Netherlands, pp. 102-104; Aalsterse Denderstreek, Belgium, pp. 104-108; both by *G. De Knijf*); – *Odocybernata* (pp. 109-111, by *M. Tailly*. – An announcement of the 1997 Indoor Meeting and an outline of the Gomphus society objectives appear on pp. 96-97 and 112, resp.

(11090) HELLMUND, M. & W. HELLMUND, 1996. Zum Fortpflanzungsmodus fossiler Kleinlibellen (Insecta, Odonata, Zygoptera). *Paläont. Z.* 70(1/2): 153-170. (With engl. s.). – (Geiseltalmus., Domstr. 5, D-06108 Halle/Saale).
6 fossil endophytic egg-sets from the Lower Miocene and Upper Cretaceous are described, illustrated and discussed. – Cf. also *OA* 8495, 9804.

(11091) HERMANS, J.T., 1996. De libellen van de Beegderheide. – Dragonflies of the Beegderheide. *Natuurh. Maandbl.* 85(10): 212-216. (Dutch, with Engl. s.). – Hertestraat 21, NL-6067 ER Linne).
During 1982-1996, 29 spp. were evidenced, incl. Ceriagrion tenellum and Leucorrhinia pectoralis. Recently, eutrophication, acidification and falling water tables have seriously affected the abundance of several characteristic spp., and the fauna became dominated by ubiquists. In 1995, the eutrophication was further emphasised by the appearance of Erythromma viridulum and Sympetrum sanguineum. Restoration of the original mesotrophic environment is essential if the characteristic odon. community of this locality is to be maintained; – Zuid Limburg prov., the Netherlands.

(11092) HERRMANN, R., 1996. Die Libellenfauna (Odonata) Ostfrieslands, von R. Schmid. *Beitr. Vogel-Insektenwelt Ostfieslands* 88: 10.
A reprint of the Preface in the book, as listed in *OA* 10727.

(11093) HEYNDERYEX, J., 1996. Libellen uit heide en ven – [Heathland dragonflies]. *Atalanta, Kruishoutem* 24(4): 93-95. (Dutch). – (Halve Maanstraat 117, B-9110 Gent).
Comments on the paper listed in *OA* 9752.

(11094) HEYNDERYEX, J., 1996. Libellenlarven bestrijden dengue – [Dragonfly larvae control dengue]. *Atalanta, Kruishoutem* 24(4): 84-85. (Dutch). – (Halve Maanstraat 117, B-9110 Gent).
The article is a commented summary of the work as described e.g. in *OA* 3195, 7421, 8151.

(11095) HOLZEL, N., G. RUSSANOW & S. SCHLEUNING, 1996. *Wolga-Delta: Natur-oase zwischen Meer und Halbwüste.* Resch, Radolfzell. 159 pp. ISBN 3-980-3350-5-4.
This is a naturalist's guide to the Volga delta region, Russia. The treatment is similar to that (of a different river) in the volume listed in *OA* 7934, published by the same publishers. A brief odon. chapter appears on pp. 106-107, and a checklist of 38 spp. is given on p. 145.

(11096) HONEK, A., 1996. Geographical variation in thermal requirements for insect development. *Eur. J. Ent.* 93(3): 303-312. – (Res. Inst. Plant Production, Ruznye 507, CZ-16106 Praha-6).
Thermal constants, lower development threshold and sum of effective temperatures were recalculated from literature data for 335 spp., referable to 13 orders. The odon. are represented by Enallagma ebrium, E. vernale and Leucorrhinia glacialis.

(11097) HUIJSER, M.P. & M. ROOS, 1996. Libellen, dagvlinders en hommels in voor Flevoland karakteristieke vegetatietypen (Odonata; Lepidoptera: Rhopalocera; Hymenoptera: Apidae). – Dragonflies, butterflies and bumblebees in vegetation types characteristic for Flevoland (Odonata; Lepidoptera: Rhopalocera; Hymenoptera: Apidae). *Ent. Ber., Amst.* 56(11): 161-169. (Dutch, with Engl. s.). – (First Author: Kamp 42-61, NL-8225 HR Lelystad).
S Flevoland, the Netherlands, was reclaimed from a part of a freshwater lake (IJsselmeer) in 1968. While most of the fertile soil was transformed into arable land, some areas were left relatively untouched and a more or less natural vegetation developed. Here, 10 odon. spp. are listed from 4 vegetation types. The spe-

cies abundance and the composition of the fauna are discussed.

(11098) ISHIDA, K., 1996. *Monograph of Odonata larvae in Japan*. Hokkaido Univ. Press, Sapporo. x+448 pp. ISBN 4-8529-9631-2. – Price: ¥ 13390.- net. (Jap., with Engl. title).
This is a technical treatment of 183 spp., incl. keys, descriptions and ca 1200 superb drawings. The work is based on Author's PhD dissertation. It certainly is to remain the standard work on the subject for many years to come.

(11099) JARZEMBOWSKI, E.[A.] & A. NEL, 1996. [Dragonflies of Surrey.] Geology and fossil record. *In*: P. Follett, Dragonflies of Surrey, pp. 5-11, cumulative References pp. 67-75, pls 1-3 excl., Surrey Wildlife Trust, Pirbright/Woking, ISBN 0-9526065-1-8. – (First Author: Maidstone Mus. & Art Gallery, St Faith's St., Maidstone, Kent, ME14 1LH, UK).
The county of Surrey, England, occupies part of the eroded northern limb of the Wealden anticline, formed during the Miocene Alpine orogeny. The strata are of sedimentary, non-marine origin, ranging from Early Cretaceous (in the Weald) to Eocene (in the Thames Valley). From the Weald Clay, several Zygoptera, Archizygoptera, "Anisozygoptera" and Anisoptera were described. These are here listed, illustrated and briefly commented upon.

(11100) JEDICKE, E., 1996. Klimaänderung: welche Folgen ergeben sich für Flora und Fauna? *NatSchutz LandschPlan.* 28(10): 316-318. – (c/o Dr J. Ott, Am Moosberg 10, D-67705 Stelzenberg).
A comprehensive report, with brief summaries of the papers presented at the Symposium, mentioned in *OA* 10597.

(11101) JOHNSON, D.M., T.H. MARTIN, P.H. CROWLEY & L.B. CROWDER, 1996. Link strength in lake littoral food webs: net effects of small sunfish and larval dragonflies. *Jl N. Am. benthol. Soc.* 15(3): 271-288. – (First Author: Dept Biol. Sci., East Tennessee St. Univ., Johnson City, TN 37614-0703, USA).
To show how predaceous fish and dragonflies affect benthic community structure, enclosure experiments were conducted in the littoral zone of Bays Mountain Lake, Tennessee. A 'natural' benthic assemblage was subjected to all combinations of 2 densities of 3 predator treatments – small sunfish, 0 or 4/m2; large dragonfly larvae, 0 or 15/m2; and dragonfly eggs at 2 densities, 90 or 900/m2. Treatments were assigned randomly in each of 6-spatiotemporal blocks. – Net effects of predation over 4 mo show that small sunfish had 'strong' effects (> 50% reduction of densities) on triclads, large daphnid cladocerans, and snails, and 'moderate' effects (50% > reduction > 25%) on small dragonflies and ostracods; all these effects were statistically significant, except the one on ostracods. Large dragonflies had moderate non-significant effects on triclads and ostracods. There were no significant increases in prey density associated with fish predation; but chydorid cladocerans and midge larvae showed 'weak' non-significant increases that might be caused by 'indirect effects' of fish predation on invertebrate predators or grazers. There were only 2 significant interaction terms indicative of 'higher-order interactions': Fish × Dragonfly on the large daphnid Simocephalus, and Fish × Egg Density on snails, which were associated with relatively low probabilities. In both cases, the net effect of dragonflies was to reduce prey densities more when fish were present.

(11102) JONES, R.A., 1996. [Book review] Dragonflies, by Peter L. Miller. *Br. J. Ent. nat Hist.* 9(3): 166. – (Author's address not stated).
A descriptive review of the volume listed in *OA* 10585.

