

ODONATOLOGICAL ABSTRACTS

1973

- (2326) DYSART, B.C., III, A.R. ABERNATHY, H.J. GROVE, R.D. HATCHER, Jr. & B.R. INGRAM, 1973. Bad Creek environmental study. Stream flow & hydrologic analysis, water quality investigation, benthic analysis, amphibian and reptile study, geologic interpretation, recreation and aesthetic evaluation. Duke Power Co., Charlotte, N.C. XVI + 218 pp. — (Publishers' address: *Environ. Sect., Civil-Environ. Div., Design Engineer. Dept., Duke Power Co., P.O.B. 2178, Charlotte, N.C. 28201, USA*; — Address first author: *P.O.B. 122, Clemson, S.C. 29631, USA*).

The monograph deals with the Bad Creek, West Bad Creek and Howard Creek basins, South Carolina, USA. *Cordulegaster erroneus* and *Lanthus parvulus* are the only odon. spp. collected. The densities of dragonfly populations are stated for various sampling stations, along with those of other insects and invertebrates. (Cf. also *OA* No. 2331).

1974

- (2327) CLEGG, J., 1974. Pond life. Warne, London-New York. 206 pp., 73 pls. incl. — Price: £1.25. — (*Author's address unknown*).

This is a pocket size (9 x 15 cm) field guide for the flora and fauna of the British ponds. Odon. are dealt with on pp. 94-105. Larval stages are illustrated of 18 spp. (black-and-white), while the colour drawings show 12 spp. of adults. The text contains information

on habitats and phenology, but the quality of the illustrations will hardly allow a safe identification.

- (2328) TEYROVSKÝ, V., 1974. A note on the importance of the primary faunistic research in the ecology of the country. *Sb. Pracé přir. Fak. palack. Univ. Olomouci (XV)* 4: 327-330. (Czech, with Engl. s.). — (*Zool. odděl., Moravske Mus., Nám.-25-února 8, CZ-65937 Brno*).

It is argued that primary faunistic research may play an important role in the delimitation of natural territorial units. The suggestion is supported by the evidence derived from odon. distribution.

1975

- (2329) ANSELIN, A., 1975. Libellenverslagje nazoka Schouwen-Duiveland. [Dragonfly report on the workshop Schouwen-Duiveland]. *Drekvlieg 1* (1): 14. (Dutch). — (*Diksmuide Heirweg 114, B-8200 Brugge-2*). 7 spp. are brought on record from various localities in this area, Zeeland prov., the Netherlands (Aug. 23-29, 1975).
- (2330) ANSELIN, A., 1975. Voorlopig overzicht van de libellenwaarnemingen in noord-west Vlaanderen. [Preliminary review of dragonfly observations in northwest Flandres]. *Drekvlieg 1* (5): 5-9. (Dutch). — (*Diksmuide Heirweg 114, B-8200 Brugge-2*). A list is given of 24 spp., collected during 1975 at 28 localities in northwestern Flandres, Belgium. The localities are briefly

described and a general discussion is added.

- (2331) BOYNE, W.R. & B.R. INGRAM, 1975. Benthic investigation of Howard Creek and major tributaries: July 1973-June 1975. Rep. No. DPC/BC-SPR 13A-1275, Dept. Zool., Clemson Univ., Clemson, S.C. IX + 155 pp. — (*Dept. Zool., Clemson Univ., Clemson, S.C. 29631, USA*).

The study area dealt with is approximately the same as that mentioned in *OA* No. 2326. Detailed benthic data are given for 3 odon. spp. (*Calopteryx* sp., *Lanthus parvulus*, *Cordulegaster* sp.). — (*Abstracter's note*: On the same work is based a note by C. McCord, H. Harrell, R. Boyne & B.R. Ingram, 1975, *Bull. S. Carol. Acad. Sci.* 37: 107, which, however, does not contain any references to Odon.).

1976

- (2332) ANSELIN, A., 1976. Verslag weekendje te Brugge, 30-7/1-8-76. [Report on a weekend at Brugge, Jul. 30-Aug. 1, 1976]. *Drekvlieg* 2 (3/4): 3-4. (Dutch). — (*Diksmuide Heirweg 114, B-8200 Brugge-2*).

A note on a few odon. spp. collected at Brugge, Belgium, during the said period.

- (2333) BLANEY, W.M., 1976. How insects live. Elsevier-Phaidon, Oxford. 160 pp. — (*Author's address: Dept. Zool., Birkbeck Coll., Univ. London, London, UK*; — *Publishers' address: Phaidon Press, Littlegate House, St. Ebbe's Str., Oxford, UK*). This is a richly illustrated (colour) general account on the life, functional morphology, ecology, etc. of the class, organized into 11 main chapters such as "Locomotion on land and water", "Wings and flight", ... "The struggle for survival", "Insects and man", etc. Odon. are dealt with on pp. 7, 15, 31-32, 35, 42-43, 45, 47-49, 52-53, 62, 74-75, 78, 80, 92-93, 95, 100, 104-105 and 146. Original dragonfly photographs were contributed by P. Bowman, P.H. Ward and C.E. Williams. Of interest are a reproduction (black-and-white) of the wing impression of the Lower Jurassic *Liassophlebia jacksoni* from Charmouth, southern England (p. 7) and a

diagram (colour) of forces acting on a gliding dragonfly (p. 49).

- (2334) ECHSEL, H. & M. RÁČEK, 1976. Biologische Präparationen. Arbeitsbuch für Interessierte an Instituten und Schulen. Jugend und Volk, Wien-München. 248 pp. — Price: DM 48.—. — (*Publishers' address: Jugend und Volk Verlagsgesellschaft, A-1014 Wien*).

This is an extensive compendium of the mounting techniques used for the preparation of various types of animals, mainly for museum purposes. A brief chapter (p. 115) is devoted to the Odon.. For colour preservation an exsiccating fluid, invented by the authors, is recommended. It is obtainable from the Ha-Zet Company, Reiserstr. 9, A-1030 Wien, Austria). None of the more common preservation methods (cf. e.g. *OA* No. 1899) is described. In the text a drawing appears of a *Comphus vulgatissimus*, named as *G. "vulgaris"*.

- (2335) LAUGHLIN, S.B., 1976. Adaptations of the dragonfly retina for contrast detection and the elucidation of neural principles in the peripheral visual system. *In*: F. Zettler & R. Weiler, [Eds.], *Neural principles in vision*, pp. 175-193. Springer, Berlin. — (*Dept. Neurobiol., Res. Sch. Biol. Sci., P.O.B. 475, Canberra, A.C.T. 2601, AU*).

The titles of the sections of the paper are: "Neural principles and their analysis", "The dragonfly and its lamina", "Neural integration in the dragonfly lamina" (The experimental approach, The intensity signal in retina and lamina, Intensity and contrast coding, Voltage transfer at the first synapse, Angular sensitivity, Light adaptation, and Neural principles for contrast coding). The analogies between the receptors and interneurons of insect and vertebrate systems suggest that these shared properties are neural principles of real functional significance that contribute toward the satisfactory operation of complex visual systems. Much of the data is still incomplete and in dragonfly lamina several properties require further analysis before they can be fully endorsed as neural principles. In particular

the role of the receptor background signal in driving neural sensitivity control and the spatial distribution of sensitivity control is still poorly understood.

- (2336) LEJEUNE, G., 1976. Libelletjes te Torgny, 1-12 juli 1976. [Dragonflies at Torgny, July 1-12, 1976]. *Drekvlieg* 2 (3/4): 5-8. (Dutch). — (*Pieter-de-Conincklaan 18, B-8200 Brugge*).

An annotated list is given of 26 spp., collected during the said period at Torgny, nr. Montmedy, southern Belgium.

- (2337) SIEGENTHALER, I., 1976. Ein Beitrag zum Europäischen Jahr der Feuchtgebiete: Die "Flitzer" unter den Insekten. *Thuner TagBl.*, issue of Oct. 5, 1976, 1 p. — (*Seestr. 26 J, CH-3600 Thun*).

This is a local daily's reprint of the introductory text of the book, O.R. Strub & I. Siegenthaler, 1976, *Das Libellenjahr* [The dragonfly year], Stämpfli, Bern (cf. *OA* No. 1563). — (*Abstracter's note*: The beautiful volume on Swiss dragonflies, richly illustrated with colour photographs, is still available, at the price of sFr. 26.—, at the Filmstudio 2S Thun, Seestr. 26 J, CH-3600 Thun).

- (2338) STARK, W., 1976. Die Libellen der Steiermark und des Neusiedlerseegebietes in monographischer Sicht. PhD thesis, Karl-Franz Univ., Graz. II + 186 pp., 25 pls., 23 maps, 2 figs. excl. — (*Goethestr. 28, A-8010 Graz*).

The odon. fauna of the eastern Austrian federal states, Styria (63 spp.) and Burgenland (48 spp.), has been hitherto only poorly known, and a general analysis of its zoogeographic composition and ecological structure has been lacking. In the present monograph a critically revised up-to-date inventory, based on literature data, unpublished museum material, and on own field work (1969-1975), is presented along with detailed considerations on habitat preference, autecology, behaviour and morphological variability of all spp. *Aeshna affinis* is confirmed for the first time with certainty as a Styrian sp., and *Lestes v. virens*

is recorded from central Europe for the first time (1 ♂, Schoberpass, Styria, 10-IX-1972). *Ischnura elegans pontica* is new for the Styrian fauna, and *Coenagrion scitulum* for that of Burgenland. Of interest is the discovery of transitional forms between *Pyrrhosoma nymphula* and *P. n. elisabethae* in Styria. In the concluding chapters the zoogeographic composition (in both provinces the mediterranean faunal elements prevail), phenology and synecology are dealt with. 3 running water and 4 stagnicolous odon. coenoses are recognized and characterized; they differ considerably from those described by U. Jacob (1969, *Faun. Abh. Mus. Tierk. Dresden* 2: 197-239). The cumulative bibliographic list contains most of the regional faunistic literature published prior to 1976. The latter, however, is neither asterisked nor is it otherwise made distinct from the general references, though it can be easily crosschecked with the aid of citations given under the spp. headings. The distributional maps are given only for a number of spp., and do not show the grid references adopted by the European Invertebrate Survey scheme. — (*Abstracter's note*: In the present form this useful volume is not readily accessible, therefore its re-publication elsewhere seems opportune. The value of the second edition, however, would be enhanced, if it would contain a records index and grid distributional maps of all spp. The few minor errors in nomenclature should be also corrected, e.g. *Anaciaeshna*/*Anaciaeschna*, and the names of the authors of the specific names should be put in brackets only where this is justified).

