

ODONATOLOGICAL ABSTRACTS

1984

- (15645) BENASSO, G., 1984. Zoologia. In: *Enciclopedia monografica del Friuli Venezia Giulia*, 1 Aggiornamenti: *La ricerca scientifica*, pp. 343-426, pls 35-38 excl., Ist. Enciclop. Friuli Venezia Giulia, Udine. — (Author's last-known affiliation: Lab. regionale per la storia delle scienze naturali, Pordenone, Friuli, Italy; — Publishers: Via Marco Volpe 17/A, I-33100 Udine, Friuli).

A comprehensive outline is presented of the history (pp. 343-410) and of the current zoological research (pp. 411-426) in the Autonomous Region Friuli Venezia Giulia, NE Italy. The history is traced from I.A. Scopoli (1723-1788), and some biographic data are supplied on numerous regional odon. workers and collectors, e.g. A. Lazzarini (1871-1945; cf. *OA* 3457), G. Tacconi (odon. publications: 1888, *Boll. Ass. agr. friul.* [IV] 5[1]: 10-16; 1906, *In Alto* 17[3]: 27-32), B. Finzi (1897-1941; odon. coll. in MSNT, Trieste), C. Koch (1904-1970; curator Mus. Ent. "P. Rossi", Duino), G. Müller (1888-1964; great coleopterologist, Director Mus. civ. Stor. nat., Trieste), A. Schatzmayer (1880-1950; Director Mus. Ent. "P. Rossi"), E. Stofa (deceased in Albania, 1943), A.C. principe della Torre e Tasso (1881-1937; founder of Mus. Ent. "P. Rossi", which institution operated during 1924-1937) etc. — An informative summary of this work has appeared in *Lanternino* 1986(1): 11-12.

1999

- (15646) ARNOUD, L., 1999. La compétition spermatique chez les insectes: les stratégies d'assurance de la paternité et la présence du sperme. *Biotechnol. Agron. Soc. Envir.* 3(2): 86-103. (With Engl. s.). —

(Zool. gén. et appl., Fac. Univ. Sci. Agron., Passage des Déportés 2, B-5030 Gembloux).

A review paper, with numerous references to the Odon. — The prediction that insects, as a result of polyandry, extreme sperm longevity within the ♀ and high efficiency of sperm utilisation at fertilisation, are preadapted to sustain a very high level of sperm competition is demonstrated across numerous studies. In many insects, ♂♂ have evolved strategies to decrease sperm competition risk. Paternity assurance mechanisms such as mating plugs or mate guarding do not necessarily influence the number of eggs laid by the ♀ but are taken by ♂ to reduce the probability of his sperm to be preceded by the sperm of another ♂. Each of these mechanisms influencing mating has an adaptive significance in promoting ♂ reproductive success. However, ♀ insects are polyandrous and they play an active role in mate choice and in discrimination between the ejaculates of different ♂♂. Also, they have co-evolved strategy to increase their own reproductive success and to counteract the costs resulting from paternity assurance mechanisms. They can control paternity before copulation (pre-copulation, pre-insemination), during copulation, and because fertilisation takes place within their bodies after insemination, and after fertilisation through selective abortion. A ♂'s reproductive success can be determined as the product of his mating success (mate per lifetime) and his fertilisation success (average number of progeny sired per mate). ♂ fertilisation success is generally studied in terms of sperm precedence where the proportion of the female progeny fathered by a given ♂ is examined. Sperm precedence can be studied using different methods, each having advantages and disadvantages. Although ♀ insects behave polyandrously, most sperm competition studies investigate sperm

precedence when only 2 ♂ are mated with a ♀. To determine if the results obtained in double-mating experiments fit well with reality, it is thus important to examine last ♂ mating success in experiments where ♀♀ are mated with more than 2 ♂. Moreover, within a sp., high fertilisation success variations are observed between ♂♂ of different populations or even of the same population. These variations result from interaction between factors such as sperm number, sperm length, pre- and/or post-copulatory ♀ choice, paternity assurance mechanism efficiency, ♀ sperm storage organ morphology, etc.

2000

- (15647) HONG, S.-J., H.-C. WOO, S.-U. LEE & S. HUH, 1999. Infection status of dragonflies with *Plagiorchis muris* metacercariae in Korea. *Korean J. Parasitol.* 37(2): 65-70. — (First Author: Dept Parasitol., Fac. Med., Chung-Ang Univ., Seoul-156756, Korea).
Calopteryx atrata, *Orthetrum albistylum speciosum*, *Pantala flavescens*, *Sympetrum darwinianum*, *S. eroticum*, *S. infuscatum* and *S. pedemontanum*, from a wide range of localities in Korea, were infected by *P. muris* (Trematoda). The metacercarial burden was the highest in *S. eroticum*, followed by *S. darwinianum*, *S. pedemontanum* and *C. atrata*. The highest infection rate was found in *S. darwinianum*, followed by *S. pedemontanum*. The metacercarial burden was particularly heavy in Hamyang-gun and Kosong-gun. It seems, dragonflies play a significant role as the second intermediate host in the life cycle of *P. muris* in Korea.
- (15648) YANOVIK, S.P., 1999. Effects of *Mecistogaster* spp. (Odonata: Pseudostigmatidae) and *Culex mollis* (Diptera: Culicidae) on litter decomposition in neotropical treehole microcosms. *Fla Ent.* 82(3): 462-468. (With Span. s.). — (Dept Zool., Univ. Oklahoma, Norman, 73019, USA).
 The effects of a top predator (*Mecistogaster*) on survivorship of the grazer (*C. mollis*) and decomposition rates of leaf litter in treehole microcosms were investigated. In a factorial experiment using 200 ml cups, less litter mass remained when grazers (51%) and grazers plus predators (51%) were present, than without grazers (57%). Predators reduced mosquito survival, but had no indirect effect on litter decomposition rate. Mosquito larvae facilitated decomposition of litter and may have become food limited.
- (15649) ADRIAENS, T., 2000. *Eco-ethologische implicaties van fenotypische variatie bij de waterjuffer Enallagma cyathigerum*. — [Eco-ethological implications of phenotypical variation in *Enallagma cyathigerum*]. M.Sci. thesis, Univ. Gent. viii+102 pp., figs & tabs excl. (Dutch). — (Dept Anim. Ecol., Univ. Gent, Ledeganckstraat 35, B-9000 Gent, Belgium).
 The existing hypotheses on the maintenance of ♀ polymorphism were in the field and experimentally examined and are critically assessed.
- (15650) BURCKHARDT, D., 2000. Entomofaunistik in der Schweiz. *Entomologica basil.* 22: 31-43. (With Engl. s.). — (Naturh. Mus., Augustinerstrasse 2, CH-4001 Basel).
 In Switzerland, the present knowledge on the national insect fauna is the result of the work of relatively few entomologists. Here, the history of exploration is outlined in the light of the lives and works of 12 workers, several of whom have rendered significant contributions also in the field of odonatology, e.g. J.C. Fuessly (1706-1782), J.H. Sulzer (1734-1813) and R. Meyer-Dür (1812-1885). Their portraits are also provided. While 70 odon. spp. were known from Switzerland by the end of the 19th century (T. Steck, 1894, *Mitt. schweiz. ent. Ges.* 9: 60-61), the current census stands at the 81 spp. mark. — For the history of Swiss odonatology, see B. Kiauta, 1978, *Odonatologica* 7: 191-222.
- (15651) CLARKE, D., 2000. Dragonflies: dashing icons of Cumbria's insect diversity. *Cumbrian Wildlife* 57, pdf 6 pp. — (Author's address stated incompletely: Tullie House Mus., Carlisle, Cumbria, UK).
 Introduction of the dragonfly world of Cumbria, UK, with emphasis on habitats and conservation, including a review of post-1980 conservation status of 6 scarcer spp. in Cumbria.
- (15652) FLECK, G., A. NEL, G. DE PLOEG & G. MASSELOT, 2000. A fossil dragonfly from the Paris Basin amber of France (lowermost Eocene) (Insecta, Odonata, Anisoptera). *Acta geol. hisp.* 35(1/2): 131-134. — (First Author: 40 rue de Benfeld, F-67100 Strasbourg).
 A wing fragment of an unnamed libellulid sp. is described illustrated and its systematic position is

discussed. It was recovered from the Sparnacian deposits at Le Quesnoy, Creil region, Oise dept, France, and it is deposited in MNHN, Paris (PA 2410). The occurrence of a dragonfly in amber is unusual, and the specimen represents one of the oldest libellulid records in the Cenozoic.