(11103) *JOURNAL OF THE BRITISH DRAGONFLY SOCIETY*, Vol. 12, No. 2 (Oct. 1996). – (c/o Dr W.H. Wain, Haywain, Holywater Rd, Borden, Hants GU35 0AD, UK).
Parr, A.J.: Dragonfly movement and migration in Britain and Ireland (pp. 33-50, postscript p. 64); – *Cordero, A. & J.A. Andrés*: Colour polymorphism in odonates: females that mimic males? (pp. 50-60); – *Treacher, P.*: Mortality of emerging Pyrrhosoma nymphula (Sulzer) at a garden pond (pp. 61-62); – *Paine, A.*: Notes and observations (pp. 62-64).

(11104) KERAUTRET, L., 1996. Les odonates rares du Nord-Pas-de-Calais. *In*: Actes de la journée d'information "Espèces animales rares et protégées de la région Nord-Pas-de-Calais", organisée le 29 mars 1995 à Douai, pp. 29-40, Assoc. multidiscipl. Biologistes Environ., Douai. – (Author: 312 rue de l'Abbaye des Prés, F-59500 Douai).
So far 43 spp. are known to occur in the region, France. Out of these, 20 spp. are for various reasons considered rare. These are listed, categorised into 4 groups. The distribution of 6 spp. is mapped.

(11105) *KIMMINSIA*. Newsletter of the U.K. National

Office of the International Odonatological Society (SIO), Vol. 7, No. 2 (Nov. 1996). – (Orders to: Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK). *Corbet, P.*: Behavior & ecology of dragonflies (p. 12; notes on his book, scheduled to appear in 1998); – *Averill, M.*: Drafted to the SWAT team in Massachusetts (p. 13); – *Donnithorne, N.*: Thoughts from a surveyor of tetrads (p. 13); – *Silsby, J.*: The Gambian experience (pp. 14-15); – *Henson, S.*: Gunung Lompobattang (p. 15; Sulawesi/Celebes); – *Vick, G.*: Cameroon Dragonfly Project (CDP) (p. 15). – The standard sections included are *"News from members"* (pp. 9-11; 10 contributors); – and *"Conservation news"* (pp. 11-12; 4 contributors). – Also included are several notices, etc., and book reviews of the titles listed in *OA* 10585 and 10829, both by *J. Silsby*.

(11106) KIRBY BRETT, U., 1996. W.F. Kirby: the start of a career in entomology. *Archs nat. Hist.* 23(2): 209-218. – (7 Mayfield Ave., Chiswick, London, W4 1PN, UK).
A biographic study, by his great-granddaughter, covering his life up to 1871.

(11107) KOTARAC, M., 1996. *Poročilo o raziskavah favne kačjih pastirjev (Odonata) na Pohorju, 2 – [Report on the inquire into the dragonfly fauna (Odonata) of Pohorje mountains, 2]*. Dept Nature & Cultural Heritage, Maribor, 5 pp. (Slovene). – (Antoličičeva 1, SI-2204 Miklavž-na-Dravskem-polju).
In sequel to the work listed in *OA* 9425, 12 odonatol. explored localities (1994-1996) are added to the list. The odon. fauna of Pohorje Mts, Slovenia, consists of 25 spp., but only in 10 of these the local autochthony could so far be ascertained. – Cf. also *OA* 10439.

(11108) KRISTENSEN, N.P., 1996. The ground plan and basal diversification of hexapods. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 1 [abstract only]. – Zool. Mus., Univ. Copenhagen, Universitetsparken 15, DK-2100 København).
An in-depth examination of the Ephemeroptera-Odonata-Neoptera trichotomy is called for. Emphasis should be placed on non-alar characters, which lend themselves to polarization by the outgroup criterion.

(11109) LABHART, T., 1996. Neural mechanisms of polarized skylight navigation in insects. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 108 [abstract only]. – (Zool. Inst., Univ. Zürich, Winterthurer Str. 190, CH-8057 Zürich).
The mechanism is described, and a reference is made to its occurrence in the odon.

(11110) *LIBELLENNIEUWSBRIEF*, Hilversum, Vol. 4, No. 2 (not published), No. 3 (no date), No. 4 (no date), 1996. (Dutch). – (c/o Editor: S. Turnhout, Uilenstede 162, NL-1183 AN Amstelveen).
[Signed articles:] [No. 3]: *van Delft, J. & L. Luijten*: Anax imperator in the Netherlands (pp. 4-6); – *Wouda, H.*: Dragonflies in the Hoge Veluwe (pp. 8-13); – *Goudsmits, K.*: [Sympecma fusca at Waarsbergen] (p. 14); – *Dijkstra, K.D.*: The occurrence of Lestes species between Den Haag and Noordwijk (pp. 15-17); – *Turnhout, S.*: Sympetrum fonscolombii near Loosdrecht (pp. 18-19); – *Dijkstra, K.D., V. Kalkman, R. Ketelaar & V. Mensing*: Sympecma fusca recorded in Drenthe (pp. 20-21). – [No. 4]: *Ketelaar, R.*: A new dragonfly society and a new journal? (pp. 5-6); – *van de Weide, M. & K.D. Dijkstra*: Sympetrum fonscolombii invasion in the Netherlands (pp. 7-8); – *Ketelaar, R.*: New records of Aeshna subarctica and Sympecma fusca in Drenthe (pp. 8-12); – *van Grunsven, R.*: [Dragonflies in the Gelenbeek area, Zuid Limburg] (pp. 12-13); – *Ketelaar, R.*: Dragonflies in the Noord-Holland prov., N of the Noordzee-kanaal (p. 14); – *Edelaar, P.*: An aberrant Libellula depressa (p. 15); – *Ketelaar, R. & B.G. van der Wal*: Gomphus vulgatissimus along the Buurserbeek (p. 16); – *Turnhout, S.*: [Dragonflies on the campus of the Free University in Amsterdam] (pp. 16-17); – *Wakkie, B.*: [Epitheca bimaculata exuviae in the Argonne, northern France] (p. 18).

(11111) LIEBHERR, J.K. & D.A. POLHEMUS, 1996. R.C.L. Perkins and the Fauna hawaiiensis: what longterm data can tell us about Hawaiian diversity. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 83 [abstract only]. – (Second Author: Hawaii Biol. Surv., Bishop Mus., P.O. Box 19000, Honolulu, HI 96817, USA).
1893-1897, Perkins conducted a faunal survey that formed the basis of the above monograph. The Authors compare diversity estimates derivable from Perkins' collections with those made during later decades using 2 model groups, incl. the Megalagrion spp. Profiles of relative abundance for relative undeveloped Molokai deviate little from the 1890's to present, indicating that in protected montane areas, populations of native damselflies have not been impacted by biotic change or habitat destruction. A single potential extinction, the terrestrially breeding M. molokaiense, may have been compromised by ants.

(11112) [LOHMANN, H.] (mri), 1996. "Okosponsoring" für idyllisches Biotop: in "Weberalten" ist nun der Weg für ein neues Naturschutzgebiet. *Südkurier*, issue of 10 July. – (c/o H. Lohmann, Basler Str. 11, D-79618 Rheinfelden).
A regional daily's article on the gravel pit "Weberalten" in Rheinfelden (19 odon. spp.), Germany, the conservation of which is to be taken care of by the "International Dragonfly Fund (IDF)", set up in 1996 by H. Lohmann, and financed by the "Aluminium", Rheinfelden. Similar articles on this "international dragonfly conservation project" have appeared also in *Badische Ztg* (9 July 1996) and in *Oberbadisches VolksBl.* (10 July 1996). – For information on the IDF, cf. *OA* 10986.

(11113) LOTZING, K., 1996. Ein Beitrag zum aktuellen Kenntnisstand der Verbreitung von Calopteryx splendens Harris (Odonata) in Sachsen-Anhalt. *Ent. Nachr. Ber.* 40(1): 23-26. (With Engl. & Fr. s's.). – (Str. d. Deutschen Einheit 7, D-39418 Stassfurt).
17 localities in Sachsen-Anhalt, E Germany, were investigated and are here discussed. The occurrence of C. splendens in the Bode R. catchment area was studied systematically.