- (2339) VERLINDEN, C.L., 1976. Libellen, zweefvliegen en wapenvliegen in het Ekers moerasje. [Dragonflies, hoverflies and soldierflies of the Ekers moor]. *Drekvlieg* 2 (1): 3-11. (Dutch). — (*Lombardenstr. 12, B-2000 Antwerpen*).

A phenological account (May-Oct., 1975) is given (pp. 3-5) of the small odon. fauna of this locality nr. Antwerp, Belgium.

1977

- (2340) KOMATSU, T., 1977. Comparison between the effects of aggregate plant wastes and a flood on the aquatic insect communities. Preliminary report. *New Entomol.* 26 (4): 7-16. (Japanese, with Engl. s.). — (*Suzaka High Sch., Nagano Pref.*, 382, JA). The observations were carried out on various Japanese rivers. *Gomphus* sp. is the only dragonfly mentioned.
- (2341) ODONATA MAPPING SCHEME NEWS LETTER. Compiled by National Organizer, D.G. Chelmick, Haywards Heath, No. 1 (May, 1977). — (c/o Mr. D.G. Chelmick, 6 Gander Hill, Haywards Heath, Sussex, UK). The newsletter is compiled and distributed by the National Organizer of the Odonata Mapping Scheme (for the British Isles, i.e. United Kingdom and Ireland). Its objective is to facilitate the work of the local recorders. The first issue contains a brief outline of the current situation of the odonate mapping scheme, incl. an up-to-date coverage map. It is stated that the examination of the species maps emphasises that the available picture is one of the distribution of odon. recorders rather than that of dragonflies. A few interesting questions are pointed out and some technical information concerning the tetrad surveys and recording cards is given. Although the main object of the scheme is to record the present distribution, the readers are requested to communicate to the [British] National Organizer any historical data from collections, obscure publications and/or unpublished notes. The Organizer would also appreciate getting in touch with anyone interested in becoming a recorder. — (*Abstracter's note*: The International Odonatological Society is maintaining liaison with most national odon. mapping schemes. Any records sent to the Editors of *Odonatologica* are automatically forwarded to the respective national organizers, provided they are not put under embargo by the collector/author. Of particular importance are also the records of material collected incidentally by non-residents during their vacation trips. The name and address of the informant are sent along with the records, enabling, in the case of any queries, a direct contact between the responsible organizer and the author of the communicated records).
- (2342) PAULSON, D.R., 1977. Odonata. In: S.H. Hurlbert, Ed., *Biota acuatica de Sudamerica Austral*, pp. 170-184. San Diego St. Univ. (Spanish and Engl.). — (*Washington St. Mus., Univ. Wash., Seattle, Wash.* 98195, USA). An annotated list is given of the odon. spp. (205) known to occur in Argentina, Chile, Paraguay and Uruguay, with references to the distribution of these in Brazil and Colombia (or north of it). The region is subdivided into 4 subregions, viz. the Chilean, Andean, Argentinian and the Amazonian. The odon. fauna of each of these is briefly characterized. The number of spp. recorded in this area is relatively low by tropical standards, certainly so in view of the fact that 254 spp. are known from Peru and 390 were listed from Venezuela. The latter may be the only moderately well-explored odon. fauna of South America. Uruguay's dragonflies are virtually undocumented, and this represents a very substantial gap in our knowledge. Chile's list of 46 spp. may be fairly complete, as that country has been well studied and apparently holds very few habitats for wide-ranging tropical spp. Paraguay has been included in this work only because it is likely that any sp. known from the country will be found in adjacent Argentina. The same is probably true for the fauna of the southernmost states of Brazil (Paraná, Santa Catarina, Rio Grande do Sul). The table of the regional fauna is followed by a review of the references to the identification works (for adult and larval stages), arranged per state and in alphabetic sequence of the genera. The fairly exhaustive bibliography contains most of the important works on the region, published up to and inclusive 1975. — (*Abstracter's note*: The region dealt with is certainly odonatologically the least explored tropical region of the world. By publishing the present account the author has rendered a very significant service

to all interested in this area and to odonatology in general. The faunistic review is mostly compiled from the literature. When much of the book was already in press, the Editor learned that the person who originally contracted to treat the order will be unable to submit the manuscript. This has given the author just 3 weeks to prepare the manuscript, hence precluding a more thorough literature search, and resulting in a number of omissions and errors. A sheet of corrections and additions is available from the author or from the Editors of Odonatologica).

- (2343) SROKOSZ, K., 1977. Phytophilous fauna in ponds fertilized with sugar factory wastes. *Acta Hydrobiol.* 19 (3): 233-242. (With Polish s.). — (*Inst. Aquatic Biol., Polish Acad. Sci., Ul. Slawkowska 17, PO-31-016 Krakow*).

The paper presents the results of investigations carried out (Apr.-Sept. 1971) in the Gofysz nr. Cieszyn, Poland. The following odon. spp. are listed for the *Glyceria aquatica*, *Myriophyllum spicatum* and *Elodea canadensis* vegetations of 3 ponds (Zimowy Wielki, Łakowy, Gorol): *Platycnemis pennipes*, *Coenagrion pulchellum*, *Enallagma cyathigerum*, *Erythromma najas* and *Lestes sponsa*.

1978

- (2344) AMATEUR ENTOMOLOGISTS' SOCIETY, THE, 1978. Membership list. 40 pp. — (*Amat. Ent. Soc., 355 Hounslow Rd., Hanworth, Felt ham, Middlesex, UK*). The odonatologist of the Advisory Panel of the Society is Mr. D. Keen (Corbiere, 3 Woodbourne, Farnham, Surrey, United Kingdom). The membership list contains close to 60 addresses of amateur entomologists, marked as being interested in Odon. All of them are residents of the United Kingdom except 2 who are from the USA and Ireland.
- (2345) ANDO, H., 1978. Embryonic development of insects. *New Entomol.* 27 (1/2): 1-54. (Japanese, with Engl. translation of the

title). — (*Sugadaira Biol. Lab., Tokyo Kyoiku Univ., Sanada-machi, Nagano-ken, JA*).

A valuable review of the subject, covering most apterygote and pterygote orders (Odon. pp. pp. 24-29, with special reference to and figs. of *Platycnemis pennipes*, *Calopteryx atrata* and *Anax parthenope*). Extensive bibliography (pp. 43-54) is arranged per orders. — (*Abstracter's note*: The author is the leading authority on odon. embryology. Of particular importance is his 1962 monograph, *The comparative embryology of Odonata with special reference to a relic dragonfly Epiophlebia superstes Selys*, published by the Japan Soc. Promot. Sci., Tokyo).

- (2346) ANSELIN, A., 1978. Verspreiding en oecologie van Odonata in enkele gebieden rond Brugge. [Distribution and ecology of Odonata in some areas near the city of Brugge]. M. Sc. thesis, Univ. Gent. IV + 155 + VI pp., 23 maps excl. (Dutch). — (*Diksmuide Heirweg 114. B-8200 Brugge-2*). In the period, 1977-1978, the dragonfly distribution and ecology were studied in the surroundings of the city of Brugge, Flandres, Belgium. A humid dune depression, a clay pit, a "trap area" and a number of sand pits and ponds are the characteristic odon. breeding sites in the region. — In all, 22 spp. were recorded. Most of these have a ubiquitous character, but for a few of them definite habitat preferences could be demonstrated. — General distribution, ecology and local habitats and habits of each sp. are discussed in detail. — The fauna of all water bodies studied is critically analyzed, and their "faunistic value" is determined on the basis of the number and character of the spp. they are supporting. It is concluded that the sand pits represent the most valuable dragonfly biotopes in the surroundings of Brugge.
- (2347) CAPRA, F. & P.A. GALLETTI, 1978. Odonati di Piemonte e Valle d'Aosta, *Annali Mus. civ. Stor. nat. Genova* 82:1-71. (With Engl. s.). — (*Via Montani 16-5, Quarto dei Mille, I-16148 Genova*).

A survey is given of 59 spp. and 1 ssp. (referable to 29 genera and representing 71% of the Italian fauna) known to occur in the territory of the Regions Piemonte and Valle d'Aosta, northwestern Italy. Data on material from various collections are provided for each sp., with notes on biotopes and phenology, based on own field observations and on the hitherto published records, critically revised. — The synonymy, *Libellula triedra* Müll. var. *Allioni*, 1766 = *Sympetrum fonscolombi* (Selys, 1840), is proposed. — Among the more interesting spp. are *Erythromma najas*, *E. viridulum*, *Sympetma paedisca striata*, *Calopteryx virgo meridionalis*, *Gomphus flavipes*, *Ophiogomphus serpentinus*, *Onychogomphus uncatatus*, *Boyeria irene*, *Brachytron pratense*, *Aeshna grandis*, *A. affinis*, *Hemianax ephippiger*, *Cordulegaster bidentatus*, *Oxygastra curtisi*, *Somatochlora meridionalis*, *Orthetrum albistylum* and *Sympetrum vulgatum* (?). — The odon. fauna is analyzed from the viewpoints of ecology, distribution (related to the orographic pattern of the territory) and zoogeography, and it is compared to those of the adjacent territories. It is characterized by a relatively high percentage of mediterranean elements (35 spp. are of mediterranean and 24 of eurosiberian origin). — A tabular summary and a bibliographic list are also provided. (Authors).