- (15653) GEISER, E., 2000. Faunistik in Buchform; nützliches Nachschlagwerk oder Anachronismus im Zeitalter der elektronischen Medien? *Entomologica basil.* 22: 44-47. (With Engl. s.). – (Saint-Julien-Str. 2/314, A-5020 Salzburg).
The advantages and disadvantages of the classical publication of large faunistic surveys are compared with those inherent to electronic “publishing”. It is concluded, a classical publication is preferable, but it is considered useful if the subsequent, updating supplements are made available by electronic means.
- (15654) GREYER, G.F. & P.V. SWITZER, 2000. Mechanisms for the formation and maintenance of traditional night roost aggregations in a territorial damselfly. *Anim. Behav.* 60(5): 560-579. – (First Author: Dept Organismic Biol., Univ. California, 621 C.-E.-Young Dr., Los Angeles, CA 90095, USA).
The roosting behaviour of *Hetaerina americana* was studied in relation to sex and territorial status, and field experiments were conducted to test for specific mechanisms of roost formation and maintenance. Both sexes tended to return close to their previous night's roost, but only ♂♂ were significantly more roost site faithful than chance expectations based on individual day ranges. ♂♂ were more roost site faithful when they held mating territories. After acquiring a territory, ♂♂ usually began roosting closer to the territory after a delay of a few days. Roosts were not located at sites that reduced the daily commuting distance between hunting areas and territories; ♂♂ generally hunted closer to their territories than to their roosts. In field experiments, sites “seeded” with synthetic models of ♂ *Hetaerina* attracted more recruits than vacant control sites and control sites seeded with nonrubyspot (clear-winged) damselfly models. Sites seeded repeatedly with *Hetaerina* models often remained popular for roosting after the models were removed, suggesting that the models established new traditional roosts. These results indicate that conspecific attraction and individual spatial memory together may be sufficient to explain, at a proximate level, the traditional night roost aggregations of this sp. The results are
- discussed in relation to functional hypotheses for roost site choice and fidelity.
- (15655) REZBANYAI-RESER, L. & P. HERGER, 2000. 25 Jahre entomofaunistische und taxonomische Forschung im Natur-Museum Luzern. *Entomologica basil.* 22: 99-106. (With Engl. s.). – (Natur-Mus. Luzern, Kasernenplatz 6, CH-6003 Luzern).
Includes a passing reference to the odon. collections of the Nat. Hist. Mus. Luzern, Switzerland. All material is of Swiss provenance, and its accessibility sensu R.J. McGinley (1989, *Ent. Coll. News* 2: 19-24) is stated.
- (15656) SAINT-JACQUES, N., H.H. HARVEY & D.A. JACKSON, 2000. Selective foraging in the white sucker (*Catostomus commersoni*). *Can. J. Zool.* 78:1320-1331. (Third Author: Dept Zool., Univ. Toronto, Toronto, ON, M5S 3G5, CA).
C. commersoni is a widespread and often abundant N American benthivorous fish that can play an important role in the ecology of both fish and benthic communities in lakes and streams. Here, its diet was determined in relation to season and depth distribution of fish, as well as to the abundance and type of zoobenthos sampled at the site of fish capture. They feed predominantly on either zoobenthos or zooplankton, with some seasonal variation, and specialize on particular prey and also on the largest individuals within their “speciality”. The odon. are among the main food items of zoobenthos feeders, and are digested in greater proportions relative to their abundance in the sediments.
- (15657) VANDEN BURG, F., D. HERMES, B. HOSPEL, J. VAN MEURS, H. MOLLER PILLOT, M. SWINKELS-VERPRAET & H. VREDEVELD, 2000 [?, date not stated]. *De aquatische macrofauna van een natuurontwikkelingsproject: een onderzoek in het dal van de Keersop te Riethoven*. – [*Aquatic macroinvertebrate fauna in the valley of the Keersop at Riethoven*]. Milieu Educatie Centrum, Eindhoven. 65 pp. (Dutch). – (c/o Dr H.K.M. Moller Pillot, Leyparkweg 37, NL-5022 AA Tilburg).
Includes annotations on 21 odon. spp. from 3 localities along the Keersop stream, SE of Eindhoven, the Netherlands.

2001

- (15658) EDWARDS, J.S. & I.W.B. THORNTON, 2001. Colonization of an island volcano, Long Island, Papua New Guinea, and an emergent island, Motmot, in its caldera lake. 6. The pioneer arthropod community of Motmot. *J. Biogeogr.* 28: 1379-1388. – (First Author: Dept Zool., Univ. Washington, Seattle, WA 98105, USA).
Motmot is an island in Lake Wisdom, which occupies the caldera of Long Island, Papua New Guinea. During 23 June-3 July 1999, *Xiphiagrion cyanomelas*, *Orthetrum sabina*, *Pantala flavescens* and *Tramea liberata* were collected there.
- (15659) JOHANSSON, F. & A. NILSSON, 2001. Trollsländor och vattenkalbaggar i Umeå uthamn. *Natur i Norr, Umeå* 20(2): 82-84. (Swed.). – (First Author: Ekologi & Geovetenska, Umeå Univ., SE-901-87 Umeå).
A commented list of 8 odon. spp. from the Umeå-Hillskär area, Sweden.

- (15660) ROSE, J., 2001. Dragonflies for birders. *Bull. Chape Hill Bird Club* 30(3): 4-6. – (Author's address not stated).
Hints for dragonfly observations, directed at bird watchers in North Carolina, USA, including some useful bibliographic references.

2002

- (15661) CALABUIG, J.D., 2002. Un segle d'evolució de l'Albufera de València a través de la seua odonofauna (Insecta, Odonata): espècies perdudes i noves. *Dugastella* 3: 21-27. (With Engl. s.). – (Inst. Cavanilles Biodiv. i Biol. evolut., Univ. València, Apartat Oficial 2083, ES-46071 València).
The development of the odon. fauna of the Albufera Nature Reserve, Valencia, Spain is analyzed for the period 1916-2002. Out of the 19 spp., *Brachythemis leucosticta* and *Orthetrum trinacria*, discovered in 2002, are new to the fauna of Valencia. *Calopteryx haemorrhoidalis* and *Cordulegaster boltonii* were not seen in the Reserve since 1942. A checklist of the 49 spp. known from Valencia is appended.
- (15662) DE SOUZA FRANCO, G.M. & A.M. TAKEDA, 2002. Spatial and temporal variation of Odonata larvae associated with macrophytes in two floodplain lakes from the upper Paraná river,

Brazil. *Maringá* 24(2): 345-351. (With Port. s.). – (First Author: Univ. Comunitaria Regional, Av. Atílio Fontana 591-E, Bairro Efapi, BR-89809-000 Chapacó, Santa Catarina).

Eichhornia samples were collected on Guaraná (*E. azurea*) and on Patos (*E. crassipes*, *E. azurea*) lakes; March 1992-Feb. 1993. On Guaraná Lake the highest density and diversity were registered during the high water period (with the dominance of *Telebasis* and *Acanthagrion*), while on Patos Lake, the highest density and diversity occurred during the low water phase. DCA and ANOVA differentiated Patos Lake, mainly so because of the high abundance of *Coryphaeschna adnexa*, *Miathyria*, *Diastatops intensa* and *Erythemis*, which may be due to the morphology of *E. crassipes* that shelters larger numbers of invertebrates. Water level variation of rivers influenced concentrations of dissolved oxygen and pH. The variation was related to the monthly fluctuations in larval density. The difference between the lakes, as shown in DCA analysis, was mainly due to variation in the odon. density.

- (15663) EDDS, D.R., D.P. GILLETTE, T.M. MASKEY & M. MAHATO, 2002. Hot-soda process paper mill effluent effects on fishes and macroinvertebrates in the Narayani river, Nepal. *J. Freshw. Ecol.* 17(4): 543-554. – (Last Author [office]: Dept Biol. Sci., Univ. North Texas, Denton, TX 76203, USA; – [residence]: 904 Glenngary Way, Denton, TX 76208, USA).

The effects of a hot-soda process effluent were investigated for the first time. Odon. abundance downstream from the effluent discharge decreased after the mill operation to 0.2, as to 0.8 prior to the operation. At the upstream reference point, the values were 1.3 (pre-mill) and 2.0 (post-mill).

- (15664) GENTILINI, G., 2002. Fossil damselflies and dragonflies from the Eocene of Monte Bolca, Italy (Insecta: Odonata). *Studi Ric. Giacimenti terziari Bolca* (Misc. paleont.) 9: 7-22. (With Ital. s.). – (Via Adriatica 78, I-47843 Misano Adriatico/RN).
The following new taxa from the Middle Eocene (Lutetian) of Monte Bolca (Lessinia, Veneto), N. Italy are described, illustrated and their phylogenetic position outlined: *Bolcathoridae* fam. n.: *Bolcathore colorata* gen. n., sp. n., – *Bolcathemidae* fam. n.: *Bolcathemis nervosa* gen. n., sp. n., and – *Bolcacorduliidae* fam. n.: *Bolcacordulia paradoxa* gen. n., sp. n. Material is deposited in MNV, Verona. –

The Bolcathoridae is a sister fam. of Polythoridae. In the monophyletic Italoansida Bechly, 1996 are included Corduliidae and the Anauriculida. The new fams, Bolcathemidae and Bolcacorduliidae, are placed in the latter taxon, because of their unique autapomorphies, providing further information on the Odon. evolution.

- (15665) MISOV, B., 2002. Diversity of Anisoptera (Odonata): inferring speciation processes from patterns of morphological diversity. *Zoology* 105: 355-365. — (Dept Ent. & Zool. Res. Inst. a. Mus. "A. Koenig", Adenauerallee 160, D-53113 Bonn). With roughly 2500 described spp., morphological and ecological variability within the Anisoptera are impressive. The suborder is classified into about 15 fam. of variable species richness. In the present analysis, phylogenetic research is integrated with comparative approaches to investigate possible explanations of differential speciation rates within the suborder. A short review of phylogenetic work, based on morphological characters, is compared to published molecular phylogenies. Sistergroup comparisons are used to elucidate whether sexual selection, duration of life cycles, or differentiation in body size have had a detectable effect on speciation rate. In all 3 analyzes effects of distributional range and latitudinal distribution were controlled. These analyzes suggest sexual selection promotes speciation and an increase in body size is positively correlated with speciation rate. The evolutionary significance of these results is discussed and experimental approaches that should advance the understanding of anisopteran diversity are suggested.
- (15666) RUITER, E., 2002. *Libellen in Nationaal Park De Weerribben*. — [*Dragonflies in the Weerribben National Park, the Netherlands*]. Alcedo, Zwolle. 78 pp. Softcover (21.7×29.2 cm). ISBN none. (Dutch, with Engl. s.; title not translated). — (Author: Cornelis Houtmanstraat 10, NL-8023 EA Zwolle). Based on the 2001 survey, 32 spp. are dealt with, with emphasis on their respective habitats. Various field notes are also included with each sp. The importance of the Park for dragonfly life is outlined, and management suggestions are provided. — A valuable and most informative regional monograph.

2003

- (15667) ACKERMAN, J. & T.D. GALLOWAY, 2003.