(11114) *MALANGPO*. Newsletter of the Thai National Office of the International Odonatological Society (S.I.O.), No. 13 (Nov. 1996). – (c/o Bro. A. Pinratana, St Gabriel's Coll., 565 Samsen Rd, Bangkok-10300, Thailand).
Hämäläinen, M.: Progress in the knowledge of Thailand's dragonfly fauna (pp. 95-97); – *Yokoi, N.*: Our adventures in Laos (p. 97); – *Yokoi, N. & T. Mitamura*: A record of the dragonfly in central Laos (pp. 97-99); – *Yokoi, N.*: A record of the Odonata of Mandai, Singapore (p. 100); – *Mashaal, M.*: Thai dragonflies for tourists (p. 101); – *Garrison, R. & J. Garrison*: A Thailand trek, or leeches in your boots (pp. 102-110, with a very appreciable list of records from 25 localities). – The issue also contains a *book review* of the volume listed in *OA* 10970.

(11115) MARTILL, D.M. & A. NEL, 1996. A new dragonfly from the Crato Formation (Lower Cretaceous, Aptian) of N.E. Brazil. *N. Jb. Geol. Paläont.* (Mh.) 1996(5): 279-292. (With Germ. s.). – (Second Author: 8 av. Gassion, F-13600 La Ciotat).
The aeschnidiid Santanoptera gabbotti gen. n., sp. n. is described from a right forewing, from the Nova Olinda Member of the Crato Formation. This is the largest odon. sp. so far known from this formation. A list of all Crato odon. spp. is also included.

(11116) *MARTINIA*. Bulletin des odonatologues de France, Vol. 12, No. 3 (Sept. 1996). – (c/o J.-L. Dommanget, 7 rue Lamartine, F-78390 Bois-d'Arcy).
Votat, P.-P.: Les odonates du nord-est mayennais, du sud-ouest ornais et du nord-ouest sarthois: données complémentaires (pp. 59-63); – *Rapeau, A.*: Platycnemis acutipennis (Sélys, 1841) à plus de 600 mètres d'altitude (Odonata, Zygoptera, Platcnemididae) (p. 63); – *Devaux, B. & J.-L. Dommanget*: Redécouverte de Leucorrhinia caudalis (Charpentier, 1840) en Ile-de-France (Odonata, Anisoptera, Libellulidae) (p. 64); – *Coppa, G.*: Odonates du réservoir Marne (départements de la Marne et de la Haute Marne) (pp. 65-67); – *Tillier, P.*: Les odonates du Parc Naturel Régional de Brière et des régions limitrophes (département de la Loire-Atlantique) (pp. 68-72); – *Charrier, M.*: Premières observations en Anjou d'Anax parthenope (Sélys, 1839) et de Sympetrum danae (Sulzer, 1776) (Odonata, Anisoptera, Aeshnidae et Libellulidae) (département du Maine-et-Loire) (pp. 73-75); – *Coué, T. & J.-L. Dommanget*: Une observation peu habituelle: Anax imperator Leach, 1815 prise dans une Grande bardane (Arctium lappa) (Odonata, Anisoptera, Aeshnidae) (pp. 76-77); – *Dommanget, J.-L.*: Rubrique bibliographique (pp. 78-81); – Analyses d'ouvrages (pp. 82-84).

(11117) MAY, M.[L.], 1996. Comparative morphology of the secondary male genitalia of selected libelluloid dragonflies (Odonata: Libelluloidea). *Proc. 20th Int. Congr. Ent.*, Firenze, p. 350 [abstract only]. – (Dept Ent., Cook Coll., Rutgers Univ., P.O. Box 231, New Brunswick, NJ 08903-0231, USA).
[Verbatim:] Internal and external cuticular morphology and musculature of the secondary genitalia, i.e., the penis and associated structures on the 2nd and 3rd abdominal segments, are described in ♂ Zoraena diastatops Selys (Cordulegastridae), Gomphomacromia paradoxa Br. (Gomphomacromiidae), Oxygastra curtisii (Dale), Didymops transversa (Say), Cordulia shurtleffi Scudder (all Corduliidae*), Macrodiplax balteata (Hag.), and Libellula incesta Hag. (both Libellulidae). Zoraena and Gomphomacromia retain symplesiomorphic penile morphology (4th segment symmetrical sperm pump emptied upon compression of the sperm vesicle), while Oxygastra, Didymops, and Cordulia exhibit distinct torsion of the 4th penis segment and a sperm pump

that fills upon vesicle compression; the Libellulidae s.s. have symmetrical penes (possibly apomorphically so) and a sperm pump that fills on compression. – Zoraena, Oxygastra, and Didymops all have a well developed anterior hamular depressor muscle (M9aII), whereas this is lost independently in Gomphomacromia and the libellulids. Libellulidae share the unique apomorphies of M9bII being lost and M4II and M6II (both well developed) originating near the anterior margin of segment 2 rather than near midlength. – [* Conventional family designations are used for convenience, although recent evidence suggests that the Corduliidae, even with Gomphomacromiidae s.s. excluded, are paraphyletic.]

(11118) MICHALSKI, J.C., 1996. Description of Hylaeargia magnifica Michalski, a damselfly from Papua New Guinea (Odonata: Zygoptera). *Tijdschr. Ent.* 139(1): 29-32. – (90 Western Ave., Morristown, NJ 07960, USA).
This sp. was inadvertently described in *Argia* 7(1): 12-17 (1995). Here, a more detailed technical description is provided. Holotype ♂, allotype ♀, several paratypes of both sexes: Sanduan (West Sepik) prov., Oksapmin distr., Tekin Station, 2-VIII-1994; deposited in RMNH, Leiden. The sp. is distinguished from H. simulatrix by its bright blue, yellow and green body coloration.

(11119) MIELEWCZYK, S., 1996. Zmiany w faunie ważek (Odonata) Tatrzańskiego parku narodowego. – Changes in the dragonfly fauna (Odonata) of the Tatra National Park. *Przyr. tatrzań. Parku narod. a Człowiek* (Biol.) 2: 88-89. (Pol., with Engl. s.). – (Res. Cent. Agric. & Forest Envir., Pol. Acad. Sci., ul. Bukowska 19, PO-60-809 Poznań).
For an advance abstract cf. *OA* 11061.

(11120) MÜHLENBERG, M., J. SLOWIK & W. SCHNEIDER, 1996. Odonata in tropical forests: do they indicate the conservation value? The analysis of the Odonata fauna in forests of eastern Ivory Coast. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 350 [abstract only]. – (Third Author: Zool. Abt., Hessisches Landesmus., Friendensplatz 1, D-64283 Darmstadt).
[Almost verbatim:] 7 "forêts classées" are subject to an extensive rehabilitation programme. The forests are in a different state degradation. To ensure a rehabilitation, "réserves biologiques" are excluded from further management. In Europe the use of the odon. in the implementation of conservation goals is quite common, but there are no experiences in tropical countries. – The fauna was compared between different forest types and between small woodland rivers and open streams. Although the Ivory Coast odon. have already been studied, serious problems arose in determination of the adults. At least 50 spp. could be identified, while ca 160 spp. are expected in the Ivory Coast. These can be classified into stagnant and flowing water spp. Most of the year the forest rivers have running water. In the dry season the small rivers are divided in many small ponds for a period of about 3 months. The running water spp. survive this period as adults. Due to the diverse natural conditions in the tropical forest, the point diversity is high. The odon. community in the forest differs strongly from the species assemblage of the open stream. The quality of rivers is influenced by the whole watershed. Many spp. are confined to primeval conditions: their occurrence indicates the environment quality of high conservation value. The odon., therefore, present a useful tool for the assessment of a very complex ecosystem.