- (2348) CARLBERG, U., 1978. Nya böcker om trollsländer. [A new book on dragonflies]. Hammond, C.O., The dragonflies of Great Britain and Ireland. Ent. Tidskr. 99 (3/4): 142. (Swedish). — (*Author's address unknown*).

Book review of the volume listed in OA No. 2062.

- (2349) CONSIGLIO, C., 1978. Odonata collected in Ethiopia by the expeditions of the Accademia Nazionale dei Lincei. I. Introduction and the Zygoptera. Problemi att. Sci. Cult. (III) 243: 27-51. — (*Ist. Zool., Univ. Roma, Città Universitaria, I-00100 Roma*).

The outline of the history of odonatological

research in Ethiopia (1853-1967) is followed by a detailed account of the zygopteran material (16 spp.) brought together in southern Ethiopia (1973, 1975). The structural characters of 8 spp. deviate from previous descriptions, hence these are here partially or entirely redescribed. As new are described and illustrated: *Elatoneura pasquinii* sp. n. (σ holotype, φ allotype, 1 σ paratype: Piccolo Ghibie, Uncuri, 1650 m, 29-X-1973; resembling *E. tropicalis*, save for the shape of the penis and prothoracic processes which are similar to those of *E. dorsalis* and *E. glauca* respectively), and *Pseudagrion kaffinum* sp. n. (σ holotype and 2 σ paratypes; the same locality, 1650-1700 m, 22/29-X-1973; related to *P. guichardi*). A synonymic checklist of zygopterans hitherto recorded from Ethiopia (39 spp.) and a complete faunistic bibliography are added. (For Pt. II cf. OA No. 2350).

- (2350) CONSIGLIO, C., 1978. Odonata collected in Ethiopia by the expeditions of the Accademia Nazionale dei Lincei. II. New and rare species of Notogomphus from Ethiopia (Odonata: Gomphidae). Problemi att. Sci. Cult. (III) 243: 53-58. — (*Ist. Zool., Univ. Roma, Città Universitaria, I-00100 Roma*).

N. ruppeli (Sel.) is redescribed. As new are described and illustrated: *N. cottarellii* sp. n. (σ holotype, φ allotype: between Bonga en Baca, southern Ethiopia, 1800 m, 28-X-1973) and *N. cataractae* sp. n. (σ holotype: Piccolo Ghibie, Uncuri, southern Ethiopia, 1650 m, 29-X-1973). (For the general account and for the Zygoptera cf. OA No. 2349).

- (2351) CORDULIA, Cahier d'amateurs. Published by the Collège Bourget, Rigaud, Quebec, Canada; edited by R. Hutchinson & A. Larochelle, Collège Bourget, Vol. 4, No. 2 (June, 1978), No. 3 (Sept., 1978), No. 4 (Dec., 1978). (French and Engl., most larger papers with s's. in Engl.). — Annual subscription for 1978 (4 issues): Can. \$3.— (Canada, USA), Can. \$4.— (others). — (c/o R. Hutchinson, Collège Bourget, C.P. 1000, Rigaud, Que., JOP 1P0, CA).

No. 2. *Larochelle, A.* (Coll. Bourget, C.P. 1000, Rigaud, Que., J0P 1P0, CA): Inventaire d'Odonates dans le sud du Québec, en 1977 (45-52); — *Hutchinson, R.* (Coll. Bourget, C.P. 1000, Que., J0P 1P0, CA): Récoltes et observations sur Gomphus exilis Sélys (53-54); — *Gillaspay, J.E.* (Biol. Dept., Texas A & I Univ., Kingsville, Texas 78363, USA): Vacuum drying to conserve body color in Odonata (55); — *Morrissette, R. & A. Larochelle* (648 l'Anse Blue, Repentigny, Que., J6A 2G2, CA): Capture du Gomphus spicatus Hagen (Odonata: Gomphidae) à Saint-Mathieu, Comté de Saint-Maurice, Québec, et notes sur l'émergence de l'espèce (56-58); — *Hutchinson, R.*: Observation de Leucorrhinia intacta Hagen à Châteauguay (Comté de Beauharnois) le 29 mai 1977 (58); — *Legault, J.* (62 Place Le Roy, Repentigny, Que, J6A 1P8, CA): Une deuxième station de Gomphus lividus Sélys (Odonata: Anisoptera: Gomphidae) pour le Québec (59-60); — *Hutchinson, R.*: Observation de la ponte de Leucorrhinia glacialis Hagen en juillet 1977 à Port-au-Persil (60); — *Caron, A.* (132 nord, rue Saint-Charles, C.P. 190, Joliette, Qué., J6E 3Z6, CA): Additions à la faune odonatologique de la région du Cap Jaseur, Comté de Chicoutimi, Québec (61-62); — *Hutchinson, R.*: Récolte de Leucorrhinia proxima Hagen au bord d'une tourbière (64); — Des libellules proies de l'hirondelle pourprée (64).

No. 3 *Hutchinson, R.*: L'histoire de l'odonatologie au Québec (109-126); — *Hummel, M.S.* (Dept. Biol., Univ. Northern Iowa, Cedar Falls, Iowa 50613, USA): A checklist of the Odonata of Dickinson county, Iowa (127-128).

No. 4. *Hutchinson, R.*: Récolte d'Odonates au Québec et dans les Etats de New York, Vermont et New Hampshire de 1972 à 1978 (129-137); — Le Moineau domestique et le Carouge à épaulettes, prédateurs de Zygoptères ténéraux au Jardin Botanique de Montréal (138-139); — *Anonymous*: Notulae odonatologicae, un nouveau bulletin semiannuel de la société internationale d'odonatologie. Fr. and Engl. (139); — *Rousseau, Y.* (6 Morin, Lévis, Que., G6V 4X7, CA): Liste préliminaire des Odonates

de la région de Lévis, Comté de Lévis et de Bellechasse (140-143); — *Poitras, J.* (66 rue Fraser, Lévis, Qué., CA): Présence d'Odonates dans diverses localités du Québec (143); — *Bullington, S.W.* (Univ. Station, P.O.B. 3354, Laramie, Wyoming 82070, USA): Two records of robber flies (Diptera: Asilidae) preying on Odonata (Libellulidae, Coenagrionidae) in Virginia (144-146); — *Hutchinson, R.*: Un Enallagma cyathigerum Charp. (Zygoptera: Coenagrionidae) proie de Cordulia shurtleffi Scudder (Anisoptera: Corduliidae) (146-147); — *Poitras, J.*: Mentions d'Odonates pour la localité de St-Romauld, Comté de Lévis, Québec (147); — *Anonymous*: Odonatologica. Fr. and Engl. (148). — With the issue goes the Table of contents for Vol. 4.

(2352) *DE MARMELS, J. & H. SCHIESS, 1978.* Le libellule del canton Ticino e delle zone limitrofe. Boll. Soc. tic. Sci. nat. 1977/78: 29-83. (with German and Engl. s's). — (c/o *Contreras, Av. Guaicaipuro, Res. El Mirador, 2 Piso, Apto. 22, El Margues, Caracas, Venezuela*; — Requests for reprints to be sent to the second author: *Am Bach, CH-8336 Oberhitnau*).

This is an up-to-date critical account of all that is known on the odon. fauna of the canton Tessin, Switzerland. In all, 51 spp. are listed (and their local distribution mapped), among which Calopteryx splendens faivrei, C. virgo padana and Onychogomphus forcipatus unguiculatus are for the first time recorded from Switzerland, and 17 spp. are added to the fauna of Tessin. Calopteryx (virgo) meridionalis is assigned a specific rank. Ceriagrion tenellum and Lestes macrostigma are considered extinct in Tessin. Of local faunistic interest are the data on Calopteryx meridionalis, Aeshna coerulea, Oxygastra curtisi, Somatochlora arctica and Leucorrhinia dubia. The field work on which the monograph is principally based has been mainly carried out in 1977 (cf. *OA* Nos. 2276, 2278, 2279), and close to 700 wetland habitats have been investigated, yielding 252 odon. localities. It is stated that many of these are greatly endangered. The paper also contains some records from 2

localities in the canton Grisons, Switzerland, and from 24 locations in the adjacent region of Varesotto, Italy.

- (2353) DE ROY MOORE, T., 1978. To the brink and beyond. *Audubon Mag.* 80 (6): 75-91. — (*Author's address unknown*).

On p. 90 of this popular account of a trip to the Galapagos Islands, Ecuador, in a somewhat poetic style a note is made on an apparently spectacular transformation of unnamed odon. at the bottom of a volcanic caldera on Fernandino Island.

- (2354) DUFOUR, C., 1978. Les Odonates de Suisse romande. Distribution des espèces et évolution de la faune. *Mitt. schweiz. ent. Ges.* 51: 421. — (*Mus. zool., Palais de Rumine, CH-1005 Lausanne*).

This is a concise and informative abstract of a paper given at the Annual Meeting of the Swiss Entomological Society, Basel, March 12, 1978. The composition of the fauna of western Switzerland (70 spp.) is briefly indicated and the recent evolution of the status of some spp. is considered. For a more exhaustive account cf. *OA* No. 2110.

- (2355) FABER, P.L., 1978. A historical perspective of the impact of the type concept on insect systematics. *Ann. Rev. Ent.* 23: 91-99. (*Dept. Gen. Sci., Oregon St. Univ., Corvallis, Oregon 97331, USA*).

A review is presented to show the complexity of the type concept and to analyze its role in entomology at the time when Darwinian evolution theory was being formulated, i.e. preceding 1859. Three major type concepts are reviewed, viz. the collection type concept, classification type concept, and morphological type concept.

- (2356) FLINT, O.S., Jr., 1978. Probable origins of the West Indian Trichoptera and Odonata faunas. *Proc. 2nd Int. Symp. Trichoptera*, Reading, pp. 215-223. Junk, The Hague. — (*Dept. Ent., Smithsonian Instn Wash., Washington, D.C. 20560, USA*).