Odonata larvae in urban retention ponds in Winnipeg, Manitoba, Canada. *Proc. ent. Soc. Manitoba* 59: 5-15. — (First Author: 500 Camden Pl., Winnipeg, MB, R3G 2V7, CA).

10 storm water retention ponds were sampled for larval odon. during the 2001 summer season; 22 spp. were collected. *Enallagma civile*, *E. ebrium*, *E. hageni*, *Lestes unguiculatus*, *Anax junius* and *Sympetrum costiferum* were common in 4 or more ponds. Of 10 spp. found, a single specimen was collected. Fewer spp. and fewer individuals appeared in ponds where vegetation control practices were applied, and no odon. larvae were found in ponds where carp were present. *A. junius* was most abundant in ponds with emergent vegetation. In a pond where there was no vegetation control and no emergent vegetation, the greatest number of spp. was collected.

- (15668) BAGLI, L. & G. GENTILINI, 2003. Nuove libellule fossili del miocene superiore di Monte Castellaro, Pesaro (Marche, Italia centrale) (Insecta, Odonata: Libellulidae). *Quad. Studi Notiz. Stor. nat. Romagna* 18: 37-50. (With Engl. s.). — (First Author: Mus. Territorio Riccione, via Lazio 10, I-47838 Riccione/RN). 2 forewing bases of an unnamed *Libellula* sp., and *L. adriatica* sp. n., *Celithemis zavattinii* sp. n. and *Sympetrum marinum* sp. n. are described and illustrated from the Upper Miocene of Monte Castellaro, Pesaro (Marche), Italy. The holotypes are deposited in coll. Gentilini, Museo del Territorio Riccione, Rimini, Emilia-Romagna, Italy. The affinities of the new taxa are discussed.
- (15669) CHALA, W.P., D.M. GARCIA, M.L. MOSQUERA, K.P. CAICEDO, J.A. PALACIOS, A.A. CASTRO & J.E. GUERRERO, 2003. Diversidad de macroinvertebrados y evaluación de la calidad del agua de la Quebrada La Bendición, municipio de Quibdó, (Chocó, Colombia). *Acta biol. colombiana* 8(2): 23-30. (With Engl. s.). — (Progr. Biol., Fac. Cien. Básicas, Univ. Technol. Chocó, Chocó, Colombia). The odon. were represented by 5 fam., which are here treated family-wise.

- (15670) DE CELIS, J.F. & F.J. DIAZ-BENJUMEA, 2003. Developmental basis for vein pattern variations in insect wings. *Int. J. Dev. Biol.* 47: 653-663. — (First Author: Centro Biol. Molec. "Severo Ochoa",

Univ. Auton. Madrid, ES-28049 Madrid).

The venation patterns characteristics of different insect orders and of families belonging to the same order possess enormous variation in vein number, position and differentiation. Although the developmental basis of changes in vein patterns during evolution is entirely unknown, the identification of the genes and developmental processes involved in *Drosophila* vein pattern formation facilitates the elaboration of construction rules. It is thus possible to identify the likely changes which may constitute a source of pattern variation during evolution. In this review, it is discussed how actual patterns of venation could be accounted for by modifications in different Pterygota of a common set of developmental operations. It is argued that the individual specification of each vein and the modular structure of the regulatory regions of the key genes identified in *Drosophila* offer candidate entry points for pattern modifications affecting individual veins or interveins independently. Assuming a general conservation of the processes involved in different species, the transitions between different patterns may require few changes in the regulatory gene networks involved. — The paper mainly deals with Diptera; only a few passing references are provided to the Odon.

- (15671) [DUMONT, H.J.], 2003. *Hydrobiologia*. The international journal of limnology and marine sciences (ISSN 0018-8158), Vol. 500: *A celebratory volume in honour of Henri J. Dumont* (15 June 2003). xii+344 pp. Guest Ed.: K. Martens. Price: € 650.- approx.
A biography and appreciation of work of Prof. Dr H.J. Dumont (pp. ix+xi, portrait incl.; by K. Martens) are followed by his scientific bibliography (pp. 1-21: 349 titles; 1960-2003; cf. *OA* 15322), and by 23 papers, contributed by over 60 authors. — Born in 1942 (Denderleeuw, Belgium), since 1987 Professor of Ecology (Univ. Gent, Belgium), Dr Dumont ranks among the most prolific odonatologists. As a hydrobiologist of the widest interests, he edited (1980-2003) over 350 *Hydrobiologia* vols (close to 7000 papers, ca 100.000 printed pp.). The present vol. was published on the occasion of his retirement from the editorship.
- (15672) FERREIRA-PERUQUETTI, P.S. & A.A. FONSECA-GESSNER, 2003. Comunidade de Odonata (Insecta) em áreas naturais de Cerrado e monocultura no morderste de estado de São Paulo, Brasil: relação entre o uso do solo e a riqueza faunística. *Revta bras. Zool.* 20(2): 219-224. (With Engl. s.). — (Depto Hidrobiol., Univ. Fed. São Carlos, Caixa Postal 676, BR-13565-905 São Carlos, SP). The odon. communities were investigated in 8 streams and 7 lakes-dams in NE São Paulo state, Brazil, in sugar cane monoculture and in a nature reserve. 85 spp. were encountered. The species richness was higher in the monoculture (33 spp.) than in the nature reserve (30 spp.), 22 spp. were common to both areas. 10 taxa are listed as new to the state of São Paulo.
- (15673) GOODWIN, W. & V. GOODWIN, 2003. *First field guide to dragonflies of southern Africa*. Struk, Cape Town. 57 pp. Softcover (11.0×16.5 cm). ISBN 1-86872-850-1. — (Publishers: 80 McKenzie Str., Cape Town-8001, SA).
A field guide to 40 of the more common and easily identifiable spp. in southern Africa, providing a col. portrait, a brief description, and statements on habitats, habits and distribution of each of them. Chapters on morphology, life cycle, and on dragonfly collecting are also included. In Afrikaans, dragonflies are called “naaldekokers” (= needle cases or quivers). — A useful work for the beginner. — For another S African field guide (Anisoptera only), see *OA* 14744.
- (15674) HAMADA, N. & S.J. DE OLIVEIRA, 2003. Food items of larvae of *Himantella arcana* (Needham, 1933) (Odonata: Amphipterygidae) in central Amazonia, Brazil. *Entomotropica* 18(2): 153-155. (With Port. s.). — (First Author: Insto Nac. Pesquisas da Amazônia, C.P. 478, BR-69011-970 Manaus, AM).
The stomach content was analyzed in 39 larvae from Figueiredo Co., Amazonas state; 3 of them had empty stomachs. In the others, the following taxa were present: Diptera: Simuliidae (83.3%), Chironomidae (61.1%), Empididae (5.6%); Trichoptera: Hydroptilidae (19.4%), Hydropsychidae (8.3%); Ephemeroptera: Baetidae (8.3%); Lepidoptera: Crambidae (2.8%), and Acarina (5.6%). Simuliidae and Chironomidae were the most frequent food items, and they were also the most abundant in the riffles and waterfalls in the study area.
- (15675) LANDWER, B.H.P. & R.W. SITES, 2003. Redescription of the larva of *Gomphus militaris*

- Hagen (Odonata: Gomphidae), with distributional and life history notes. *Proc. ent. Soc. Wash.* 105(2): 304-311. — (Enns Ent. Mus., Dept Ent. & Cent. Agroforest., Univ Missouri, Columbia, MO 65211, USA).
The final larval instar is described, diagnosed and figured from exuviae and larval specimens from Missouri, Texas and Kansas. A previous description was erroneously attributed to *G. militaris*, but actually pertained to *Arigomphus lentulus*. Thus, the use of many previously published characteristics will result in misidentification. The reported data on life history are based on larval and adult collections.
- (15676) MIELEWCZYK, S., 2003. Materials to the recognition of entomofauna (Odonata, Heteroptera, Coleoptera) of the Lekneńskie Lake. In: A.M. Wyrwa, [Ed.], *Studia i materiały do dziejów Pałuk*, Vol. 5, pp. 33-45, Adam Mickiewicz Univ. Press, Poznań, ISBN 83-232-1302-X. (Pol., with Engl. s.). — (Author deceased on 13-VIII-2005).
14 odon. spp. are listed from the lake and from the Uszawica estuary, evidenced during spring and summer 2002. The lake fauna is dominated by *Ischnura elegans* and it is considered poor, its composition indicates a weak eutrophication. *Calopteryx splendens* and *Pyrrhosoma nymphula* characterise the odon. community of the estuary.
- (15677) MIELEWCZYK, S., 2003. Spring state of entomofauna (Odonata, Heteroptera, Coleoptera) in the Warta river and riverine waterbodies in the Nadwarciański Landscape Park. *Rocz. nauk. pol. Tow. Ochr. Przyr. 'Salamandra' 7*: 87-99. (Pol., with Engl. s.). — (Author deceased on 13-VIII-2005).
On 7 & 10-V-2003, the 3 orders were surveyed at 6 localities on the Warta R., its oxbows, etc. 7 odon. spp. are locality-wise listed. Due to fish predation, some taxa are apparently missing.
- (15678) NIKULA, B., 2003. *Occallated darner dragonfly, Boyeria grafiana*. Natural Heritage endangered Species Program, Westborough/MA. 2 pp. — (Publishers: Massachusetts Div. Fish. & Wildlife, Rte 135, Westborough, MA 01581, USA).
The adult is described, and information is provided on the habitat, life history, behaviour, flight period, range and on population status in Massachusetts (with a distribution map, 1977-2002). Management recommendations are appended. — State status: "special concern", federal status: none.
- (15679) RODRIGUEZ, V.E. & H. LEON, 2003. Insectos acuáticos al Rio Tribique, en el distrito de Soná, provincia de Veraguas. *Tecnociencia* 5(1): 51-64. (With Engl. s.). — (Univ. Panamá, Centro Regional Universitario, Veraguas, Panamá).
21 odon. genera (8 fam.) are reported from the Tribique R., Soná distr., Veraguas prov., Panamá (Jan.-June 2001).
- (15680) SCHMIDT, E.G., 2003. Die "Alten Fahrten" des Dortmund-Ems-Kanals in Westmünsterland, ein spezifischer, wertvoller und gefährdeter anthropogener Stillgewässertyp mit Auen-Character am Beispiel der Odonatenfauna, eine Aufgabe für den Naturschutz (Insecta, Odonata). *Verh. westdt. Ent. Tag., Löbbecke Mus.* 2002: 179-186. — (Coesfelder Str. 230, D-48249 Dülmen/Westf.).
The "Alten Fahrten" is a local appellation for the oxbow-like water bodies, originating from the Dortmund-Ems Canal corrections nr Coesfeld and Münster. The ecology is described, the hitherto recorded odon. spp. (28) are listed, and an appeal is made to the Nature Conservancy for more attention to this peculiar, highly interesting and threatened habitat.
- (15681) TANG, H.-C., S.-L. CHEN & C.-F. LIN, 2003. A preliminary survey of the Odonata fauna (Insecta) at Taipei Zoo, Taipei. *Taipei Zoo Bull.* 15: 17-30. (Chin., with Engl. s.). — (First Author: Dept Educ., Taipei Zoo, Taipei, Taiwan).
A survey of 67 spp., evidenced during Feb.-Dec. 2003; — Taiwan.
- (15682) TOEBOSCH, T., 2003. *Grondwerk: 200 jaar archeologie in Nederland*. — [200 years of archaeology in the Netherlands]. Sun, Amsterdam, 240 pp. ISBN 90-5875-191-0. Price: € 19.90 net.
In a chapter (pp. 79-94), some information is provided on the archaeological work in Surinam of the well-known odonatologist, Dr D.C. Geijskes. Passing notes on his odonatol. work are also made.
- (15683) WENDZONKA, J., 2003. Dragonflies (Odonata) of the Kaszuby lobelian lakes. *Parki nar. Rezerw. Przyr.* 23(3): 395-410. (Pol., with Engl. s.). — (ul. Graniczna 17, PO-63-800 Gostyn).
In Poland, there are 170 Lobelia lakes, characterised by the vegetation of *L. dortmanna*, *Isoëtes lacustris* and *Littorella uniflora*. 13 of these, situated in the Kaszuby distr. and including all 4 basic types