(11121) MULLER, J., 1996. Zoogeographische und ökologische Analyse der Libellen-Fauna (Insecta, Odonata) des Landes Sachsen-Anhalt. *Abh. Ber. Naturk., Magdeburg* 19: 3-11. (With Engl. s.). – (Frankefelde 3, D-39116 Magdeburg).
Based on St. Quentin (1960) and Donath (1987), the biogeographic, resp. ecological composition of the Sachsen-Anhalt fauna (63 spp.; E Germany) is analysed. 37 of the indigenous spp. are redlisted, of which 13 rheofilic spp. are threatened most.

(11122) MULLER, J., 1996. Zum Vorkommen der Gemeinen Keiljungfer Gomphus vulgatissimus L. (Odonata) im Mittellandkanal (Naturpark Drömling, Sachsen-Anhalt). *Abh. Ber. Naturk., Magdeburg* 19: 13-18. (With Engl. s.). – (Frankefelde 3, D-39116 Magdeburg).
During 1992-1996, over 200 individuals (incl. tenerals and exuviae) were sighted at the Weser-Elbe-Canal, Sachsen-Anhalt, E Germany. The ecology of the sp. is outlined and discussed.

(11123) [NANBA, Y.], 1996. [Deer and dragonfly representations on dōtaku, found at the Kamo-Iwakura ruins in Shimane]. *Asahi Shimbun*, issue of 25 Nov. (Jap.)
Dōtaku are thin, elongated bell-shaped bronze forms, evidence of a short-lived bronze culture in central Japan, from the middle of Yayoi into the Tumulus pe-

riod (ca 250 BC to ca 500 AD). They are sometimes decorated with domestic or hunting scenes, or with a lattice or lacework pattern. Their size ranges between ca 13 to 135 cm. Some of these "bronze bells" may have been used as percussion instruments, but it is more likely that they were nonfunctional emblems, used by clan chieftains, who ruled over the agricultural communities. – This is a national daily's brief note, based on a communication from the Director of the Kyoto National Museum, reporting on 34 dōtaku that were recently discovered at the said locality, Kamo-cho, Ohara-gun, in Shimane prefecture. A col. photograph of a very naturalistic dragonfly picture on one of them is included.

(11124) *NAVASIA*. Noticiario de la Oficina ibérica de la Sociedad International de Odonatologia (S.I.O.) – Noticiario de Oficina ibérica de Sociedade Internacional de Odonatologia (S.I.O.), Córdoba, Vol. 5 (Sept. 1996). – (c/o Dr M. Ferreras-Romero, Depto Biol. Animal/Zool., Fac. Cien., Univ. Córdoba, Avda San Alberto Magno s/n, ES-14004 Córdoba).
The issue contains the autobiographies of *G. Jurzitza* (pp. 1-2) and *R. Martin Casacuberta* (p. 2), the obituary for Dr P.L. Miller (by *A. Cordero*, p. 3), and an announcement of the 14th Int. Symp. Odonatol. The sole scientific paper was contributed by *M. Ferreras-Romero*: Interesantes observaciones de odonatos en el curso alto y medio del Rio Guadalete (Cadiz) (pp. 3-4). The remaining standard sections appear under the headings: *Vida social de la Oficina ibérica de la S.I.O.* (p. 4), *Curiosidades odonatologicas* (pp. 5-6), and *Novidades de la odonatologia ibérica* (pp. 7-8; list of 27 publications, published 1994-1996).

(11125) NEW, T.R., 1996. Taxonomic focus and quality control in insect surveys for biodiversity conservation. *Aust. J. Ent.* 35(2): 97-106. – (Sch. Zool., La Trobe Univ., Bundoora, Vic. 3083, AU).
The roles of detailed taxonomic interpretation in insect surveys are discussed, with emphasis on rapid biodiversity assessment, the levels of focus or penetration needed in particular contexts, and optimising the use of limited taxonomist expertise and resources. Quality control necessitates taxonomic accuracy and precision, and approaches to increasing these are noted. The complementary roles of taxonomists and ecologists in undertaking and analysing insect surveys are outlined, and a practical agenda linking their expertise is suggested as a means of improving capability in insect surveys for practical conservation.

(11126) *NEWSLETTER OF THE BRITISH DRAGONFLY SOCIETY*, No. 30 (Autumn, 1996). – (c/o Mrs J. Silsby, 1 Haydn Ave., Purley, Surrey, CR8 4AG, UK). 16 pp. of concise reports, announcements, management and other news, etc., incl. the 1995/1996 balance account, and the statement of assets at 4 Apr. 1996 (over £ 19.000.-). The Society has 1400 odd members, and it is looking forward to a "permanent home". – Of more than national interest will be the information by Mrs Kate Miller (68 Blenheim Drive, Oxford, OX2 8DQ, UK) on the "B.D.S. Peter Miller Memorial Fund", set up by her, in memory of the noble and great odonatologist, with the intention to help schools create ponds which will attract dragonflies. About 6 of the first grants for the "Peter Miller Ponds" will be rendered in 1996/1997.

(11127) NOMAKUCHI, S. & K. HIGASHI, 1996. Competitive habitat utilization in the damselfly Mnais nawai (Zygoptera: Calopterygidae), coexisting with a related species, Mnais pruinosa. *Res. Popul. Ecol.* 38(1): 41-50. – (Dept Biol., Coll. Liberal Arts, Saga Univ., Honjyo-machi 1, Saga, 840, JA).
The study was conducted at the Muromi R., Fukuoka, Japan, where the 2 spp. have 2 ♂ forms each, viz.: the territorial orange-winged ("nawai") and the non-territorial pale-orange-winged ("sahoi") in M. nawai, and the territorial orange-winged ("esakii") and the non-territorial hyaline-winged ("strigata") in M. pruinosa. The 2 spp. have a parapatric distribution: the lower part of the stream is occupied by nawai, the upper part by pruinosa. Interspecific matings occurred regularly, but the intraspecific matings were more frequent. In both spp., the territorial ♂ ♂ copulated with conspecific ♀ ♀ that entered their territories and guarded them during oviposition. There was a severe interspecific competition for oviposition sites. The non-territorial ♂ ♂ of the 2 spp. have alternative mating strategies, such as sneaking, takeover and interception. The possible benefits of the conflicts between the territorial ♂ ♂ are discussed.

(11128) OGBOGU, S.S. & A.T. HASSAN, 1996. Feeding mechanism and patterns of advanced instar larvae of Urothemis assignata (Selys) (Odonata: Libellulidae). *Proc. 20th Int. Congr. Ent.*, Firenze, p. 349 [abstract only]. – (First Author: Dept Zool., Obafemi Avolowo Univ., Ile-Ife, Nigeria; – Second Author: Ent. Res. Lab., Dept Zool., Univ. Ibadan, Ibadan, Nigeria).
[Verbatim:] Under laboratory conditions, the 9th-11th

instar larvae kept still on detecting prey, waiting for it to encroach on the strike range before it was captured. Stalking of prey was not common and grasping of prey was efficient, especially with small-sized prey. Ingestion followed the successful prey capture, and was interspaced by a brief period of rest. – The compound eye was the main organ for detecting the presence of prey, while antennae and tarsi served as auxilliary organs. The movement pattern of prey significantly affected the ability of larva to detect and capture it (ANOVA, $P<0.05$). Larvae exhibited increased food intake as deprivation time increased, and got satiated at 48.88 min.