Upon analysis of the distribution of the West Indian Trichoptera and Odon. the following patterns become clear. The Trichoptera are

very highly endemic, over 80% of the species being known from only one island, whereas the Odon. are much less so with only 15% of the species apparently restricted to one island.

There does seem to be a correlation between the size of the organism as well as its ecological tolerance and the area it occupies. The small Hydroptilidae and the largest dragonflies, and those spp. the most ecologically tolerant are the most widely distributed. The Greater Antilles support a distinct fauna that appears to have been isolated for a long time and which shows three relationships, as follows: (1) a North American element which appears to be rather minor; (2) a Neotropical element, closely related to the fauna of Mexico and Central America, which is the overwhelming percentage; and (3) a very small element that is related to equatorial or southern Africa. The Lesser Antilles also has a distinct fauna, although seemingly less highly endemic than that of the Greater Antilles. There is a small element that may be called Antillean, but in general the fauna is quite different from that of the Greater Antilles. The primary relationship is with northern South America, from which a part of the fauna seems to have been derived by dispersion. The entire picture agrees well with the Vicariance Model of Biogeography as proposed by Orlózius and specifically as developed by Rosen for the West Indies. (Author).

- (2357) GEENE, P., 1978. Libellen. Macro-fotografie van de meest beweeglijke insecten. [Dragonflies. Macro photography of the most mobile insects]. *Focus, Doetinchem* 63 (6): 46-49. (Dutch). — (*Kortlanglaan 124, 3853 KJ Ermelo, NL*).

A general talk on dragonflies, by a professional photographer, published in a periodical for amateur photography, and accompanied by 5 large-size colour photographs, in the captions of which the photo-technical and locality data are stated (mostly from the Netherlands, some from Sweden). — (*Abstracter's notes*: The journal issue can be obtained, at Hfl. 4.90, from the Publishers: Misset, P.O. Box 4, 7000 BA Doetinchem, NL. — Fig. 3 is a Libellula

- quadrimaculata and not a *Sympetrum striolatum* as erroneously stated. — At the moment the author is working for the United Netherlands Filminstitute, Hilversum, on the preparation of a series of dragonfly slides for educational purposes).
- (2358) GONZÁLEZ SORIANO, E., 1978. Contribución al estudio de la subfamilia Libellulinae (Odonata: Libellulidae del estado de Veracruz. *Folia ent. mexic.* 39/40: 215. — (*Inst. Biol., Univ. Nac. Antón. México, A.P. 70-153, México-20, D.F., México*). This is an indicative abstract of a paper presented at the 12th Mexican National Congress of Entomology.
- (2359) GRYFFROY, D., 1978. Libellen-waarnemingen in de excursiegebieden van afd. Roeselare. [Dragonfly observations in the excursion area of Roeselare]. *De Snepe, Roeselare* 9 (1): 17-26. (Dutch). (c/o *Miss A. Anselin, Diksmuide Heirweg 114, B-8200 Brugge-2*). An account is given of the dragonfly observations carried out during 1975-1977 in the surroundings of Roeselare, south of Brugge, Belgium, by the members of the Belgian Youth Federation of Nature Friends (BJN). The journal is the official organ of the local BJN section of Roeselare.
- (2360) HARPER, P.P., 1978. Variations in the production of emerging insects from a Quebec stream. *Verh. int. Ver. Limnol.* 20 (2): 1317-1323. — (*Dép. Sci. biol., Univ. Montréal, C.P. 1628, Montréal, Qué. H3C 3J7, CA*). The observations were carried out in a 500 m long stretch of a second-order stream belonging to the Achigan River system which flows into the Assumption River, Quebec, Canada. The Odon. and the carnivorous Plecoptera dominate more by their individual size than by their numbers. There appears to be an inverse relation between the importance of the carnivorous groups, incl. Odon., and the total production of the emergence. Thus, the most productive area had the lowest percentage of carnivores and the least productive, the highest.
- (2361) HEATH, J., 1978. Provisional atlas of the insects of the British Isles. Part 7. Odonata. Dragonflies. VI + 46 pp. *Nat. Envir. Res. Coun., Abbots Ripton*. — Price: £2.50 — (*Inst. Terrest. Ecol., Monks Wood Expl. Stn, Abbots Ripton, Huntington, PE17 2LS, Cambs, UK*). The maps showing the distribution of the 45 British odon. spp. (United Kingdom and the Republic of Ireland) are preceded by a brief introduction, index of the spp. and by a map showing the cumulative records received prior to and after 1961. The distribution maps were prepared from records submitted by the participants in the Odonata Distribution Maps Scheme up to the end of May, 1977. To these data abstracted from museum material and the literature have been added. The responsibility for the Odonata Scheme has now been assumed by Mr. D. Chelmick, 6 Gander Hill, Haywards Heath, Sussex, UK, to whom all records should be submitted. — (For the earlier published maps cf. *OA* Nos. 810, 2003, 2062, 2230; for the British work on the European Invertebrate Survey scheme in general cf. *OA* Nos. 368, 392).
- (2362) HUTCHINSON, G.E., 1978. Zoological iconography in the west after A.D. 1200. *Am. Sci.* 66 (6): 675-684. — (*Osborne Memorial Lab., Yale Univ., New Haven, Conn. 06520, USA*). *Calopteryx splendens*, appearing in the (French) Bellville Breviary (dated approx. 1325) is mentioned.
- (2363) HUTCHINSON, R., 1978. Rapport de la première rencontre de l'A[ssociation des] E[ntomologistes] A[mateurs du] Q[uébec], Filiale de Montréal, 1977-78. *Fabriques* 4 (2): 33-36. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). On p. 35 of this report on the meeting, by the Secretary of the Montreal Section of the Society, new records for Quebec, Canada, are given of *Enallagma vesperum*, *Lestes eurinus*, *Gomphus lividus*, *Epithea cynosura* and *E. spinigera*.
- (2364) HUTCHINSON, R., 1978. *Dorocordulia*

- libera Hagen (Odonata: Corduliidae) au Québec. *Fabriques* 4 (4): 72-74. — (*Coll. Bourget, C.P. 1000, Rigaud JOP 1P0, CA*). The bibliography of *D. libera* in Quebec, Canada is presented and notes are given on its life history.
- (2365) HUTCHINSON, R., 1978. Notes sur l'observation d'émergences de *Lestes* (Odonata). *Fabriques* 4 (5): 97. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). A few suggestions are given for young amateur entomologists on the technical aspects of the laboratory observations of the emergence of some *Lestes* spp. common in Quebec, Canada. (Cf. also *OA* No. 2366).
- (2366) HUTCHINSON, R., 1978. Notes sur l'observation d'émergences de *Lestes* en laboratoire. *Fabriques* 4 (6): 119-120. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). This is a slightly modified reprint of the article listed in *OA* No. 2365.
- (2367) HUTCHINSON, R., 1978. Une chronique: La vie de quelques libellules du Québec racontée simplement. Une grande libellule au thorax vert: l'*Anax junius* Drury. *Fabriques* 4 (7): 135-138. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). A belles-lettres-style narrative on the life of *A. junius*.
- (2368) HUTCHINSON, R., 1978. *Neurocordulia yamaskanensis* Prov. (Odonata; Corduliidae) au Québec. *Fabriques* 4 (7): 156-158. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). A brief review is presented of what is known on the biology of *N. yamaskanensis*, recorded from 6 localities in Quebec, Canada (Choisy, Ironside, Mt. Yamaska, Parc du Mt. Tremblant, Ste-Anne-de-Bellevue, St-Hyacinthe; June 26-July 5). It usually has crepuscular habits, but can be diurnal on overcast days. The pattern of its flight activity is compared to that of *N. xanthosoma* (cf. C.E. Williams, 1976, *Great Lakes Ent.* 9: 63-73).
- (2369) JACOBI, G.Z., 1978. Zoobenthos from sublacustrine springs in Lake Skadar, Crna Gora, Yugoslavia. *Verh. int. Ver. Limnol.* 20 (2): 1067-1077. — (*Coll. Nat. Resour., Univ. Wisconsin, Stevens Point, Wisc. 54481, USA*). The purpose of the work was to collect, identify, and determine the vertical distribution of zoobenthos in several springs in Lake Skadar, Montenegro, Yugoslavia. The only Odon. listed are not further identified *Coenagrionidae*, recovered from an unnamed depression (called in the paper in Serbian as "Nema Ime", i.e. "Has no name") in the Karučembayment, and at the Morača. 11 and 22 spec. were recovered in 2 samples at the depth of 3 m (Morača), and 9 each from single samples at the depths of 5 and 8 m (Karuč). The biomass values of these amounted to 0.58 (0.06), 0.05, and 0.28 respectively.
- (2370) KECHEMIR, N., 1978. Démonstration expérimentale d'un cycle biologique à quatre hôtes obligatoires chez les Trématodes Hémuriides. *Annls Parasit. hum. comp.* 53 (1): 75-92 (With Engl. s.). — (*Dép. Biol. anim., Centre Univ., F-66025 Perpignan Cedex*). Research on the transmission of the hemiurid trematode *Halipegus ovocaudatus* was studied under experimental and natural conditions. The miracidium grows into a sporocyst producing rediae in the mollusc *Planorbis planorbis*. The cystophorous cercariae become mesocercariae in the hemocoel of copepods or ostracods when swallowed. Mesocercariae become metacercariae in the mesenteron of larval *Zygoptera* and *Anisoptera* (no specific names are mentioned) when larvae swallow the crustaceans. Metacercariae become adult in the frog *Rana ridibunda perezii* which feeds on dragonflies. The 4 hosts are obligatory in the life cycle for it is impossible to infect insects directly with cercariae, or frogs with mesocercariae. The different stages of the life cycle of *H. ovocaudatus* are described and compared with the other spp. of *Halipegus* and with the trematodes in general. The adaptive value of the lengthened life cycle is

discussed from the point of view of the conquest of terrestrial hosts by hemiurid trematodes. (Author).