(dystrophic, balanced, eutrophic, degraded), were investigated and 35 odon. spp. encountered. In the dystrophic lakes, *Enallagma cyathigerum* is the most abundant sp. With the increased eutrophication, its abundance decreases. *Erythromma najas* prevails in eutrophic and degraded lakes.

- (15684) ZHOU, W.-b., 2003. *Rhipidolestes fascia* spec. nov. and *R. lii* spec. nov., two new dragonflies from Guizhou, China (Zygoptera: Megapodagrionidae). *Wuyi Sci. J.* 19: 95-98. (With Chin. s.). — (Dept Ent., Zhejiang Mus. Nat. Hist., Choukonglou 71, Hangzhou-310012, PRC).
R. fascia sp. n. (holotype ♂: Kishui, Guizhou, 18-V-2000) and *R. lii* (holotype ♂: Xishui, Guizhou, 8-VI-2000) are described and illustrated. The holotypes are deposited in the Author's institution.

2004

- (15685) BISWAS, S., M. CHATTERJEE & D.P. HALDAR, 2004. New species of *Odonaticola* Sarkar et Haldar, 1981 (Apicomplexa: Conoidasida) from dragonflies (Insecta: Odonata) in Bengal, India. *Acta protozool.* 43: 183-191. — (Last Author: Protozool. Lab., Dept Zool., Univ. Kalyani, Kalyani-741235, W. Bengal, India).
 4 new eugregarine spp. are described, viz. *O. bradynopyga* sp. n. (from *Bradynopyga geminata*), *O. aspinosa* sp. n. (from *Crocothemis s. servilia*), *O. abhoyapura* sp. n. (from *Pantala flavescens*), and *O. amojoya* sp. n. (from *C. s. servilia*).
- (15686) BOUWMAN, J., A. HOSPERS & V. KALKMAN, 2004. Libellen (Odonata) in de periode 1999-2003. — [The Netherlands dragonflies (Odonata) during 1999-2003]. *Waarnemingenversl. Ongewer. EIS-Nederland* 2004: 12-23. (Dutch). — (First Author: De Vlinderstichting, P.O. Box 506, NL-6700 AM Wageningen).
 The development of populations of 24 spp. is outlined and distribution maps are provided.
- (15687) BUCZYNSKI, P., 2004. Dragonflies (Odonata) from Poland in the collection of Museum and Institute of Zoology of Polish Academy of Sciences in Warsaw. *Novy Pam. Fizjogr.* 3(1/2): 15-26. (Pol., with Engl. s.). — (Dept Zool., UMCS, Akademicka 19, PO-20-033 Lublin)
 The material (46 spp.) of 4 collections (incl. those of L. Krüger and W. Bazyluk) is listed, the identifications were checked, and some highlights are pointed out. Some of Krüger's *Symplocma "fusca"* specimens (see *Abh. Ber. pommer. naturf. Ges.* 6[1925]: 53-106) actually pertain to *S. paedisca* and represent the earliest evidence on the occurrence of this sp. in NW Poland. The red-listed spp. are *Nehalennia speciosa*, *Aeshna affinis*, *A. viridis* and *Leucorrhinia albifrons*; among the other regionally interesting taxa are *Ophiogomphus cecilia*, *Orthetrum albistylum*, *Sympetrum fonscolombii* and *Leucorrhinia pectoralis*.
- (15688) BUCZYNSKI, P., 2004. The dragonflies (Odonata) of Polesie National park and its protection zone: new data and the summary of studies conducted in the years 1985-2003. *Parki nar. Rezerw. Przyr.* 23(3): 381-394. (Pol., with Engl. s.). — (Dept Zool., UMCS, Akademicka 19, PO-20-033 Lublin).
 56 spp. are known from the area (52 spp. from the Park s.str.). Here, new records are listed for 43 spp. *Ophiogomphus cecilia* and *Libellula fulva* are new for the fauna of the Park. Despite the anthropogenic changes of the environment, the conditions for the odon. fauna in the Park are considered satisfactory. Some habitat protective measures are suggested.
- (15689) BUCZYNSKI, P. & G. TONCZYK, 2004. The importance of national parks for the protection of dragonflies (Odonata) in Poland. *Parki nar. Rezerw. Przyr.* 23(3): 357-380. (Pol., with Engl. s.). — (Second Author: Dept Invert. Zool., Univ. Lodz, ul. S. Banacha 12/16, PO-90-237 Lodz).
 The information on odon. fauna is available for 21 (out of the 23) Polish national parks. So far the occurrence of 70 spp. was documented, representing 97% of the national fauna and including all 16 red-listed spp., 15 nationally protected spp. and 7 spp. listed in the Berne Convention annexes and/or in the Habitat Directive. Odon. assemblages of raised bogs, small water bodies and rivers are well protected. In most parks there are no Odon.-directed protective activities.
- (15690) CARVALHO, A.L., L.G.V. SALGADO & P.C. WERNECK-DE-CARVALHO, 2004. Description of a new species of *Lauiromacromia* Geijkses, 1970 (Odonata: Corduliidae) from southeastern Brazil. *Zootaxa* 666: 1-111. — (First Author: Depto Ent., Mus. Nac., UFRJ, Caixa Postal 68044, BR-21944-070 Cidade Universitaria, Rio de Janeiro, RJ).

Both sexes of *L. pinguaba* sp. n. are described and illustrated, based on reared specimens. Holotype ♂: Brazil, São Paulo state, Ubatuba, Picinguaba; emerged 12-X-2001; deposited at MNRJ, Rio de Janeiro. This is the first description of a ♀ and the southernmost record for the genus. A key to the genera of Corduliidae occurring in Brazil is appended.