(11129) POLHEMUS, D.A., 1996. The Orangeblack Hawaiian Damselfly, Megalagrion xanthomelas (Odonata: Coenagrionidae): clarifying the current range of a threatened species. *Occ. Pap. Bishop Mus.* 45: 30-53. – (Hawaii Biol. Surv., Bishop Mus., P.O. Box 19000, Honolulu, HI 96817, USA).
The sp. occupies a wide range of habitats and has broad ecological tolerances. Its most common habitats are coastal wetlands, fed by basal springs. Occasionally it also breeds along the terminal and lower midreaches of perennial streams, and in reservoirs and ornamental ponds. It also exploits temporary habitats, such as ephemeral pools and pipeline seepages. Although it has a recorded elevational range of 0-1000 m, it is generally a lowland sp., most of the known populations occurring below 60 m. Its salinity tolerance may be as high as 8 ppt. The sp. is not adversely affected by commercial anti-algal treatments, such as copper sulphate, etc. It breeds in habitats with water temperature 20--31° C, and with pH ranging between 6.6-9.2. It seems to tolerate the presence of carp and apple snails, but does not do well in habitats containing guppies or top minnows. There is no indication of adverse competitive interactions between M. xanthomelas and the introduced and widespread Ischnura ramburii, I. posita and Enallagma civile, with which it frequently co-occurs. – Despite its broad ecological tolerance, the sp. is becoming increasingly rare in Hawaii, having apparently been extirpated from 2 islands (Kauai, Mani) and being close to extirpation on Oahu. The loss is linked to the introduction of allien aquatic biota rather than to habitat alteration or destruction.

(11130) POLHEMUS, D.A., 1996. The phylogenetic ecology and biogeography of Hawaiian Megalagrion damselflies: a case study in evolution. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 84 [abstract only]. – (Hawaii Biol. Surv., Bishop Mus., P.O. Box 19000, Honolulu, HI 96817, USA).
[Verbatim:] The genus, as currently interpreted, contains 28 spp. & sspp., all endemic to Hawaii. an analysis of external morphological characters in both sexes has permitted a reconstruction of the phylogeny of this group, and the delimitation of major clades within it. This analysis clearly indicates that the presently existent clades within Megalagrion were established by at least the time the island of Kauai came into existence approximately 5 million years ago, and that members of these clades have moved sequentially down the chain as newer islands were created. Members of these clades also possess distinctive ecological preferences that are retained as new islands are colonized. These phylogenetically linked ecological traits are useful in a conservation context by allowing the prediction of ecological preferences in spp. for which this information is currently unknown.

(11131) REINHARDT, K., 1996. Bericht über die 15. Jahrestagung der Gesellschaft deutschsprachiger Odonatologen am 23./24.3.1996 in Berlin. *Ent. Nachr. Ber.* 40(2): 139-140. – (Inst. Okol., Univ. Jena, Neugasse 23, D-07743 Jena).
An exhaustive report on the 15th Annual Meeting of GdO, listing the titles of the presented papers. – For the abstracts cf. *OA* 10870.

(11132) REINHARDT, K., 1996. Zur Libellenfauna (Odonata) des Grossen Bruches bei Oschersleben, Sachsen-Anhalt. *Braunschw. naturk. Schr.* 5(1): 243--247. (With Engl. s.). – (Inst. Okol., Univ. Jena, Neugasse 23, D-07743 Jena).
At 3 habitats (21 sites), 25 spp. were recorded. Remarkable are the low numbers of Lestes spp. In the "Grosses Bruch", Sachsen-Anhalt, E Germany, 27 odon. spp. were so far evidenced.

(11133) RUPPELL, G. & D. HILFERT, 1996. Life history of Calopteryx haemorrhoidalis (Odonata: Calopterygidae). *Proc. 20th Int. Congr. Ent.*, Firenze, p. 349 [abstract only]. – (Zool. Inst., Techn. Univ., Spielmannstr. 7, D-38092 Braunschweig).
An indicative abstract, listing the behavioural phenomena shown in a film.

(11134) RYAZANOVA, G.I., 1996. Intraspecific interactions of larval odonates. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 350 [abstract only]. – (Dept Ent., Fac. Biol., Moscow St. Univ., RUS-117234 Moscow).

The spatial behaviour in F-0 to F-3 instars of 14 zygopt. and anisopt. spp. was studied in the laboratory. Territorial competition occurs in all spp., and it is considered one of the mechanisms controlling spatial organisation of the community. It is determined by the relative population density. Cannibalism and the availability of shelter are considered decisive in the evolution of territorial competition. While in the younger instars the competition is not depending on sex and age, it is associated with the sex in F-0 individuals, several days prior to emergence.

(11135) SAHLEN, G., 1996. Fortsätt rapportera fynd av trollsländor! *Ent. Tidskr.* 117(1/2): 66. (Swed.). – (Sect. Ent., Dept Zool., Uppsala Univ., Villavägen 9, S-75236 Uppsala).
With reference to the recently published book (as listed in *OA* 11024), this is a call for continuation of recording. The information should be sent to the Author.

(11136) [SAHLÉN, G.], 1996. *Trollsländor – ett kompendium*. Fältbiologerna, Stockholm. 12 pp. (Swedish). – (Dept Zool., Uppsala Univ., Villavägen 9, S-752 36 Uppsala).
A brief "compendium" of the book, as listed in *OA* 11024. The book is available from the Eds of *Odonatologica*, at NLG 45.- net.

(11137) SANDHU, R. & GK WALIA, 1996. Karyological studies of genus Rhinocypha (Odonata: Zygoptera: Chlorocyphidae). *Proc. 83rd Indian Sci. Congr.* 3: 3 [abstract only]. – (Dept Zool., Punjabi Univ., Patiala-147 002, India).
The XO sex determination and the following ♂ chromosome numbers are reported: R. ignipennis (not studied previously!) and R. quadrimaculata: 2n=25, *m*; R. trifasciata: 2n=23. The provenience is not stated. – (Cf. also *OA* 2934, 4572).

(11138) SCHNEIDER, W. & F. KRUPP, 1996. A possible natural hybrid between Ischnura elegans ebneri Schmidt, 1939 and Ischnura fountainei Morton, 1905 (Odonata: Coenagrionidae). *Zool. Middle East* 12: 75-81. (With Germ. s.). – (First Author: Zool. Abt., Hessisches Landesmus., Friedensplatz 1, D-64283 Darmstadt).
A sample of Ischnura specimens from Nahr al-Khabur drainage basin in Mesopotamia contained a single aberrant ♂, which could not be assigned to any of the spp. occurring in the area. Several of its morphological characters were found to be intermediate between the sympatric I. elegans ebneri and I. fountaineae, therefore the specimen is considered a hybrid of these spp. – I. intermedia is reported for the first time from Syria.

(11139) SCHWEIGERT, G., G. DIETL, M. KAPITZKE, M. RIETER & R. HUGGER, 1996. Libellen aus dem Nusplinger Plattenkalk (Oberjura, Ober--Kimmeridgium, Württemberg) *Stuttgart. Beitr. Naturk.* (B) 236: 1-12. (With Engl. s.). – (Staat. Mus. Naturk., Rosenstein 1, D-70191 Stuttgart).
Libellulium longialatum, Aeschnidium densum and Urogomphus giganteus are described and illustrated from the Upper Jurassic lithographic limestone of Nusplingen, Württemberg, Germany. The latter sp. is placed in the Aeschnidiidae Handl.

(11140) SHARMA, O.P. & S. DURANI, 1996. On the chromosomes of four species of genus Orthetrum (Libellulidae: Odonata). *Proc. 83rd Indian Sci. Congr.* 3: 2[abstract only]. – (Dept Bio-Sci., Univ. Jammu, Jammu-180 004, India).
The chromosome numbers, 2n=25, n=13, *m*, are reported for O. glaucum, O. internum, O. pruinosum neglectum and O. t. triangulare. The provenience is not stated.

(11141) *SIOJA*. Information bulletin of the SIO Japan Branch Office, Osaka, 1996, No. 1 (25 Oct. 1996). (Jap.). – (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545, JA).
Contains an account of the 1996 developments in the SIO, with detailed information on the 1997 Int. Symp. Odonatol. (Maribor, Slovenia), and a brief obituary for Dr P.L. Miller.

(11142) SPICER, G., 1996. Molecular phylogeny of the damselflies and dragonflies as inferred from mitochondrial 12SrNA genes. *Proc. 20th Int. Congr. Ent.*, Firenze, p. 240 [title only]. – (Author's address not stated).