- (2371) KIM, K.C., [Ed.], 1978. The changing nature of entomological collections: uses, functions, growth and management. Entomol. Scand. 9 (2): 146-147. — (*Dept. Ent., Frost Ent. Mus., Pennsylvania St. Univ., University Park, Penn. 16802, USA*). This is the Editorial of the proceedings of the Informal Conference, Sect. 1, of the XVth Int. Congr. Entomol., Washington, D.C., 1976. The conference agreed to propose a resolution for the Congress on "Scientific collecting, exchange and transfer of the entomological specimens", which, with a minor modification, was passed unanimously by the XVth Int. Congr. Entomol. at the Closing Plenary Session after approval by the Permanent Committee. (For other papers cf. *OA* Nos. 2372, 2373, 2377).
- (2372) KIM, K.C., 1978. The changing nature of entomological collections. I. Entomological collections in the contemporary world. Entomol. Scand. 9 (2): 148-150. — (*Dept. Ent., Frost Ent. Mus., Pennsylvania St. Univ., University Park, Penn. 16802, USA*). Entomological collections developed by taxonomists and taxonomically-inclined entomologists are unique resources for research, teaching and service activities in entomology. An entomological collection is a permanent information storage and retrieval system for insects. Systematic research associated with entomological collections must be expanding while meeting the escalating demand for taxonomic services from the user community. To achieve these objectives more efficient storage systems should be adopted for entomological collections wherever possible. As moves are made to conserve the world's fauna and flora, all in the entomological community must be committed to the preservation of the principle that affirms free exchange of scientific enquiry and to the protection of science from unduly political legislation. (Cf. also *OA* Nos. 2371, 2373, 2377).
- (2373) KNUTSON, L.V., 1978. The changing nature of entomological collections. 3. Uses and user community of entomological collections. Entomol. Scand. 9 (2): 155-160. — (*USDA, Sci. Educ. Admin., Fed. Res., Agric. Res. Cent., Beltsville, Maryland 20705, USA*). There are many applications of data associated with insect collections to research and action programs outside the immediate taxonomic community. The development of new classes of users requires a continual re-evaluation of taxonomic capabilities, and the taxonomists, awareness of and potential for meeting the new needs. Certain improvements can be made in the operating procedures of, and in communication between, taxonomists and users. However, increased support for taxonomy is essential if the user's needs are to be met. (Cf. also *OA* Nos. 2371, 2372, 2377).
- (2374) KUMAR, A. & M. PRASAD, 1978. On a new species of *Agriocnemis* Selys, 1869 (Coenagriidae: Odonata) with description of its larva from Dehra Dun Valley, India. *J. Bombay nat. Hist. Soc.* 75 (1): 174-179. — (*Northern Reg. Stn, Zool. Surv. India, 13 Subhas Rd., Dehra Dun-248001, India*). *A. corbeti* sp. n. and its ultimate larval stage are described and illustrated (σ holotype, φ allotype and φ paratypes: Badripur, Dehra Dun, U.P., India; 10-III-1976, some from larva; holotype and some paratypes deposited in National Coll., Zool. Surv. India, Calcutta). The new sp. is referable to Group 2 of Fraser (1933), and can be easily distinguished from all other known members of the genus. Larvae have been so far collected only from the type locality, where the sp. breeds along with *A. pygmaea* and *Ischnura delicata*. The larval stage can be easily differentiated from the other 2 Indian spp. the larvae of which are known, viz. *A. pygmaea* and *A. femina*.
- (2375) LAUGHLIN, S.B. & R.C. HARDIE, 1978. Common strategies for light adaptation in peripheral visual systems of fly and dragonfly. *J. comp. Physiol.* 128 (4): 319-340. — (*Dept. Neurobiol., Res. Sch. Biol.*

Sci., Austral. Natn. Univ., P.O.B. 475, Canberra, ACT 2601, AU).

Intracellular recordings from photoreceptors and large monopolar cells (LMC's) of the fly *Calliphora stygia*, and the dragonfly *Hemicordulia tau*, were used to examine the peripheral light adaptation processes of the insect compound eye. — Photoreceptor and lamina adaptation mechanisms were separated by comparing the response waveforms and intensity/response functions (plotted as $V/\log I$ curves) of receptors and LMC's, subjected to identical regimes of adaptation. — Photoreceptor adaptation occurs in 2 phases, a rapid one lasting 100 ms, and a slow phase taking up to 60 s to complete. This adaptation shifts the $V/\log I$ curves to higher intensities without changing their shape or slope. Adaptation is negligible at low intensities but with stronger adaptation range sensitivity changes approach proportionality to background increments. — Lamina adaptation mechanisms adjust the LMC $V/\log I$ curve in response to new background levels within 200 ms, producing a phasic response waveform within which background signals are annihilated. The shape and amplitude of the saturated LMC "on" and "off" transient responses change with light adaptation. — At all background intensities examined the slopes of the LMC $V/\log I$ curves remain about 8-10 times that of the photoreceptors under the same conditions, implying that lamina adaptation does not change the voltage gain of the first synapse. The authors propose that light induced depolarisation of the lamina extracellular space subtracts away the standing background signal from the photoreceptor terminals. — During dark adaptation the faster lamina mechanism can be superimposed upon slower photoreceptor processes. — A comparison of our findings with studies of higher order neurons of the compound eye suggests that peripheral adaptation mechanisms play an important role in determining the response of the entire-visual system. — The peripheral light adaptation processes of fly and dragonfly are similar, and the intensity/response functions of retinula cells and LMC's resemble those of vertebrate

cones and bipolar cells respectively. The authors propose that this analogy has a functional basis. Both vertebrate and invertebrate systems use a "log transform-subtraction-multiplication" strategy to match the response bandwidth of peripheral neurons to the expected intensity fluctuation about any one mean, and in so doing maximise the image detail sent to higher centres. (Authors).

- (2376) LEADER, J.P. & L.B. GREEN, 1978. Active transport of chloride and sodium by the rectal chamber of the larvae of the dragonfly, *Uropetala carovei*. *J. Insect Physiol.* 24 (10/11): 685-692. — (*Physiol. Dept., Univ. Otago, Dunedin, NZ*).
The rectum of *U. carovei* is capable of transporting chloride ions into the haemolymph from the medium against an electrochemical gradient, at a rate (in 0.5 mM sodium chloride) of 0.3-0.5 μM hr. When isolated in saline in an Ussing-type chamber the exposed portion of the rectal wall delivers a current of 10-15 μA when short-circuited. Measurement of unidirectional fluxes of sodium and chloride shows that both ions are actively transported by the rectum and that the measured current can be accounted for by differences in the relative rate of transport of these ions. Histological and ultrastructural investigations support the suggestion that ion transport functions are performed by a region of thickened epithelium at the bases of the gills themselves. (Authors).
- (2377) LINDROTH, C.H., 1978. The changing nature of entomological collections. 2. Functions of entomological collections. *Entomol. Scand.* 9 (2): 151-154. — (*Dept. Syst., Zool. Inst., Univ. Lund, Helgonavägen 3, S-223 62 Lund, Sweden*).
It is emphasized that, although the primary goal of an entomological museum is to serve as fundament for taxonomic research, new and important branches of entomology have added other duties. Studies in biogeography and analyses of infraspecific variation require storing of virtually unlimited samples of the natural populations. All informa-

tion on the ecology of the spp., in form of journals, diaries, correspondence etc. of the collectors, should be carefully preserved and arranged so as to permit exact reference from the insect specimen. It is also a duty of the museum to initiate the preservation of base material used e.g. in physiological and genetic research. (Cf. also *OA* Nos. 2371, 2372, 2373).

- (2378) LÖDL, M., 1978. Zur Verbreitung und Ökologie von *Orthetrum coerulescens* (Fabricius, 1798) (Odonata: Libellulidae). *Linz. biol. Beitr.* 10 (1): 111-129. — (*Bierwolf-gasse 52, A-2103 Langenzerdorf*).
A review is given of the distribution and ecology of *O. coerulescens*, with special reference to Austria. The following taxa are classified into the *O. coerulescens* complex: *O. anceps* (Schneider, 1854), *O. coerulescens*, *O. helena* Buchholtz, 1954, and *O. ramburi* Selys, 1848. The ecology is mainly discussed on the basis of German-language literature.
- (2379) MACKAY, R.J. & G.B. WIGGINS, 1978. Concepts of evolutionary ecology in Nearctic Trichoptera. *Proc. 2nd int. Symp. Trichoptera*, Reading, p. 267. Junk, The Hague. — (*Dept. Zool., Univ. Toronto, Toronto, Ont., M5S 1A1, CA*).
It is stated that there are 141 genera of nearctic Trichoptera as compared with 60 Ephemeroptera, 82 Odon., and 87 Plecoptera. Among these, Trichoptera have the broadest range in habitat and trophic category.
- (2380) MARTENS, K., 1978. *Lestes sponsa* (Hansemann): een vergelijking tussen twee marktonderzoeken met behulp van de capture-recapture methode (Zygoptera - Lestidae). [*Lestes sponsa* (Hansemann): a comparison of two mark-recapture investigations (Zygoptera - Lestidae)]. Privately published, Hoboken, Belgium. II + 29 pp. (Dutch). — (*Masplein 19, B-2710 Hoboken*).
Some aspects of ecology, behaviour and population dynamics of 2 populations of *L. sponsa* (Kalmthout and Hobokense Polder nr. Antwerp, Belgium), studied by different capture-mark-recapture methods, are evidenced and the Manly-Parr method is discussed. Special attention is paid to the dormitories and to the commuting to-and-fro flights. The latter are supposed to be based on the "trial and error" principle.
- (2381) MOL, A., 1978. De makrofauna van enkele extreme sloottypen in Noord Holland en Utrecht. [The macrofauna of some extreme ditchtypes of the provinces of Noord Holland and Utrecht]. *Versl. & techn. Gegev. Inst. Taxonom. Zool. Univ. Amsterdam*, No. 17. III + 15 pp., 3 tabs excl. (Dutch, with Engl. s.). — (*Inst. Taxonom. Zool., Univ. Amsterdam, Plantage Middenlaan 53, Amsterdam-1004, NL*).
The larvae of *Ischnura elegans* are recorded from the Groot-Limmer Polder, Noord Holland, and those of *Aeshna mixta* and *Anaciaeschna isosceles* from the Westbroeker Polder, Utrecht, the Netherlands.
- (2382) MULLA, M.S., H.A. NAVVAB-GOJRATI & H.A. DARWAZEH, 1978. Biological activity and longevity of new synthetic pyrethroids against mosquitoes and some nontarget insects. *Mosq. News* 38 (1): 90-96. — (*Dept. Ent., Univ. Calif., Riverside, Calif. 92521, USA*).
Several synthetic pyrethroids evaluated against 4th stage larvae in the laboratory were highly effective. All of them proved toxic, at larvicidal rates, to mayfly populations in the field. Recovery of populations occurred 2-3 weeks after application of some of the treatments. The SD-43775 or Pydrin, i.e. α -cyano-3-phenoxybenzyl-4-chloro- α -(1-methylethyl)-phenylacetate, however, was the most toxic, suppressing mayfly and dragonfly larvae for more than 3 weeks. Odon. larvae were not adversely affected by larvicidal rates of the other compounds.
- (2383) NOTULAE ODONATOLOGICAE. Semi-annual Bulletin of the International Odonatological Society. Published by the Societas Internationalis Odonatologica (S.I.O.), Utrecht. Vol. 1, No. 2 (Dec. 1, 1978). — Annual subscription: Hfl. 20.— net