- (15691) CLOPTON, R.E., 2004. *Calyxocephalus karyopera* g. nov., sp. nov. (Eugregarinorida: Actinocephalidae: Actinocephalinae) from the ebony jewelwing damselfly *Calopteryx maculata* (Zygoptera: Calopterygidae) in Southeast Nebraska, USA: implications for mechanical prey-vector stabilization of exogenous gregarine development. *Comp. Parasitol.* 71(2): 141-153. — (Dept Nat. Sci., Peru St. Coll., Peru, NE 68421, USA).
The new eugregarine is described and illustrated from adult *C. maculata* specimens, collected from Johnson Co., Nebraska, USA.
- (15692) CORBI, J.J., M.A. JANCOSO, S. THIVINHO-STRIXINO & E.N. FRAGOSO, 2004. Occurrence of Oligochaeta living on larvae of Odonata from Ipeúna (São Paulo, Brazil). *Biota neotropica* 4(2), pdf 3 pp. (With Port. s.). — (First Author: Lab. Ent. Aguát., Dept Hidrobiol., Univ. Fed. São Carlos, Caixa Postal 676, São Carlos, SP, Brazil).
The Oligochaeta occurrence on the odon. larvae is reported for the first time. *Nais variabilis* and *Chaetogaster diastrophus* (both Naididae) are recorded from *Elasmothermis cannacrioides* (Libellulidae) and from *Mnesarete* (Calopterygidae).
- (15693) DYATLOVA, E.S., 2004. New records of *Cercion lindenii* (Odonata, Coenagrionidae) in the basins of Lower Danube, Dniestr and Dnieper rivers in the South of Ukraine. *Vest. Zool.* 38(5): 10. — (Frantsuzkij bul'var 37, kv. 2, UKR-65044 Odessa).
The earlier records in the Ukraine are reviewed, and fresh specimens are reported from the provinces of Odessa and Cherson (all Aug. 2004).
- (15694) DYATLOVA, E.S., 2004. The first record of *Coenagrion scitulum* (Odonata, Coenagrionidae) in the south-western part of Ukraine. *Vest. Zool.* 38(5): 10. — (Frantsuzkij bul'var 37, kv.2, UKR-65044 Odessa).
In the Ukraine, the sp. was known so far only from the Crimea. Here, a ♂ and a ♀ from the coastal part of the Odessa prov. are brought on record (16 and 18-VI-2004, resp.).
- (15695) GARIN, C., 2004. Bataille pour la libellule déprimée en banlieue de Paris. *Le Monde*, issue of 19 Nov.
A detailed account of the attempt to conserve a *Libellula depressa* habitat within the outskirts of the city of Paris, France, in a well-known French daily.
- (15696) GENTILINI, G. & L. BAGLI, 2004. Fossil Zygoptera and Anisoptera from the Upper Miocene of Monte Castellaro (Pesaro), Marche, central Italy (Insecta, Odonata: Coenagrionidae, Lestidae, Sieblosiidae, Calopterygidae, Libellulidae). *Quad. Studi Notiz. Stor. nat. Romagna* 19: 17-44. (With Ital. s.). — (First Author: via Adriatica 78, I-47843 Misano Adriatico/RN).
7 Upper Miocene Zygoptera wings from Monte Castellaro, central Italy, and *Deielia sarae* sp. n. and *Trapezostigma barbaresii* sp. n. are described and illustrated. The holotypes are deposited in coll. Gentilini, Museo del Territorio Riccione, Rimini, Emilia-Romagna, Italy.
- (15697) GRACILE [Newsletter of odonatology], Osaka (ISSN 1344-123X), No 67 (1 Aug. 2004). (Jap., with Eng. titles). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545-0004, JA).
Shimura, S.: Odonate egg parasitic Hymenoptera (pp. 1-8); — *Muraki, A.*: Records of *Sympetrum depressiusculum* and *S. cordulegaster* in the northern part of Kyoto and Hyogo prefectures during 2001 and 2002 (pp. 9-15); — *Sasamoto, A.*: A specimen of *Sympetrum frequens* with likely "complete" last antenodal cross-veins (pp. 16-17); — *Tsuda, S.*: Observation on the migration of *Sympetrum frequens* (pp. 18-19); — *Matsuda, I.*: The exuviae of *Sympetrum pedemontanum elatum* collected in Kaizuka city, Osaka pref. (p. 20); — *Tsuda, S.*: *Sympetrum gracile* at Hirai, Wakayama city, Wakayama pref. (pp. 21-22); — *Tabata, O. & A. Sasamoto*: Records of some rare odonate species in the southern part of Kyoto pref. (pp. 23-26); — *Nishiura, N.*: Odonate fauna of Sennan city, Osaka pref. (pp. 27-45); — *Matsuda, I.*: The exuviae of *Anisogomphus maackii* collected at Nagara river, Gifu pref. (pp. 47-49); — *Doi, N.*: Report of the survey trip on the odonate fauna of Mt Kongo, Osaka and Nara prefectures,

- pt 8: in summer 2002 (pp. 50-52); – *Katatahi, N.*: Report of the survey trip on the odonate fauna of Mt Kongo, Osaka and Nara prefectures, pt 9: in autumn 2002 (pp. 53-56); – *Matsuda, I.*: "Tombo-tauri" (catching dragonflies by threads and stones) meeting held in Osaka pref. (9), 2002 (pp. 57-59); – *Tani, K. & N. Doi*: Report of the survey trip on the odonate fauna of the northern part of Osaka pref. (pp. 60-62); – *Tani, K. & I. Matsuda*: Kansai Research Group of Odonatology exhibited materials at the Osaka Natural History Festival, 2003 (pp. 63-67).
- (15698) GROPPALI, R., 2004. Odonati adulti, biodiversità e ambienti lentici: appunti metodologici per l'applicazione e valutazioni di qualità. *Pianura* 18: 161-165. (With Engl. title). – (Dipto Ecol., Univ. Pavia, via S. Epifanio 14, I-27100 Pavia). The possible use of odon. populations as bioindicators is discussed with reference to the seasonal state of lentic aquatic communities and the conservation state of their surrounding areas. The strong spring-summer variation in water level is considered the main limiting factor. It is hoped that some target studies will identify some odon. spp. as good bioindicators.
- (15699) HERMANS, J.T., R.W. AKKERMANS, F. MERTENS, J. VAN DER WEELE & H.W.G. HEIJLIGERS, 2004. *Werkatlas libellen in Limburg: inventarisatiegegevens periode 1977-2003*. – [*Werkatlas dragonflies in Limburg: inventarisatie period 1977-2003*]. Stichting Natuurpublicaties Limburg, Roermond. Not paginated. Spiral binding (21.5×29.5 cm). ISBN none. Price € 21.- net. (Dutch). – (Distributor: Publicatiebureau NHGL, Godsweerderstraat 2, NL-6041 GH Roermond). A collection of distribution maps (1977-1996/1997-2003) of 57 spp. in Limburg, the Netherlands.
- (15700) HOSPERS, A., 2004. [Werkgroepen:] Libellen (Odonata). *NieuwsBr. europ. Invert. Surv. Nederland* 39: 4. (Dutch). – (P.O. Box 1706, NL-9701 BS Groningen). Brief book reviews of the regional odon. atlases of Limburg and Drenthe (the Netherlands), and a note on the current research on *Sympetma*.
- (15701) IWATA, S.-k. & M. WATANABE, 2004. Saline tolerance of young zygopteran larvae inhabiting the emergent plant community established in estuaries. *Jap. J. Ent.* (N.S.) 7(4): 133-141. (Jap., with Engl. s.). – (Second Author: Inst. Biol. Sci., Univ. Tsukuba, Tsukuba, Ibaraki, 305-8572, JA). *Mortonagrion hirosei* eggs and young larvae were reared under different salinity conditions, and the effects were compared with those on *Ischnura senegalensis*, *I. asiatica* and *M. selenion*, which occur in paddy fields, close to the *M. hirosei* habitats. With high salinity concentrations the hatchability in all spp. was low, at 20‰ *I. asiatica* and *M. selenion* did not hatch. Likewise, the mortality of young larvae also increased with the increased salinity, 15‰ was harmful to the *I. asiatica* and *M. selenion* survival. The salinity seems to affect the moulting of the young larvae. *M. hirosei* and *I. senegalensis* have similar salinity tolerance at the egg and young larval stages; both spp. survive in brackish water. Where co-existing, *M. hirosei* may fall prey to *I. senegalensis*. The conservation strategy for *M. hirosei* is discussed.
- (15702) JELL, P.A., 2004. The fossil insects of Australia. *Mem. Qld. Mus.* 50(1): 1-124. – (Queensland Mus., P.O. Box 3300, South Brisbane, QLD 4101, AU). A taxonomic catalogue of the known fossil insects of Australia, provides illustrations of 11 odon. spp. All spp. are recorded with age, rock unit (formation) and location (sedimentary basin). Some synonymies and updated placements are included. The principal fossil-bearing formations are described, and potential for further research is outlined.
- (15703) KUMP, B., 2004. Dotation und Revitalisierung des Rindergrabens in den Traunauen in Linz. *Naturk. Jb. Linz* 50: 99-160. (With Engl. s.). – (Spazenhofstr. 22, A-4040 Linz). The Rindergraben is a dry riverbed in the alluvial forests of the Traun R., Linz Co., Austria, originating in the diversion of water from the river for the sake of a power plant. The paper serves as a basis for the possible revitalisation and re-flooding. The odon. are considered on pp. 135-136 (2 calopterygid and 3 gomphid spp.).
- (15704) LE GRAS, E., 2004. Zuid-Europese libellensoorten ontdekken Drenthe. – [South European dragonfly species appearing recently in Drenthe, the Netherlands]. *Dagbl. v. h. Noorden*, issue of 20 Sept. (Dutch). – (c/o R. Manger, Stoepveldsingel 55, NL-9403 SM Assen).

A regional newspaper article, based on an interview with R. Manger (cf. OA 15705), emphasizing the effects of the current climate changes on the local odon. fauna. Several spp. are mentioned.