(11143) STOKS, R., M. SANTENS, L. DE BRUYN & E. MATTHYSEN, 1996. The mating system of the damselfly Lestes sponsa (Zygoptera: Lestidae). *Proc. 20th Int. Congr. Ent.*, Firenze, p. 351 [abstract only]. – First Author: Lab. Anim. Ecol., Dept Biol., Univ. Antwerp, Groenenborgerlaan 171, B-2020 Antwerpen).
The observations were carried out at a small pond in Belgium. ♂♂ did not defend territories, but there was

an intense interference with tandem pairs. Mate choice is thought to be very limited. The ♂ species recognition is reduced and considered unadaptive in this sp. The mating system is described as a "female control, with encounter-limited mating by the males". This is the first description of a combination of 2 mating strategies (sensu Conrad & Pritchard; cf. *OA* 8532) in a single sp.

(11144) STOKS, R., M. SANTENS, L. DE BRUYN & E. MATTHYSEN, 1996. The warming up strategy of immature Aeshna mixta (Anisoptera: Aeshnidae). *Proc. 20th Int. Congr. Ent.*, Firenze, p. 350 [abstract only]. – First Author: Lab. Anim. Ecol., Dept Biol., Univ. Antwerp, Groenenborgerlaan 171, B-2020 Antwerpen).
For the full paper see *Odonatologica* 25(3): 307-311; 1996.

(11145) SUŠIĆ , G. & V. TUTIŠ, 1996 [?, date not stated]. *Lokve, ekološki dragulji otoka Cresa. – [The "lokvas", ecological pearls of the island of Cres].* Svanimir, Zagreb & Eko-Centar "Caput insulae", Rijeka. 10 pp. (Croatian). – (Publishers: Svanimir, Ilirski trg 9/2, HR-1000 Zagreb; – Eko-Centar "Caput insulae"-Beli, Ede Jardasa 35, HR-5100 Rijeka).
The "lokva" is a man-made pond, mostly fed by atmospheric water. On the island of Cres, in the Adriatic, Croatia, there are more than 60 of these. Some of them are described and illustrated in this little brochure, and Aeshna affinis is reported from the island. – (Cf. also *OA* 11087).

(11146) *SYMNET*. The newsletter of Aka-tombo Network, Ishikawa, No. 5 (July 10, 1996). (Jap. & Engl. edns; available also at WWW Home page, http://symnet.ishikawa-c.ac.jp/). – (c/o N. Ishizawa, 1644--15, Yamaguchi, Tokorozawa, Saitama, 359, JA).
[Titles and pagination from the unabridged Engl. edn:] *Ueda, T.*: Sympetrum frequens Selys: run after the season of Akatombo (p. 1); – *Fukui, M.*: My image of Akatombo (p. 2); – *Ishizawa, N.*: The legend of a perching tree of dragonflies (p. 2); – Playboys were called "Aka-tombo" in the Edo era (p. 3); – *Takasaki, Y.*: Old reports on Sympetrum frequens Selys (p. 3); – *Hirose, Y.*: Sympetrum frequens of Hokkaido, 1 & 2 (p. 4); – *Ito, S.*: Sympetrum frequens in the highlands at Kamikawa-cho, Hokkaido, 2 (p. 5); – *Ishizawa, N.*: Gliding in Sympetrum frequens during its migratory flight (p. 5); – *Nagasaki, T.*: Sympetrum striolatum imitoides in the swimming pools at Osaka (p. 6); – *Tone, S.*: Observations on the ocean flight of Sympetrum frequens in 1995 (p. 6); – *Ishizawa, N.*: Sympetrum dragonflies in the metropolis in 1995 (p. 7); – *Tsubuki, T.*: A population fluctuation in Sympetrum frequens at Hino city, Tokyo in the 1994 autumn (p. 7); – *Nakahara, M.*: Sympetrum striolatum imitoides growing in the swimming pools of primary schools at Saga City (pp. 7-8); – *Yagi, T.*: Early occurrence of Sympetrum frequens and S. kunckeli at an abandoned hot spring boring site (p. 8); – *Takasaki, Y.*: Sympetrum frequens with glittering wings (p. 8); – *Fukui, M.*: Habitat examples of Sympetrum dragonflies (p. 9); – *Ueda, T.* [Compiler]: Sympetrum frequens decreased and Sympetrum infuscatum increased? (pp. 10-11).

(11147) TAGG, D., 1996. Foreword. *In*: P. Follett, Dragonflies of Surrey, pp. v-vi, Surrey Wildlife Trust, Pirbright/Woking, ISBN 0-9526065-1-8. – (7 Santina Close, Heath End, Farnham, Surrey, GU9 0LD, UK).
The author is one of the former Editors of the *J. Br. Dragonfly Soc.*, and was during more than 40 yr involved in the Surrey odon. watching and recording.

(11148) TAKAHASHI, Y., 1996. Aka-tombo no kuroyaki no yakko? – [The efficacy of charred Sympetrum?]. *Tombo to Bunka* 58: 5-6. (Jap.). – (Engl. translation, by N. Ishizawa, is available from the Eds of *Odonatologica*).
In China and Japan, dragonflies are used as traditional materia medica. In the drugstore of Author's parents, aka-tombo was sold until 1935. In 1938, Dr A. Ogata (Univ. Tokyo) analysed a sample of the commercial dragonfly materia medica (in which Dr S. Asahina identified S. darwinianum and S. frequens) and found it contains certain "muscles activating substances". In the article, the name is given of a Tokyo pharmacy, where charred aka-tombo is recently sold.

(11149) TAKEMATSU, Y., O. TADAUCHI, Y. HIGASHIURA, T. OMORI & H. INOUE, 1996. "Shikoku" file, in a taxon-based entomology database "Konchu", produced at Computer Center of Kyushu University for public use on an on-line network. *Jap. J. Ent.* 64(3): 615-616. – (First 4 Authors: Ent. Lab., Fac. Agric., Kyushu Univ., Fukuoka, 812-81, JA; – Last Author: Computation Center, Kyushu Univ., Fukuoka, 812-81, JA).
A brief description of the file, which is available on Internet. It is mainly based on Japanese records of 5 "main" orders, but the odon. are also considered. Re-

trieval under "S.A71414B.SHIKOKU'.

(11150) THEISCHINGER, G., 1996. The species of Austrophlebia Tillyard (Odonata: Anisoptera: Aeshnidae: Brachytrininae). *Linz. biol. Beitr.* 28(1): 305-314. – (20 Leawarra St., Engadine, NSW 2233, AU).
The larvae and the adults are analysed, resulting in the description of a second sp., viz. A. subcostalis sp. n. (holotype ♂: Australia, Queensland, Leichhardt Creek, S Mt Lewis, 30/31-X-1966; numerous paratypes of both sexes; deposited at ANIC, Canberra).

(11151) THEISCHINGER, G., 1996. The species of Lestoideinae Munz (Insecta: Odonata: Zygoptera: Lestoideidae). *Linz. biol. Beitr.* 28(1): 315-324. – (20 Leawarra St., Engadine NSW 2233, AU).
The spp. of the subfam. are reviewed. As new are described Lestoidea brevicauda sp. n. (holotype ♂: Australia, Queensland, Cape Tribulation, creeks nr Daintree, 23/26-X-1980; numerous paratypes of both sexes; deposited at ANIC, Canberra), and L. lewisiana sp. n. (holotype ♂: Australia, Queensland, Leichhardt Creek, S Mt Lewis, 31-X-1966; 3 paratype ♂: deposited at ANIC, Canberra). These are compared with the 2 previously known spp., and the distributions and zoogeography of the group are discussed.