— (c/o Dr. B. Kiauta, Dept. Anim. Cytogenet. & Cytotaxon., Univ. Utrecht, Padualaan 8, Utrecht, NL).

Bick, G.H. (Biol. Dept., Saint Mary's Coll., Notre Dame, Ind. 46556, USA): New state records of United States Odonata (16-19); — *De Marmels, J. & H. Schiess* (In den Seewiesen 23, CH-8132 Egg): *Aeshna subarctica* Walker auch in der Schweiz (Anisoptera: Aeshnidae) (19-22); — *González Soriano, E. & M. del Pilar Villeda C.* (Inst. Biol., Univ. Nac. Auton. México, A.P. 70-153, México-20, D.F., México): The first Mexican record of *Perissolestes magdalanae* (Williamson & Williamson) (Zygoptera: Perilestidae) (22-23); — *Kohama, T.* (95, Samashita, Ginowan, Okinawa Pref., 901-22, JA): Three interesting Sympetrum species from the Sakishima Islands, the Ryukyus, Japan (Anisoptera: Libellulidae) (23-24); — *Ram, R. & M. Prasad* (Zool. Surv. India, 34 Chittaranjan Av., Calcutta-700012, India): Some field observations on odonate predation by spiders (25-26); — *Utzeri, C.* (Ist. Zool., Univ. Roma, Viale Università 32, I-00100 Roma): Atypical selection of oviposition site in *Anax parthenope* (Selys) (Anisoptera: Aeshnidae) (26-27); — *Williams, C.E.* (704 Foster Str., Marlin, Texas 76661, USA): Notes on the behavior of the late instar nymphs of four *Macromia* species under natural and laboratory conditions (Anisoptera: Macromiidae) (27-28); — *Hämäläinen, M.* (Dept. Agric. & Forest Zool., Univ. Helsinki, SF-00710 Helsinki-71): Three metre high dragonfly statue in Finland (28-29); — *Mielewczyk, S.* (Dept. Agrobiol., Inst. Ecol., Polish Acad. Sci., Swierczewskiego 19, PO-60-809 Poznan): A new record of the mass occurrence of *Aeshna* (*Hesperaeschna*) *confusa* (Rambur) on a ship in the mouth of Rio de la Plata, Uruguay (Anisoptera: Aeshnidae) (29); — *Paulson, D.R.* (Washington St. Mus., Univ. Wash., Seattle, Wash. 98195, USA): Additional record of *Crocotthemis servilia* (Drury) from Florida (Anisoptera: Libellulidae) (29-30); — *Rudolph, R.* (Abt. Biol., P.H., Fliednerstr. 21, D-44 Münster, GFR): Dragonflies new for the Nature Reserve Zwillbrocker Venn, Westfalia, German

Federal Republic (30); — *Schmidt, E.* (Biol. Didaktik, P.H., Römerstr. 164, D-5300 Bonn, GFR): On the dragonfly fauna of the Grosser Arbersee, Bayerischer Wald, Bavaria, German Federal Republic (30); — [Book Reviews]: *Asahina, S.* (Takadanobaba 4-4-24, Shinjuku-ku, Tokyo, 160, JA): The dragonflies of Nagano Prefecture, by N. Koyama et al. (31); — *Belle, J.* (Onder de Beumkes 35, 6883 HC Velp, NL): The dragonflies of Great Britain and Ireland, by C.O. Hammond (31-32); — *Corbet, P.S.* (Dept. Zool., Univ. Canterbury, Christchurch-1, NZ): The dragonflies of British Columbia, by A. Cannings & K.M. Stuart (32-34); — *Rudolph, R.* (Abt. Biol., P.H., Fliednerstr. 21, D-44 Münster, GFR): Unsere Libellen, von G. Jurzitza (34-36). — On p. 36 appears an erratum of the paper by *T.W. Donnelly*, listed in *OA* No. 2232.

- (2384) ODONATA MAPPING SCHEME NEWS LETTER. Compiled by National Organizer, D.G. Chelmick, Haywards Heath, No. 2 (March, 1978). — (c/o Mr. D.G. Chelmick, 6 Gander Hill, Haywards Heath, Sussex, UK).

The issue contains a brief outline of the progress of the scheme in 1977, a note on the odon. migrations in the British Isles in 1977, notes on the local and other surveys in the United Kingdom, and the preliminary announcement of an informal odonate recorders' meeting. — (*Abstracter's note*: The meeting has taken place in London, on April 7, 1979. A summary is scheduled to appear in *Notulae Odonatologicae*, Vol. 1, No. 4, December 1, 1979).

- (2385) PAVLYUK, R.S., 1978. Struktura parazitocenov kompleksov štrekoz (Insecta, Odonata), priurochennyh k razlichnym tipam vodoemov zapadnyh oblastei UkrSSR. [Structure of dragonfly parasitocenoses (Odonata, Insecta) from various aquatic habitats of the western Ukraine]. Tezisy Dokl. I. vses. S'ezd Parazitoceno. 2: 38-40. (Russian). — (*Dept. Invert. Zool., Lvov Univ., 4 Shcherbenkov Str., USSR-290005 Lvov*).
500 larval and 16046 adult odon. spec.,

pertaining to 58 spp., and originating from 160 west Ukrainian localities, USSR, contained 87140 parasite spec. Among these, 52.61% were gregarines, 32.87% larval hydracarine, 14.32% trematode metacercariae, 0.13% cestode cysticercoids, and 0.06% larval nematodes. The gregarines occurred in 22.79% of odon. spec. (35 spp.), Hydracarina in 16.62% (26 spp.), trematodes in 10.51% (48 spp.), cestodes (all pertaining to *Tatria decacantha* Fuhrn., save for 2 spec. of another sp.) in 0.42% (12 spp.), and nematodes in 0.21% of spec. (pertaining to 12 odon. spp.).

- (2386) PENNAK, R.W., 1978. Freshwater invertebrates of the United States. XVIII + 803 pp. Wiley Interscience, New York-Chichester-Brisbane-Toronto. — (*Dept. Biol., Univ. Colorado, Boulder, Colorado, USA*).

This is the 2nd (and revised) edition of the work published originally in 1952. The Odon. are dealt with on pp. 551-566; the chapter in the first edition has been prepared in cooperation with Dr. C.F. Byers. A general characterization of the Order is followed by a key to the larval stages of North American genera. (For a similar, but more detailed treatment cf. *OA* No. 2243).

- (2387) PERRON, J.-M., 1978. Les odonates. Libellules, demoiselles — "dragonflies", "damselflies". *Fabriques* 4 (6): 107-110. — (*Dep. Biol., Univ. Laval, Ste-Foy, Quebec, CA*).

A short key to the suborders and the anisopteran families occurring in Quebec, Canada.

- (2388) REICHEL, G., 1978. Das Zollhausried bei Blumberg (Baaralb). *Schr. Ver. Gesch. u. Naturg. Baar* 32: 61-86. — (*Uhlandstr. 35, D-7710 Donaueschingen, GFR*).

This is an extensive study of the vegetation and bird fauna of a moorland area situated NW of the Bodensee Lake, Baden-Württemberg, German Federal Republic, not far from the German-Swiss border. On pp. 85-86 a list appears of 20 common odon. spp. recorded in the region, along with the German vernacular names. The latter are

somewhat different from those generally used in the German literature.

- (2389) RUNGE, F., 1978. Die Naturschutzgebiete Westfalens und des früheren Regierungsbezirks Osnabrück. Verlag Aschendorff, Münster. VI + 327 pp., 42 col. + black-and-white pls. — Price: DM 42.—. (Publishers' address: *Aschendorffsche Verlagsbuchhandlung, Soester Str. 13, D-44 Münster, GFR*). This is the third, revised and enlarged edition of this well-known handbook on the Westfalian and Lower Saxonian nature reserves, German Federal Republic. (The first two editions appeared in 1958 and 1961). Being himself a botanist, the author extensively studied 231 official nature reserves during the past decade. In collaboration with many specialists he produced an almost complete inventarization and compilation of data on their history, geology, climate, vegetation, fauna and hydrobiology. Addresses of local biological institutions are stated and for most reserves bibliographic references are presented. This makes the book indispensable to anyone working on the ecology of the areas dealt with. It goes without saying that for numerous nature reserves notes on the recent status of the local odon. faunas and/or bibliographic references on these are also given. In a few cases the author was able to update the data of the last comprehensive work on the Westfalian odon. fauna (1975), listed in *OA* No. 1073.