- (15705) [MANGER, R.], 2004. De noordse winterjuffer weer in Drenthe. – [Sympecma paedisca again in Drenthe, the Netherlands]. *Dagbl. v. h. Noorden*, issue of 10 Dec. (Dutch). – (Stoepveldsingel 55, NL-9403 SM Assen).
A regional newspaper article, based on an interview with R. Manger, leader of the Drenthe Dragonfly Workgroup, on the reappearance of this sp. in the region, and on the research project on its biology, conducted by the Group since 2003.
- (15706) MARTYNOV, V.V. & A.V. MARTYNOV, 2004. Interesting findings of dragonflies (Insecta, Odonata) from Ukraine. *Vest. Zool.* 38(5): 38. (Russ., with Engl. title). – (Authors' addresses not stated). New records for *Chalcolestes parvidens*, *Brachytron pratense*, *Cordulegaster bidentata* and *Somatochlora alpestris*.
- (15707) MATUSHKINA, N.A., 2004. Comparative morphology of ovipositor in some damselflies (Zygoptera, Odonata). *Vest. Zool.* 38(3): 53-66. (Russ., with Engl. s.). – (Dept Zool., Shevchenko Univ., ul. Vladimirskaia 64, UKR-01033 Kiev).
The representatives (1 sp. each) of the Euphaeidae, Lestidae, Megapodagrionidae, Platycnemididae and Platystictidae were studied. A tab. of ovipositor features is presented with the objective to serve in phylogenetic analysis. Possible correlations between ovipositor features and the oviposition behaviour are discussed.
- (15708) MIELEWCZYK, S., 2004. State of research and threats facing the entomofauna of Toporowe Ponds in Tatra National Park. *Parki nar. Rezerw. Przyr.* 23(3): 527-534. (Pol., with Engl. s.). – (Author deceased on 13-VIII-2005).
The exploration history of the Tatra Natn. Park aquatic insect fauna is traced bibliographically from 1859. Some highlights in the Toporowe Ponds species assemblage are pointed out, and a reference is made to the enigmatic *Cordulia aenea tatrica* Dziedzielewicz, 1902 (*Muz. dziedzisyckich* 5: 95; – type locality: Toporowe Ponds), here listed as *Somatochlora metallica tatrica*. The fauna is seriously threatened by mallards, *Anas platyrhynchos*.
- (15709) MIELEWCZYK, S., 2004. Study methods of aquatic entomofauna with taking protected areas into consideration. *Parki nar. Rezerw. Przyr.* 23(3): 519-526. (Pol., with Engl. s.). – (Author deceased on 13-VIII-2005).
Various methods are described and commented. The sampling of adult odon. by means of collecting during defined time-units, whether for taxonomic evidence or for statistical treatment, is considered inadequate. The adequate sample sizes are discussed in detail. Malaise traps are not considered, and light trapping of aquatic insects should not be applied in nature reserves.
- (15710) MROWINSKI, P. & A. ZAWAL, 2004. Preliminary studies of dragonflies (Odonata) of Barli-necko-Gorzowski Landscape Park. *Parki nar. Rezerw. Przyr.* 23(3): 471-480. (Pol., with Engl. s.). – (First Author: ul. Kombatantów 1/3, PO-74-320 Barlinek).
The results of the survey (39 spp.), conducted in 2000, are compared with the situation in the area as published by P. Münchberg (1932: *Jb. naturw. Ver. Neumark* 3: 41-48), showing no changes in species composition of particular synecological groups. In the investigated area, 4 protected spp. and the red-listed *Erythromma lindenii* and *Cordulegaster boltonii* occur.
- (15711) PEDEMONTANUM. Mitteilungsblatt der AG Odonatenfauna Sachsen-Anhalt (ISSN none), No. 5 (Dec. 2004). – (c/o Dr J. Müller, Frankefelde 3, D-39116 Magdeburg).
Müller, J.: Editorial (p. 1); – *Müller, J. & R. Steglich*: Verzeichnis (Checkliste) der Libellen (Odonata) des Landes Sachsen-Anhalt und deren Gefährdungseinstufung: Stand Dezember 2004 (pp. 1-6); – *Buttstedt, L., W. Zimmermann, W. Kleemann & R. Kleemann*: Erstnachweis der Feuerlibelle (*Crocothemis erythraea* Brullé, 1832) in Sachsen-Anhalt (pp. 7-8); – *Heidecke, F. & H. Heidecke*: Die Taufwiesenberge, ein vergessenes Schutzgebiet zwischen Kiesabbau und Renaturierung (pp. 8-10); – *Müller, J. & R. Steglich*: Zur Entwicklung der Vorkommen der Flussjungfern (Gomphidae) in Sachsen-Anhalt (pp. 10-12); – *Müller, J.*: Literatur [Arbeiten zur Odonatenfauna Sachsen-Anhalts und angrenzender Gebiete] (pp. 12-15). – For contents tabs of the previous issues, see OA 11168, 12553, 12700, 15326.
- (15712) PITLO, R., 2004. Information on butterflies

and dragonflies for local authorities. *Vlinders* 19(3): 12-13. (Dutch, with Engl. s.). – (De Vlinderstichting, P.O. Box 506, NL-6700 AM Wageningen). Many local authorities in the Netherlands are managing their green space in an environmentally friendly way. Information on this type of management is an important tool for gaining support from the general public. Dutch Butterfly Conservation has provided local authorities with publicity material on the management of road verges and riverbanks, and at present is organizing workshops to assist them in its use. The city of Gouda is an example of dragonfly-friendly riverbank management.

- (15713) PLIÚRAITÉ, V. & V. KESMINAS, 2004. Species composition of macroinvertebrates in medium-sized Lithuanian rivers. *Acta zool. lithuan.* 14(3): 10-25. – (Inst. Ecol., Vilnius Univ., Akademijos 2, LT-08412 Vilnius-21).
An analysis is presented of macrozoobenthos taxonomic composition in 17 Lithuanian rivers. The odon. are represented by *Calopteryx splendens* and *Gomphus vulgatissimus*. The rivers where they occur are stated.
- (15714) RODENKIRCHEN, J., 2004. Die Libellen des Neffelbachtals bei Zülpich. *Decheniana* 152: 119-125. (With Engl. s.). – (Rövenicher Str. 3, D-50374 Erftstadt-Scheuren).
During the past 3 decades, 7 wetlands were created along a 6 km stretch in the Neffelbach Valley, North Rhine-Westphalia, W Germany, each with a different number of ponds. These harbour 39 odon. spp., incl. *Leucorrhinia pectoralis*. *Crocothemis erythraea* was observed there over a period of 11 yr; it is considered autochthonous in the region.
- (15715) SAINT-JEAN, D., 2004. *Toponowini: à la découverte d'un lac inconnu*. Ibis Rouge Editions, Matoury. 128 pp. ISBN 2-84450-215-6. Price: € 30.-net.
An illustrated account of the Alabama Association expedition to lake Toponowini, W Guiana. At the lake, ca 30 odon. spp. were collected, but only *Neoneura sylvatica* is mentioned.
- (15716) SCHMIDT, E.G., 2004. Klimaerwärmung und Libellenfauna in Nordrhein-Westfalen: divergente Fallbeispiele. *Entomologie heute* 16: 71-82. (With Engl. s.). – (Coesfelder Str. 230, D-48249 Dülmen/Westf.).
The attention is drawn to the possibility that the recent changes in the odon. fauna of Northrhine-Westphalia (NRW), W Germany could be due to some environmental parameters other than climate change. Some of the formerly rare southern spp., such as *Erythromma lindenii* and *E. viridulum*, profit from the numerous, recently man-made water bodies. New southern spp. in NRW are *Anax parthenope* (since 1983), *Hemianax ephippiger* (first recorded in 1989), *Crocothemis erythraea* (since 1993) and *Sympetrum meridionale* (recorded in 2000). Their occurrence could be due to the intensified dispersal from the South but, alternatively, they could be also overlooked in the past, since old records of all of them are known from the vicinity (Belgium). Mostly the continental spp. are subject to a dramatic decrease; all 8 spp. listed in the NRW Red Data Book as "extinct", belong to this group. They require special microhabitats, like heath and bog water bodies, representing "continental islands" in the atlantic area of NRW, that were recently largely destroyed. Of some influence could be also the ever increasing production of "clouds" by power stations (cumuli) and by aircraft (cirrus, from expanding condensation trails), diminishing the sunshine intensity, which is essential for flight activity of most continental spp.
- (15717) SCHUT, D. & R.J. KOOPS, 2004. Ecologische verschillen tussen *Leucorrhinia dubia* en *L. rubicunda* op Nederlandse vennen. – [Ecological differences between *Leucorrhinia dubia* and *L. rubicunda* in the Netherlands fens]. *Rapp. De Vlindersticht. Wageningen* SV2004(6): 1-53. (Dutch, with Engl. s.; title not translated). – (Distributor: De Vlinderstichting, P.O. Box 506, NL-6700 AM Wageningen).
Recently it was shown that the population trend of *L. dubia* in the Netherlands is decreasing, whereas a slight increase was noticed in *L. rubicunda*, though the 2 spp. share the same type of habitat. The results of a systematic investigation in the field suggest that *L. dubia* has a smaller pH range than tolerated by *L. rubicunda*. The habitats of both spp. are acid or slightly acidic, mesotrophic moorland ponds with *Sphagnum* vegetation, and heather rather than forest in the surroundings. Due to its tolerance of a lower pH, *L. rubicunda* may be more resistant to acidification.
- (15718) SVENSSON, E., L. KRISTOFFERSEN,

K. OSKARSSON & S. BENSCH, 2004. Molecular population divergence and sexual selection on morphology in the banded demoiselle (Calopteryx splendens). *Heredity* 93: 423-433. — (First Author: Sect. Anim. Ecol., Dept Ecol., Lund Univ., SE-223-62 Lund).

The importance of sexual selection in population divergence is of much interest, mainly because it is thought to cause reproductive isolation and hence could lead to speciation. Sexually selected traits have been hypothesized to diverge faster between populations than other traits, presumably because of differences in the strength, mechanism or dynamics of selection. Here, this was investigated by quantifying population divergence in 8 morphological characters in 12 S Swedish populations of the sexually dimorphic *C. splendens*. The morphological characters included a secondary sexual character, the ♂ melanized wing spot, which has an important function in both inter- and intrasexual selection. In addition, molecular population divergence was investigated, revealed by amplified fragment length polymorphism (AFLP) analysis. Molecular population divergence was highly significant among these N European populations (overall $F_{st} = 0.054$; pairwise population F_{st} 's ranged from ~0 to 0.13). Evidence was found for isolation-by-distance ($r = 0.70$) for the molecular markers and a significant correlation between molecular and phenotypic population divergence ($r = 0.39$). One interpretation is that population divergence for the AFLP loci are affected by genetic drift, but is also indirectly influenced by selection, due to linkage with loci for the phenotypic traits. Field estimates of sexual and natural selection from 2 of the populations revealed fairly strong sexual selection on wing spot length, indicating that this trait has the potential to rapidly diverge, provided that variation is heritable and the observed selection is chronic.