(11152) VAN TOL, J., 1996. Biogeography of Sulawesi based on the insect fauna of lotic habitats, with special reference to dragonflies (Odonata). *Proc. 20th Int. Congr. Ent.*, Firenze, p. 77 [abstract only]. – (Natn. Mus. Nat. Hist., P.O. Box 9517, NL-2300 RA Leiden).
[Verbatim:] The fauna of Sulawesi [= Celebes, Indonesia] is characterized by a high percentage of island endemics. The fact that various speciose groups of Borneo do not occur in Sulawesi (e.g. Platycnemididae) also indicates a long period of isolation. Groups of closely related spp. confined to Sulawesi frequently have small distributional ranges, defining areas of endemism. Island endemism and small ranges provide the tools for 2 levels of biogeographical studies: (1) a reconstruction of the Sulawesi fauna, and (2) a reconstruction of the relationships of the respective areas of endemism within Sulawesi. – Widespread Sulawesi spp. are predominantly oriental. Most island endemics have their presumed sister groups W of Sulawesi, although in some taxa the relationship between the Sulawesi and the Philippine faunas is very close. The spp. of oriental genera or sp. groups distributed from the mainland of SE Asia to the Papuan region frequently show a sister group relationship between the Sulawesi taxa and those of the area E of Sulawesi. – Long isolation and a turbulent geological history have obviously provided the opportunities for radiation in those groups that reached Sulawesi, e.g. the Chlorocyphidae and Platystictidae. Based on phylogenetic relationships and distributions of the (macro) spp. involved, taxon-area cladograms [were prepared]. Relationships between areas of endemism, based on lotic fauna, largely coincide with reconstructions of the island's geological history.

(11153) VINSON, M.R. & C.P. HAWKINS, 1996. Effects of sampling area and subsampling procedure on comparisons of taxa richness among streams. *Jl N. Am. benthol. Soc.* 15(3): 392-399. – (Dept Fish. & Wildlife, Utah St. Univ., Logan, UT 84322-5310, USA).
The work is based on the macroinvertebrate database maintained by the Bureau of Land Management (US Dept Interior), Utah, which includes 2224 benthic stream riffle samples from 20 ecoregions within the US, from New Mexico to Alaska. A brief reference is made to Cordulegaster.

(11154) WAUBKE, M. & M. SCHWARZ, 1996. Zur Kenntnis der Libellen- und Heuschreckenfauna (Insecta: Odonata, Saltatoria) in drei Naturschutzgebieten am Wallersee: Fischtaginger Spitz, Bayerhammer Spitz und Wenger Moor (Salzburg, Österreich). *Linz. biol. Beitr.* 28(1): 425-436. (With Engl. s.). – (Both Authors: Uferstr. 18a, A-5026 Salzburg).
26 odon. spp. are listed. Aeshna affinis is recorded for the first time from Salzburg prov., Austria (Wenger Moor and Siggerwiesen, 1995).

(11155) WILDERMUTH, H., 1996. Änderungen in der Tierwelt im Kanton Zürich. *Festschr. 250-Jahr-Feier naturf. Ges. Zürich*, pp. 203-213. – (Haltbergstr. 43, CH-8630 Rüti).
The odon. fauna of canton Zürich, Switzerland, consists of 69 spp., 63 of which were sighted since 1970. Among those extinct are Leucorrhinia albifrons and L. caudalis. Nehalennia speciosa is threatened with extinction, while the status of Calopteryx virgo has recently improved. Among the few recent additions, Crocothemis erythraea seems to become autochthonous. During 1860-1950, 49 spp. were evidenced within the Zürich city area, but only 14 of these could still be confirmed during the 1975-1983 sur-

veys.

(11156) WILDERMUTH, H., 1996. Beobachtungen zum Fortpflanzungsverhalten der Segellibelle Perithemis mooma (Kirby, 1889) an einem südbrasilianischen Farmteich (Odonata, Libellulidae). *Mitt. ent. Ges. Basel* 40(2/3): 68-77. (With Engl. s.). – (Haltbergstr. 43, CH-8630 Rüti).
The reproductive behaviour of P. mooma was studied at a farm pond in southern Brazil. Prior to the establishment of a territory, the ♂♂ select a suitable oviposition substrate which is detected not only by visual but also by tactile stimuli. The individuals extend their hind legs while making short dips over the substrate. ♀♀ use their legs in the same manner during oviposition. Choice experiments with various materials revealed that only those substrates are accepted which are emergent and completely surrounded by water and which have a gelatinous surface. Sexual behaviour follows a wel defined sequence of ♂-♀ interactions including courtship display, copulation and postcopulatory activities.

(11157) YANG, E.C. & D. OSORIO, 1996. Spectral responses and chromatic processing in the dragonfly lamina. *J. comp. Physiol.* (A) 178(4): 543-550. – (First Author: Cent. Visual Sci., Res. Sch. Biol. Sci., Austr. Natn. Univ., P.O. Box 475, Canberra, ACT 2601, AU).
Hemicordulia tau has 5 spectral photoreceptor classes, which drive 5 lamina monopolars, m1-m5. The monopolars encode spectral information. Here, spectral coding by m2, m4 and m5 are described. m2 is the most sensitive to dim light. m4 and m5 are less sensitive than m2. The effects of selective adaptation of receptor inputs to m4 and m5 are unusual. For example, in m4 adaptation of the green receptor suppresses the UV input, but green sensitivity is unaffected, while green adaptation of m5 increases its green sensitivity. In m5 the dark adapted spectral tuning resembles the 520 nm receptor, but on adaptation to 430 nm light this narrows markedly. Adaptation either of green or of UV receptor input to m2 and m4 modifies the time course of responses both to green and to UV, implying that changes in the time courses of monopolar responses with adaptation state do not directly reflect receptor responses. Finally, the antagonistic surround of m2 is UV sensitive, and of m4 green sensitive.

(11158) YANG, Z.-D., 1996. Species of genus Cordulegaster Leach (Odonata: Cordulegastridae) in China. *Ent. Knowledge/Kunchong Zhishi* 33(4): 231-232. (Chin., with Engl. title). – (Biol. Dept, Hanzhong Teachers' Coll., Hanzhong, Shaanxi prov., 723001, P.R. China).
A brief review and key.

(11159) YOON, J.H. & H.C. PARK, 1996. A comparative study of the fatty acid composition of the 18 odonatan species from Korea. *Korean J. Ent.* 26(1): 65-71. (Korean, with Engl. s.). – (Dept Biol., Coll. Nat. Sci., Kyungpook Natn. Univ., Taegu 702-701, Korea).
13 fatty acids were identified in the representatives of 6 families. Cis-11 (& 9)-octadecenoic acid and cis-9, 12 (& 6, 9)-octadecadienoic acid showed high relative contents. The composition patterns of the pooled fatty acids from the examined odon. spp. were as follows: C18:1 (26.77%), C18:2 (20.25%), C16:0 (13.27%), C16:1 (9.78%), C18:3 (8.54%), C18:0 (6.84%), C20:5 (4.59%), C20:3 (2.23%), C18:4 (2.01%), C14:0 (1.98%), 22:1 (1.89%), C14:1 (0.95%), C20:4 (0.94%).

(11160) ZAMORA-MUNOZ, C. & J. ALBA-TERCEDOR, 1996. Bioassessment of organically polluted Spanish rivers, using a biotic index and multivariate methods. *Jl N. Am. benthol. Soc.* 15(3): 332-352. – (Depto Biol. Animal & Ecol., Fac. Cienc., Univ. Granada, ES-18071 Granada).
Water quality results, obtained by a modified version of the multimetric BMWP method, are compared with those from multivariate TWINSPAN and CCA methods. The study was conducted in the upper Genil R. Basin, Sierra Nevada, S Spain. The odon. are considered, but Ischnura sp. and Onychogomphus uncatus are the only spp. mentioned.

(11161) ZINKE, J., 1996. Gestreifte Quelljungfer Cordulegaster bidentatus Selys, 1843 und Zweigestreifte Quelljungfer C. boltoni Donovan, 1807 (Odonata) im Elbsandsteingebirge. *Ent. Nachr. Ber.* 40(2): 125-126. – (Rietschelstr. 23, D-01069 Dresden).
Detailed description of the localities and discussion of the records; – Saxony, Germany.