- (2390) SALONEN, K. & J. SARVALA, 1978. Estimation of the inorganic fraction of total carbon in aquatic invertebrates. *Verh. int. Ver. Limnol.* 20 (2): 1221-1225. — (*Lammi Biol. Stn Univ. Helsinki, SF-16900 Lammi*). Comparison of different methods for the estimation of inorganic and organic carbon is given for 25 freshwater invertebrates, incl. *Cordulia aenea*.

- (2391) SANDVED, K.B. & M.G. EMSLEY, 1978. *Insect magic. Orbis*, London. 128 pp. (83 col. pls. incl.). — Price: £9.95. — (Publishers' address: 20-22 Bedfordbury, London, WC2, UK; — First author: *Smithsonian Instn*,

Washington, DC 20560, USA; — Second author: Dept. Biol., George Mason Univ., Fairfax, Va., USA).

A brief text about insects, entomologists and the world of the latter was prepared by M.G.E. (on a refreshing personal basis, with quite some biographic elements), while the photographs were contributed by K.B.S. Dragonflies are given on pls. 49-55, with extensive informative captions on pp. 117-118 and which contain, as it were, a brief general characterization of the Order. The spp. illustrated are from North America, Ghana and New Guinea, but for most of them no names are stated.

- (2392) SAXENA, P., 1978. Digestive physiology of *Bradynopyga geminata* (Odonata: Libellulidae). *Experientia* 34 (12): 1579-1580. — (Dept. Zool., Univ. Lucknow, Lucknow-226007, India).

The pH of the gut of [adult?] *B. geminata* ranges from 5.5 to 6.8. The midgut is the main source of the digestive enzymes, secreting trypsin-like protease, chymotrypsin, aminopeptidase, α -amylase, maltase, sucrase, lactase and lipase. The topographic review of the occurrence of various enzymes in the foregut (crop), midgut and hindgut tissues is given in a table.

- (2393) SCHMIDT, E., 1978. Die Verbreitung der Kleinlibelle *Coenagrion armatum* Charpentier, 1840, in Nordwestdeutschland (Odonata: Coenagrionidae). *Drosera* 2: 39-42. (With Engl. s.). — (*Biol. & ihre Didaktik III, Pädagogische Hochschule, Römerstr. 164, D-5300 Bonn, GFR*).

The distribution records of *C. armatum* in northwestern German Federal Republic and the adjacent regions of Denmark are mapped. Recent records were restricted to the Federal State of Schleswig-Holstein, but the few known populations were extinguished when the habitats dried up during the exceptionally hot summers of 1975 and 1976.

- (2394) SCHMIDT, E., 1978. Ökologische Analyse der Odonatenfauna von Schleswig-Holstein. (Kurzfassung). *Verh. Ges. Ökol., Kiel* 1977: 427. — (*Biol. & ihre Didaktik III,*

Pädagogische Hochschule, Römerstr. 164, D-5300 Bonn, GFR).

The geographic characterization of the Federal State of Schleswig-Holstein, German Federal Republic, is followed by a statistical analysis of the odon. fauna. All of the 60 recorded spp. occur also elsewhere in the GFR (80 spp.), but 41 (68%) of these are not autochthonous. This percentage is even lower on the Northsea islands, thus 12 out of 27 spp. (44%) on the island of Amrum and 1 out of 35 (3%) on Heligoland. This circumstance opens up the problems of the migration activity and those of the migration paths adopted by various spp.

- (2395) ŠTYS, P., 1978. Belyshev B.F. and Haritonov Y.Yu.: *Opredelitel' strekoz po kryl'am...* *Acta ent. bohemoslov.* 75 (6): 430. (Engl.). — (*Dept. Syst. Zool., Charles Univ., Viničná 7, CZ-12844 Prague-2*).

Book review of the volume listed in *OA* No. 1802. (The first initial of the second author is spelled erroneously).

- (2396) SUMMERS, G., 1978. Some New Forest Lepidoptera and Odonata. *Entomologists' Rec.* 90 (11): 308-309. — (*23 West Close, Stafford, ST16 3TG, UK*).

The following spp. were recorded in New Forest, United Kingdom, June 21-July 5, 1978: *Enallagma cyathigerum*, *Pyrrhosoma nymphula*, *Calopteryx virgo*, *Cordulegaster boltoni*, *Orthetrum coerulescens* and *Sympetrum striolatum*.

- (2397) THOMPSON, D.J., 1978. Towards a realistic predator-prey model: the effect of temperature on the functional response and life history of larvae of the damselfly, *Ischnura elegans*, *J. anim. Ecol.* 47 (3): 757-767. — (*Anim. Ecol. Res. Group, Dept. Zool., South Parks Rd., Oxford, OX1 3PS, UK*).

The effect of temperature on the key parameters of the functional response of *I. elegans* larvae was investigated in the laboratory. — The attack coefficient, *a*, increases in a sigmoid manner with temperature, while the handling time, *Th*, declines logarithmically from 5 to 16°C, after which

it remains constant. — The life history of *I. elegans* is described; growth begins in late March or early Apr. and stops at the end of Sept. or beginning of Oct. each year. — From field temperature measurements, the onset and termination of growth revolve around a temperature of 8°C. This temperature corresponds to the temperature in the laboratory experiments at which the attack coefficient begins to increase markedly. — The consequences of these results for mathematical models of long-lived arthropod predators are discussed. (Author).

- (2398) THOMPSON, D.J., 1978. Prey size selection by larvae of the damselfly, *Ischnura elegans* (Odonata). *J. anim. Ecol.* 47 (3): 769-785. — (*Anim. Ecol. Res. Group, Dept. Zool., South Parks Rd., Oxford, OX1 3PS, UK*).

A method is described using faecal pellet analysis, whereby the dry weights of individual prey items captured in the field can be determined. — Entomostracan prey were the most important numerically to *Ischnura*, though insect larvae, particularly chironomids, were relatively more important in biomass terms. — For those prey groups studied in detail, the minimum prey size consumed by a wide range of instars of *I. elegans* was very similar, while maximum prey size increased logarithmically with instar number. — When data from all prey groups were pooled, linear relationships were revealed between the logarithms of both mean and maximum prey sizes consumed and instar number. — Maximum prey sizes for instars 8 to 12 predicted from laboratory experiments with a single prey sp. (*Daphnia magna*), were close to those actually found for a wide range of the natural prey of *Ischnura* in the field. — It is tentatively suggested that no prey size selection occurs by *Ischnura* larvae within the size range that they are physically capable of dealing with. This contention is supported by laboratory data from a single prey sp. experiment and a "no selection" model. (Author).

- (2399) THOMPSON, D.J., 1978. The natural prey

of larvae of the damselfly, *Ischnura elegans* (Odonata: Zygoptera). *Freshwater Biol.* 8: 377-384. — (*Anim. Ecol. Res. Group, Dept. Zool., South Parks Rd., Oxford, OX1 3PS, UK*).

A method for determining the prey of a zygopteran larva under natural conditions is described, with its shortcomings. Within the limits of the method, it would appear that *I. elegans* consumes different prey items in roughly the same proportions as their occurrence in the field. Anomalous results are explained in terms of differences in encounter rates between predator and prey and/or ease with which prey can be handled. (Author).

- (2400) TOWNSEND, C.R. & A.G. HILDREW, 1978. Predation strategy and resource utilisation by *Plectrocnemia conspersa* (Curtis) (Trichoptera: Polycentropodidae). *Proc. 2nd int. Symp. Trichoptera*, Reading, pp. 283-291. Junk, The Hague. — (*Sch. Biol. Sci., Univ. East Anglia, Norwich, NR4 7TJ, UK*).

The pressure of *P. conspersa* upon its prey is compared with that of the odon. larvae as discussed by A.C. Benke (1976, *Ecology* 57: 915-927; — cf. *OA* No. 1607).

- (2401) WALDBAUER, G.P., 1978. Phenological adaptation and the polymodal emergence patterns of insects. *In*: H. Dingle, [Ed.], *Evolution of insect migration and diapause*. Springer, New York-Heidelberg-Berlin, pp. 127-144. — (*Dept. Ent., Univ. Illinois, Urbana, Ill. 61801, USA*).

The paper is concerned with the phenomenological implications of emergence, i.e. the resumption of development and activity, by Temperate Zone insects which undergo a hibernal diapause. It also discusses some of the literature accounts of the polymodal emergences in Odon., and suggests a classification of polymodal emergence patterns. There are 3 types of polymodality, and dragonflies are classed in the "type B". In Odon. the modes of the emergence curve represent individuals which belong to different year classes. The bimodal emergence curve of the European *Anax imperator*

tor is an example. The first mode appears in spring, is well synchronized, and may include over 90% of the years emergence. It represents the metamorphosis to the adult stage of larvae that are in their third summer, and that entered diapause as full-grown larvae the previous summer. The second mode appears about 25 days later and is less well-synchronized. It represents the metamorphosis to the adult stage of individuals that are in their second summer. They overwinter in the penultimate instar, and in the second summer pass through the last instar without diapausing. *Pyrrhosoma nymphula*, *Calopteryx virgo* and *Aeshna affinis* also have a bimodal adult emergence curve which may have a similar origin, and so has the North American *Tetragoneuria cynosura*.

- (2402) WEBER, T. & L. CAILLÈRE, 1978. Thermistor telemetry of ventilation during prey capture by dragonfly larvae (*Cordulegaster boltoni*, Odonata). *J. comp. Physiol.* 128 (4): 341-345. — (*Abt. Huber, Max-Planck-Inst. Verhaltensphysiol., D-8131 Seewiesen, GFR*).

The thermistor recordings show that the ventilation is slow and regular during the resting phase of the circadian cycle and changes in a characteristic way during the various phases of hunting and food consumption. The larvae respond to visual stimuli by interrupting ventilation. Thus this technique can be used as a better measure of distance and time at which a larva detects a stimulus than visual observation. By this measure, *Cordulegaster* larvae can detect prey objects at a distance of 10-15 cm and an illuminance of 5-10 Lux. To be effective, such stimuli must move at angular velocities of $10^\circ/\text{s}$ or more; otherwise they are ignored. Application of this method extends the range of measurable behaviour of freely moving aquatic insects. In particular, it allows one to establish conditions under which *Cordulegaster* larvae detect prey even before they respond with a visible movement. (Authors).