- (15719) TAM, T.-w., K.D.P. WILSON, J.K. WONG & B.S.P. KWAN, 2004. A dragonfly species new to science found in Hong Kong. *Hong Kong Biodiv.* 2004(7): 13. (With Chin. s.). — (Second Author: 18 Chatsworth Rd, Brighton, BN1 5DB, UK).
A recently, at Wu Kau Tang discovered Fukienogomphus sp. is described (but not named!), and photographs are provided of its adult and larva. — The formal description of the new taxon is to appear in *Odonatologica*.
- (15720) TCHIBOZO, S. & Y. BRAET, 2004. Note préliminaire sur les insectes terrestres de la forêt classée de la Lama et de ses alentours (République du Bénin). *Bull. Soc. roy. belg. Ent.* 140(7/12): 157-162. (With Engl. s.). — (Second Author: Dept Zool., Fac. Sci. Agr., Passage des déportés 2, B-5030 Gembloux).
A commented checklist of the identified taxa. *Palpopleura lucia* is the sole odon. sp. listed.
- (15721) TENNESSEN, K.J., 2004. *Cordulegaster talaria* n. sp. (Odonata: Cordulegasteridae) from west-central Arkansas. *Proc. ent. Soc. Wash.* 106(4): 830-839. — (P.O. Box 585, 125 N Oxford Str., Wautoma, WI 54982, USA).
The new sp. is described, illustrated and compared with the related *C. bilineata* and *C. diastatops*. Holotype ♂: Arkansas, Montgomery Co., tributary of Caddo R., Caddo Gap, 28-V-1990; allotype ♀: same locality, 26-V-1990. The classification of this group of spp., as suggested by F.L. Carle (1983, *Ann. ent. Soc. Am.* 76: 61-68) and H. Lohmann (1992, *Opusc. zool. flumin.* 96: 1-18), is rejected, since many of the distinctions used by these authors to split *Cordulegaster* into various genera appear to be characters of degree or intermediate character states.
- (15722) TORRALBA-BURRIAL, A. & F.J. OCHARAN, 2004. Deformación abdominal en *Lestes viridis* (Van der Linden, 1825) (Odonata: Lestidae). *Boln Soc. ent. aragon.* 34: 273. — (Depto Biol. Organismos y Sistemas, Univ. Oviedo, ES-33071 Oviedo).
A mis-shaped abdomen in a ♂ from Huesca, Spain is described and illustrated. It is speculated, the damage has taken place during emergence.
- (15723) UÉDA, T., [Ed.], 2004. *How do Japanese see dragonflies*. Kyoto Univ. Press, Kyoto. xii+504 pp. Hardcover (15.5×21.5 cm). ISBN 4-87698-638-X. Price: ¥ 5700.- net. (Jap., with Engl. title). — (Publishers: 15-9 Yoshidakawara-machi, Sakyo-ku, Kyoto, 606-8305, JA).
This is a monumental work, approaching the Jap. Odon. from biological and ethnological points of view. The 18 chapters were contributed by various authors. A comprehensive, chapter-wise Engl. description of the book, prepared by Dr T. Uéda, has appeared in *Agrion*, *Purley* 9(1): 6-7 (2005; see *OA* 15729) and in *Odonatological Abstracts Service* 15: 65-67, item 4636 (2005; see *OA* 15743).

- (15724) UEDA, T., E. KINOSHITA & K ISHIHARA, 2004. Habitat use by *Nannophya pygmaea* Rambur and conservation of its habitat in a hillside marsh. *Jap. J. Conserv. Ecol.* 9: 25-36. (Jap., with Engl. s.). — (First Author: Ishikawa Agr. Coll., Suematsu, Nonoichi, Ishikawa, 921-8836, JA). In order to set up a conservation plan for this sp., its habitat use was investigated in a paddy field, in a valley nr Kanazawa, Ishikawa pref., Japan. The results are presented in much detail. Since *N. pygmaea* is apparently an opportunistic sp., adapted to small temporary marshes, a conservation strategy is suggested, involving the set up of a habitat network by ploughing abandoned paddy fields.
- (15725) VAN SWAAY, C. & D. GROENENDIJK, 2004. Monitoring butterflies and dragonflies in the Netherlands in 2003. *Rapp. De Vlindersticht. Wageningen* VS2004(11): 1-31. (Dutch, with Engl. s.). — (De Vlinderstichting, P.O. Box 506, NL-6700 AM Wageningen). The odon. were counted fortnightly (May & Sept.) at 352 sites. The average number of individuals per transect was slightly lower than in 2002, but still higher than in most previous yr. *Enallagma cyathigerum* was the most common sp. (almost 23000 individuals). For some spp. indices are presented. An alarming decreasing trend was detected in *Leucorhina pectoralis* and also in *Coenagrion hastulatum*, while *Calopteryx virgo* shows a strong positive trend.
- (15726) WILLIAMSONIA. Newsletter of the Michigan Odonata Survey (ISSN none), Vol. 8, No. 4 (Dec. 2004). — (c/o Dr M.F. O'Brien, Insect Div., Mus. Zool., Univ. Michigan, Ann Arbor, MI 48109-1079, USA). [All articles broken-up over several pp.] — *O'Brien, M.*: Back at Odonata headquarters: highlights of the 2002 and 2003 collecting seasons (pp. 1, 2, 3-6); — *Paulson, D.*: New common names for some North American Odonata (pp. 1, 7-8); — *Ekstrum, J.K.*: Hiawatha National Forrest ode surveys, 2003 (pp. 2, 8); — *Anonymous*: Hine's emerald critical habitat designation (pp. 6, 9); — *Upcoming meetings* (pp. 10-12).
- (15727) WITKAMP, C., 2004. The Utrecht-Holland grassland region: more than just fields and cows. *Vlinders* 19(2): 18-20. (Dutch, with Engl. s.). — (Author's address not stated). Includes information on recent occurrence (mostly with locality names) of ca 20 odon. spp. in the region. Vernacular nomenclature only.
- (15728) YOSHITA, S., Y. MINAMI & T. UÉDA, 2004. Water chemistry of several habitats of *Nannophya pygmaea* Rambur. *Jap. J. environ. Ent. Zool.* 15(1): 13-17. (Jap., with Engl. s.). — (Ishikawa Agr. Coll., Suematsu 1-308, Nonoichi, Ishikawa, 921-8836, JA). The marsh water of 4 habitats in Ishikawa pref., Japan was chemically analyzed. The acidity range (pH 5.7-10.4) indicates a higher tolerance of this sp. than hitherto assumed. The enrichment of mineral constituents, such as Ca²⁺, as compared to rainwater, suggests that *N. pygmaea* habitats are mainly fed by ground water.
- ## 2005
- (15729) AGRION, PURLEY. Newsletter of the Worldwide Dragonfly Association (ISSN 1476-2552), Vol. 9, No. 1 (Jan. 2005). — (c/o J. Silsby, 38 Astoria House, 116 High Str., Purley, Surrey, CR8 2XT, UK). [Selected articles:] *Conniff, K.*: Dragonflies of Yala and Tissamaharama (Sri Lanka) (pp. 3-4); — *Kakkassery, F.K.*: A dragonfly expedition to northern part of Western Ghats in Kerala state (pp. 4-5); — *Brandon, A.*: Dragons and temples in North India (pp. 5-6); — *Uéda, T.*: How do the Japanese see dragonflies? (pp. 6-7); — *Taylor, J.*: Dragons on the way to Komodo (Indonesia) (p. 8); — *Kalkman, V., A. Kop & M. Wasscher*: Distribution maps of Turkish odonates updated (pp. 8-9); — *Hämäläinen, M.*: Detective work on mysterious eastern demoiselles (pp. 9-10); — *Dow, R.*: Odonata, burglary and ballistic cicadas in South-East Asia (pp. 10-12); — *Paulson, D.*: Asian odonates: how do they stack up? (pp. 12-13); — *Kalkman, V.*: Some notes on dragonflies observed at the KBFSC, Brunei (pp. 13-14); — *Reels, G.*: Notes from non-odonatologist in Hong Kong (pp. 14-15); — *Oppel, S.*: Increasing awareness of dragonflies in Papua New Guinea: experiences from working with native people (pp. 15-16); — *Michalski, J.*: Handbook to the Odonata of New Guinea and the neighbouring islands (p. 16); — *Orr, B.*: Dragonflies of the Kebun Raya, Bogor, Java (p. 17).
- (15730) ATROPOS (ISSN 1478-8128), No. 25 (May 2005). — (c/o M. Tunmore, 36 Tinker Lane,

Maltham, Holmfirth, W Yorks, HD9 4EX, UK). [Odon. articles:] *McGeeney, A.*: Identification of red darters, pt 2 (pp. 34-36, pls 1-3 excl.); — *Dijkstra, K.-D.B., A. Branson & R. Lewington*: A proposal for European standard names for the Odonata of Europe, Turkey and north-west Africa (pp. 37-43); — *Parr, A.*: Scarlet darters *Crocothemis* spp. in Britain (pp. 43-46); — *Tunmore, M.*: Adventures in the field: Holland and back (pp. 46-48). — *Reports* from coastal stations, 2004: *Scott, M.A., W.J. Scott & T.R. Scott*: Longstone Heritage Centre, St Mary's, Isles of Scilly (pp. 50-51); — *Troake, P.*: Gibraltar Point NNR, Lincolnshire (p. 51). — *Views and reviews*: *Parr, A.*: Dragonflies of Bedfordshire, by S. Cham (p. 54); — *Lord, P.*: The dragonflies of Hampshire, by J. Taverner et al. (pp. 54-55). — *Muddeman, J., D. Agassiz, P. Mill, P. Taylor & A. Parr*: Some comments on the proposed new names for Odonata (pp. 55-59); — *Sites, K.*: Dragonfly conservation from the BDS (pp. 70-71).

- (15731) **DE BLOCK, M. & R. STOKS, 2005.** Pond drying and hatching date shape the tradeoff between age and size at emergence in a damselfly. *Oikos* 108(3): 485-494. — (First Author: *Evol. Biol. Gr.*, Dept Biol., Univ. Antwerp, Groenenborgerlaan 171, B-2020 Antwerpen).