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(11162) BEEKMANS, C., 1997. Nog kleiner dan een paardje. – [Smaller still than a little horse]. *NRC Handelsblad* 27(94): 18; issue of 17 Jan. (Dutch). – (Author's address unknown).
A somewhat "emotional" explanation of the etymol-

ogy of the Croatian/Serbian dragonfly appellation, "*vilin konjic*" (= "fairy's little horse"). – (*Abstracter's Note*: Recently, some Croatian workers have suggested to replace this term by the specifically Croatian appellation, "*vretence*", which is widely used in the literature as from about the late 1980s onwards.)

(11163) BEIGNET, A. & J.-L. DOMMANGET, 1997. Un habitat privilégié pour les libellules. *Courrier Nature* 161 [Spécial Mares]: 28-29. – (First Author: 7 rue Lamartine, F-78390 Bois-d'Arcy).
A general article on dragonflies, in a special issue, devoted to pond life.

(11164) CHABOT, R., B. JACQUAZ, M. BERURE & F. THERRIEN, 1997. La communauté benthique littorale de la rivière des Outaouais. *Naturaliste can.* 121(1): 54-62. – (Authors' addresses not stated).
A general characterisation is presented of the macroinvertebrate benthic communities in the littoral of the Ottawa R., Quebec, Canada. The Odon. are considered suborder-wise only.

(11165) *CONTACTBLAD NEDERLANDSE LIBELLENONDERZOEKERS*, No. 26 (Jan. 1997), ISSN 0926-3578). (Dutch). – (c/o Ed.: W.J.A. Hoeffnagel, Krekelmeent 72, NL-1218 ED Hilversum).
According to an in-lay information leaflet, this is the last issue to appear. – On 13 Apr. 1970, Dr B. Kiauta started the bulletin, *Contactbrief Nederlandse Libellenonderzoekers*, the 13th and last issue of which has been published on 7 Dec. 1974 (cf. *OA* 867). In Apr. 1981, the serial was continued under the name, *Contactblad Nederlandse Libellenonderzoekers*, edited by M. Verdonk & J.W. Schoorl (cf. *OA* 3214), who have greatly improved its shape, enlarged its scope and fixed a semiannual publication frequency. In the subsequent years, the editorship has been changed several times, and so was the lay-out as from No. 23 (March 1995) onwards (cf. *OA* 10153). Early in 1993, a group, centred around the Netherlands Youth Federation of Nature Friends (NJN), commenced a similar, but less well-edited and from outside subsidised periodical, *Libellennieuwsbrief* (cf. *OA* 9550), which mainly served as a communication vehicle of the Netherlands Odonata Mapping Scheme project. This, too, is now to cease, and the 2 periodicals are to be superseded by a new journal, *Brachytron*, to be published by a new dragonfly society, Nederlandse Vereniging voor Libellenstudie, N.V.L. (= Netherlands Society of Dragonfly Studies), Charter Meeting of which has taken place in Leiden, 1 March 1997. – Contents of the last issue: *Van Pelt, J.G.*,: The Cordulegaster species of Europe and W Asia, pt 2 (pp. 3-6); – *De Groot, T.*: Dragonflies of the Vechtplassen region (pp. 7-10); – *Hermans, J.T.*: Dragonflies (Odonata) of the Beegderheide (pp. 11-14); – *Van der Helm, R.*: Assessment of Sympetrum population in Terschelling at the time of the large 1995 invasion (pp. 15-16); – *Wasscher, M.*: Dragonflies and dragonfly studies [in the Netherlands] during 1900-1950 (pp. 16-17); – *Kalkman, V.*: Recognition, ecology and the occurrence of Aeshna subarctica in the Netherlands (p. 18; abstract only); – *Mostert, K.*: Erythromma in Zuid Holland: an inquiry into population strengths in diverse types of landscape and aquatic habitats (pp. 18-24). – The issue contains also a few notifications and a personal request.

(11166) The *DRAGON-FLIER*. Newsletter of the Ohio Dragonfly Survey, Columbus, Vol. 7, No. 1 (Jan. 1997). – (c/o B. Glotzhober, Ohio Hist. Soc., 1982 Velma Ave., Columbus, OH 43211-2497, USA).
The (charter) meeting is convened for 22 Feb. 1997, where the reorganisation of the present informal group into a formal society is to be discussed. The draft of the Constitution and Bylaws is appended. Among the other items of general interest are a review of the 1997 field research target areas, a review of selected dragonfly web sites, and the advertissement for the position of a full-time seasonal field worker to collect odon. at various places around Ohio (preferably a graduate student or a recent graduate, with odonatol. experience).

(11167) *LINDENIA*. Notiziario dell'Ufficio nazionale italiano della Società odonatologica internazionale, Roma, No. 26/27 (1 Jan. 1997). – (c/o Prof.Dr C. Utzeri, Dipto Biol. anim. & Uomo, Univ. Roma "La Sapienza", Viale dell'Università 32, I-00185 Roma).
All articles by the Ed., viz.: "L'attuale situazione della Societas internationalis odonatologica (SIO)"; – "Si è svolto a Deutsch-Wagram il Secondo Simposio Odonatologico della Comunità Regionale Adriatico-Alpina"; – "Workshop sugli odonati al 20° Congresso Internazionale di Entomologia"; – "XIV Simposio Internazionale di Odonatologia"; – "Tesi di dottorato odonatologica di Luigi dell'Anna"; – "È morto Peter Miller".

(11168) *PEDEMONTANUM*. Mitteilungsblatt der AG Odonatenfauna Sachsen-Anhalt der Entomologen-

-Vereinigung Sachsen-Anhalt e.V., Magdeburg, No. 1 (Jan. 1997). Edited by Dr J. Müller. – (c/o Ed., Frankefelde 3, D-39116 Magdeburg).
This is the newsletter of the "Arbeitsgemeinschaft Odonatenfauna", as reported on in *OA* 10791. It is to appear annually (in Jan.), and its objective is the recording and dissemination of information on the odon. fauna of the state of Sachsen-Anhalt, Germany. – The Editorial and all other texts in the first issue are by *J. Müller*. Appended is the bibliography of 27 papers, pertaining to the regional fauna and published after the publication of the works listed in *OA* 10230 and 10780. – The newsletter is available from the Ed., at DEM 1.-- per issue.

(11169) SAVARD, M., 1997. Curiosités orthographiques et étymologiques: Aeshna, Aeschna ou aeschnes? *Naturaliste can.* 121(1): 47-51 – (1665, av. des Engoulevents, Chicoutimi, Que, G7H 5Y2, CA).
Some of the Quebec aeshnids are keyed, and a list of 19 regional spp. is presented. The latter includes taxonomic and Canadian French vernacular names.

(11170) *WILLIAMSONIA*, Vol. 1, No. 1 (Jan. 1997). Published by the Michigan Odonata Survey, edited by M.F. O'Brien. * Annual subscription: US $ 6.-- net. – (c/o Ed., Michigan Odon. Surv., Insect Div., Mus. Zool., Univ. Michigan, Ann Arbor, MI 48109-1079, USA).
A new and very attractive quarterly newsletter, named after E.B. Williamson (1877-1933), whose collection and library are the nucleus of the UMMZ "Odon. Dept". – C o n t e n t s: *O'Brien, M.*: Welcome to the MOS! (p. 1); Michigan Odonata Survey: 1st meeting highlights (pp. 1, 3, with phots); – Surveying for Odonata in the Huron Mountains in 1996 (p. 2); – Seney National Wildlife Refuge: a target area (p. 2); – Maps on the Web (p. 3); – *Glotzhober, B.*: Ohio Odonata Survey meeting (p. 4); – *Tennessen, K.*: Another UP record for Gomphaeschna furcillata (p. 4); – *O'Brien, M. & M. Kielb*: New MI county records for Hagenius brevistylus (p. 4); – *Bright, E.*: MOS larval identification and cataloguing (pp. 7-8). – The issue also contains a meeting announcement and a request for information (both by *B. Mauffray*), a book advertisement, the checklist of Michigan Odonata, a list of 8 recent publication titles, and the MOS "membership" list (37 addresses).