- (2403) WHALLEY, P., 1978. The Bolsover dragon-

flies. *Antenna* 2 (4): 107-108, 112. — (*Dept. Ent., Brit. Mus., Nat. Hist., Cromwell Rd., London, SW7 5BD, UK*).

A narrative is given on the discovery (1977, 1978) of wing impressions of 2 giant meganeurids in the (Carboniferous) Bolsover Colliery, Derbyshire, United Kingdom. The recovery of the first specimen (by the miners Malcolm Spencer and Terry Judge) has received an unusual attention from the local and national British press and television. (For the text of an UPI despatch from London, dated March 10, 1978, cf. *Selysia* 8 [1978]: 6, listed in *OA* No. 2235; it refers to the first specimen under the manuscript name, *Erasipteron bolsoveri*). In the present report the second specimen is said to pertain to the genus *Typus*. The 2 insects are generally known now as the "Bolsover Dragonflies" and it is hoped that their technical description will be published in the course of 1979. — (*Abstracter's note*: Dr. Whalley has furnished the following list of periodicals in which articles on the Bolsover Dragonflies have appeared: *Evening News*, London [March 10, 1978], *Times*, London [March 10, 1978], *Daily Telegraph*, London [March 10, 1978], *Evening Post*, Yorkshire, UK [March 10, 1978], *Washington Post* [March 11, 1978], *L'Union*, Paris [March 22, 1978], *Otago Daily Times*, New Zealand [March 30, 1978], *Mines & Quarry*, London 1978 (7): 18, and *New Scientist*, London 178 [1978]: 740-741 [under the title "Derbyshires Darning needle"]. According to Dr. Whalley even this long list is still incomplete!).

- (2404) WISSMAR, R.C. & R.G. WETZEL, 1978. Analysis of five North American lake ecosystems. VI. Consumer community structure and production. *Verh. int. Ver. Limnol.* 20 (1): 587-597. — (*Fish. Res. Inst., Coll. Fish., Univ. Washington, Seattle, Wash. 98195, USA*).

Organic carbon budgets are constructed for 5 lakes of varying trophic states (Canada, USA), and the major consumer organisms and their feeding modes and habitat preferences are listed. These also include the Odon.

- (2405) ZIEBELL, S., 1978. Zur Odonatenfauna des Naturschutzgebietes Fintlandsmoor bei Oldenburg. *Drosera* 2: 53-56. (With Engl. s.). — (*An der Düne 7, D-2992 Dörpen, GFR*). Ecological conditions of a small boggy nature reserve nr. the city of Oldenburg, Westfalia, German Federal Republic, are described. 23 odon. spp., recorded 1973-1978, are listed. The more interesting taxa are *Ceriagrion tenellum*, *Coenagrion lunulatum* and *Aeshna subarctica*.
- 1979
- (2406) ANDRIES, J.C., 1979. Effect of α - and β -ecdysone on DNA synthesis in *Aeshna cyanea* (Insecta, Odonata) midgut. *Experientia* 35 (1): 122-124. — (*Lab. Biol. anim., Univ. Sci. & Techn. Lille-1, B.P. 36, F-59650 Villeneuve d'Ascq*). In the larval *A. cyanea*, α - and β -ecdysone stimulate the DNA synthesis in the midgut regenerative cells. In the ultimate instar, the number of cells obtained after imaginal epithelium genesis is greater after α - than after β -ecdysone supply. This observation should be compared with the imaginal epithelium differentiation which occurs earlier after β -ecdysone injection. (Author).
- (2407) DREYER, W., 1979. Natur Fotografie. Canon/Euro-Photo, Willich. 36 pp., 51 col. phot. incl. — Price: DM 3.—. — (Publishers' address: *Canon/Euro-Photo, Linsellestr. 142-156, D-4156 Willich-3; GFR*; — Author's address: *LS Tierökologie, Univ. Bayreuth, Am Birkengut, Postfach 3008, D-8580 Bayreuth, GFR*; — orders to be sent to: *VWI-Verlag, Postfach 1201, D-8036 Herrsching/Ammersee, GFR*). This slim booklet forms a part of a 6-vols. series of pamphlets on various topics that are of interest to the amateur photographers. It is divided into 11 chapters, one of which bears the title, "The birth of a dragonfly" (incl. 7 photogr. of ecdysis). The technical data and a brief description of the process of ecdysis are provided.
- (2408) GREEN, J., 1979. The fauna of Lake Sonfon, Sierra Leone. *J. Zool., Lond.* 187 (1): 113-133. — (*Zool. Dept., Westfield Coll., Univ. London, Hampstead, London NW3 1ST, UK*). The lake lies in an isolated basin in the Sula Mts., Sierra Leone. In April, 1976 the following Odon. were recorded: *Ceriagrion corallinum* Camp., *C. varians* (Martin), *Anax chloromelas* Ris, *Orthetrum angustiventre* (Ramb.), *O. kalai* Longf., *Palpopleura deceptor* Calv., *P. l. lucia* (Dr.), *Thermochoria equivocata* Kirby and *Tramea basilaris* (P. de Beauv.). Contrary to the opinion expressed by E. Pinhey (1970, *Occ. Pap. natn. Mus. Rhod., B*, 30: 261-321), *O. kalai* is considered as a good sp., not merely a melanotic form of *O. brachiale* (P. de Beauv.).
- (2409) LAROCHELLE, A., 1979. Capture d'Odonates en Abitibi, Québec en 1978. *Bull. Invent. Insect. Québec* 1 (1): 1-2. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). A list is presented of 16 spp. collected during July 1-3, 1978 at 13 localities in the Abitibi Co., northwestern Quebec, Canada.
- (2410) LAROCHELLE, A., 1979. Capture d'Odonates dans le Parc de La Vérendrye, Québec. *Bull. Invent. Insect. Québec* 1 (1): 3. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). A list is given of 14 spp. collected on July 3, 1978 at 3 localities in the Vérendrye Park, situated between the Abitibi Co. and the Montreal region, Quebec, Canada.
- (2411) LAROCHELLE, A., 1979. Liste d'Odonates capturés au Cap Jaseur, Québec. *Bull. Invent. Insect. Québec* 1 (1): 4-5. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*). The inventory is given of a small odon. collection (29 spp.) from Cap Jaseur, Chicoutimi Co., Quebec, Canada, brought together between 1959 and 1969, and deposited in the Centre écologique de Port-au-Saumon. Saint Fidèle, Charlevoix Co., Quebec.
- (2412) LAROCHELLE, A., 1979. Capture d'Odo-

- nates à Isle La Motte et Alburg, Vermont. Bull. Invent. Insect. Québec 1 (1): 6. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*).
4 spp. are listed from the La Motte island, and 4 spp. from Alburg, north of Vermont, Quebec, Canada. All of them were collected on June 24, 1978.
- (2413) LAROCHELLE, A., 1979. Récolte d'Odonates dans l'Etat de New York. Bull. Invent. Insect. Québec 1 (1): 7-8. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*).
A list is given of Odon. collected in the spring 1978 at 13 localities in the New York state, USA.
- (2414) LAROCHELLE, A., 1979. Récolte d'Odonates à Lorraine, Québec. Bull. Invent. Insect. Québec 1 (1): 10. — (*Coll. Bourget, C.P. 1000, Rigaud, Que. JOP 1P0, CA*).
4 spp. taken on June 14, 1978 at the Lorraine, Terrebonne Co., southern Quebec, Canada, are placed on record.
- (2415) MARTENS, K., 1979. Insekten in de Hobokense Polder. 1. Odonata (Libellen). [Insects in the Hobokense Polder. 1. Odonata (Dragonflies)]. Phegea 7 (1): 2-8. (Dutch). — (*Mastplein 19, B-2710 Hoboken*).
An annotated list is given of 24 spp., recorded in the Hobokense Polder nr. Antwerpen, Belgium, about 1960 and during 1975-1978. It is argued that the relatively rich odon. fauna of the area is due to the diversity of the ecological conditions prevailing in the polder. (For a detailed account on the ecology, behaviour and population dynamics of *Lestes sponsa* in this locality cf. *OA* No. 2380).
- (2416) TREMBLAY, P., 1979. Récoltes d'Odonates à Grandes-Bergeronnes, Québec en 1977 et 1978. Bull. Invent. Insect. Québec 1 (2): 26-28. — (*6437 Louis-Dupire, Montreal, Que. HIM 1A7, CA*).
A list is given of 45 spp. collected in July 1977 and July 1978 at 12 localities in the Grandes-Bergeronnes area, on the northern bank of the Saint-Laurent River, Saguenay Co., Quebec, Canada. Herewith the hitherto known Quebec range of 15 spp. is extended.
- (2417) VAN TOL, J. & P.J. VAN HELSDINGEN, 1979. European Invertebrate Survey: Karteren van ongewervelde dieren in nationaal en internationaal verband. [European Invertebrate Survey: National and international invertebrate mapping]. Vakbl. Biol. 59 (1): 2-7. (Dutch). — (*St. Mus. Nat. Hist., Raamsteeg 2, Leyden, NL*).
The aims and program of the European Invertebrate Survey scheme are briefly stated, and the achievements of the Netherlands Central Bureau (Centraal Bureau Nederland, c/o St. Mus. Nat. Hist., Raamsteeg 2, Leyden, NL) are reviewed. The odon. inventarization is almost completed and the final maps are in preparation. A map of the known Netherlands records of *Ischnura elegans* is reproduced, showing that even the occurrence of this most common Dutch sp. is still unsatisfactorily known. — (*Abstracter's note*: The Netherlands odon. survey is under the responsibility of Dr. D.C. Geijskes, St. Mus. Nat. Hist., Raamsteeg 2, Leyden, NL, who would greatly appreciate receiving any local records and/or material).