The tradeoff between age and size at emergence, which plays a central role in life history theory, is hypothesized to be more pronounced under stressful conditions, especially when these conditions are combined. Empirical evidence for this is equivocal. Here, the hypothesis is tested by imposing combinations of 2 types of time stress (pond drying and late hatching date) in *Chalcolestes viridis* larvae. Those from a temporary pond and a permanent pond population were reared in outdoor tubs from egg hatching until emergence. Unexpectedly, larvae did not accelerate their life history in response to simulation of pond drying. Instead, larvae reared in temporary tubs generally had a slower development and growth than larvae reared in permanent tubs. Probably deteriorating growth conditions in temporary tubs associated with higher densities and lower food levels caused this pattern. In agreement with a higher time stress in late hatched larvae, they generally had faster development and growth than larvae that hatched early in the season. Drying regime and hatching date shaped the covariation pattern between age and size at emergence, but the tradeoff was only apparent when time stress was relaxed.

The tradeoff between age and size at emergence was only present in early hatched larvae, especially in permanent tubs (lowest time stress). Conversely, in late hatched larvae there was a strongly negative relationship between age and size at emergence, especially in temporary tubs (highest time stress). The results support an alternative hypothesis that deteriorating growth conditions (i.e. pond drying) may decouple the tradeoff under time stress. The absence of a tradeoff in more time-stressed late hatched larvae can be explained by their higher intrinsic growth rates, independent of deteriorating growth conditions. It is hypothesized that the pattern of less clear tradeoffs under the imposed types of time stress may be general.

- (15732) **DIGEST OF JAPANESE ODONATOLOGICAL SHORT COMMUNICATIONS**, Nos 16 (Jan. 2005), 17 (March 2005). — Compiled, translated and produced by K. Ishizawa (1644-15, Yamaguchi, Tokorozawa, Saitama, 35-1145, JA).

[No. 16:] *Naraoka, H.*: Daily activity and adult season of *Epiophlebia superstes* (Selys) in Aomori pref., northern Japan (Epiophlebiidae: Odonata) (pp. 1-7); — *Kano, K. & N. Yokoi*: On the plant worms of Odonata (pp. 7-10). — [No. 17:] *Naraoka, H.*: Fluctuations of the daily activity and the reproductive behaviour of *Mortonagrion selenion* (Ris) (pp. 1-5); — *Kita, H.*: Reproductive behaviour in two species of the genus *Mortonagrion* (pp. 5-6; *M. selenion*, *M. Hirosei*).

- (15733) **ELLIS, J., 2005.** Dragons & damsels in Nottinghamshire. *J. Derbys. Notts. Ent. Soc.* 154: 21-24. — (c/o S. Wright, Nat. Hist. Mus., Wollaton Hall, Nottingham, NG8 2AE, UK).

A review of the status of 26 odon. sp. in the county of Nottinghamshire, UK.

- (15734) **FLECK, G. & J. LEGRAND, 2005.** La larve d'*Aethriamanta rezia* Kirby, 1889 (Odonata, Anisoptera, Libellulidae). *Revue fr. Ent. (N.S.)* 27(1): 17-20. (With Engl. s.). — (Second Author: *Lab. Ent., Mus. natn. Hist. nat., 45 rue Buffon, F-75231 Paris cedex 05*).

The last instar is described and illustrated for the first time on specimens from Gabon. The differences with *A. circumsignata* are listed and a generic diagnosis is proposed.

- (15735) **GRACILE** [Newsletter of odonatology], Osa-

- ka (ISSN 1344-123X), No. 68 (27 March 2005). (Jap., with Engl. titles). — (c/o K. Inoue, 5-9, Fuminosato 4-chome, Abeno-ku, Osaka, 545-0004, JA).
- Shimura, S.*: The embryonic development and hatching of the eggs of *Rhipidolestes aculeatus yakusimensis* Asahina f. *kyushuensis* Asahina (pp. 1-4); — [...] of *Bayadera brevicauda ishigakiana* Asahina (pp. 5-7); — [...] of *Stylogomphus shirozui watanabei* Asahina (pp. 8-10); — The embryonic development of the eggs taken out from the abdomen of *Stylurus oculatus* (Asahina) (pp. 11-12); — *Hisashige, K.*: A hybrid specimen between *Libellula angelina* and *L. quadrimaculata* asahinai (pp. 13-15); — *Inoue, K.*: A proposal on the establishment and utilization of the Environmental Indices (2004) based on the odonate fauna (pp. 16-28); — *Doi, N. & K. Tani*: Report on the survey trip on the odonate fauna of southern part of Wakayama pref. (pp. 29-31); *Yamashita, Y.*: "Tombo-tsurei" (catching dragonflies by threads and stones) meeting held in Osaka pref. (10), 2003 (pp. 31-32); — *Miyatake, Y.*: Report of the field survey on the odonate fauna of Yodo river and Shirokita Park in 2003 (pp. 33-34); — *Inoue, K.*: Report on the survey trip on the odonate fauna of Mt Kongo, Osaka and Nara pref., 10: in summer 2003 (pp. 35-38); — *Tabata, O.*: Report of the survey trip for *Stylurus annulatus* in Kizu river, Kyoto pref. (pp. 39-40); — Report of the survey trip for *Sympetrum* species in Amino-cho, Kyoto pref. (pp. 41-42); — *Tani, K.*: Obituary Mr Teruo Kimura (p. 43); — *Inoue, K.*: Mr Teruo Kimura in memoriam (p. 44) — *Tsuda, S.*: In memoriam Mr Kimura (pp. 45-46; with bibliography); — *Oka, I.*: Memories of Mr Kimura and *Chlorogomphus iriomotensis* (pp. 47-49); — *Hirake, T.*: Memories of Mr Kimura (p. 50); — *Matsuda, I.*: The "Tombo-tsurei" meeting held in Mt Kongo, Osaka pref., 2003 [...] (pp. 51-53).
- (15736) GROENENDIJK, D., 2005. Opmerkelijk [A note on *Sympecma paedisca*]. *Vlinders* 20(1): 32. (Dutch). — (De Vlinderstichting, P.O. Bus 506, NL-6700 AM Wageningen).
2 *S. paedisca* individuals were taken on 6-XI-2004 at a locality in Drenthe, the Netherlands, ca 20 km from the place in Friesland, where they have been marked on 2-X-2004. This seems to be the longest distance covered by a marked zygopteran.
- (15737) INTERNATIONAL JOURNAL OF ODONATOLOGY (ISSN 1388-7890), Vol. 8, No. 1 (1 Apr. 2005).
Dijkstra, K.D.-B.: Taxonomy and identification of the continental African *Gynacantha* and *Heliaeschna* species (Odonata: Aeshnidae) (pp. 1-32); — *Leipelt, K.G. & F. Suhling*: Larval biology, life cycle and habitat requirements of *Macromia splendens*, revisited (Odonata: Macromiidae) (pp. 33-44); — *Reinhardt, K.*: Sperm numbers, sperm storage duration and fertility limitation in the Odonata (pp. 45-58); — *Sahlén, G. & I. Hedström*: The larva of *Mecistogaster linearis*, with notes on its abundance in lowland rainforest of Costa Rica (Odonata: Pseudostigmatidae) (pp. 59-66); — *Srivastava, D.S., M.C. Melnychuk & J.T. Ngai*: Landscape variation in the larval density of a bromeliad-dwelling zygopteran, *Mecistogaster modesta* (Odonata: Pseudostigmatidae) (pp. 67-79); — *von Ellenrieder, N. & R.W. Garrison*: A synopsis of the South American genus *Gomphomacromia* (Odonata: Gomphomacromiinae) (pp. 81-96); — *Wildermuth, H. & G. Horváth*: Visual deception of a male *Libellula depressa* by the shiny surface of a parked car (Odonata: Libellulidae) (pp. 97-105); — *Wilson, K.D.P.*: Odonata of Guangxi Zhuang Autonomous Region, China, 2: Anisoptera (pp. 107-168); — *Worthington, A., K. Haggert & M. Loosmore*: Seasonality of prey size selection in adult *Sympetrum vicinum* (Odonata: Libellulidae) (pp. 169-176).
- (15738) JOURDE, P., 2005. Une nouvelle espèce de libellule pour la Charente-Maritime: *Macromia splendens* (Pictet, 1843) (Odonata, Anisoptera, Macromiidae). *Annls Soc. Sci. nat. Charente-Maritime* 9(5): 529-534. (With Engl. s.). — (LPO, La Corderie Royale, B.P. 90263, F-17305 Rochefort cedex).
In 2004, the sp. was recorded at 4 rivers, the Dronne, Lary, Né and the Charente. This is the 61st odon. sp. on the Charente-Maritime list, France.
- (15739) MAES, D. & H. VAN DYCK, 2005. Habitat quality and biodiversity indicator performances of a threatened butterfly versus a multispecies group for wet heathlands in Belgium. *Biol. Cons.* 123: 177-187. — (First Author: Inst. Nat. Cons., Div. Species Ecol. & Popul., Kliniekstraat 25, B-1070 Brussels).
It is analyzed whether a single sp. (*Maculinea alcon*; Lepidoptera) was a useful indicator for the quality and area of wet heathlands in Belgium. In addition, a multispecies indicator approach (9 spp. of 5 taxonomic groups, incl. *Ceragriion tenellum* and

Leucorrhinia dubia) was also used. Unlike in the case of *M. alcon*, the multispecies indicator group signalled distinctions in biotope area and configuration, vulnerability to fragmentation, eutrophication, desiccation, and contained spp. of different trophic levels.

- (15740) MANGER, R., 2005. Wintertelling noordse winterjuffer. — {Winter count of *Sympecma paedisca*}. *NieuwsBr. Libellenwerkgr. Drenthe* 3(4): 1. (Dutch). — (Stoepveldsingel 55, NL-9403 SM Assen).
The count (the 3rd in the season) at Uffelter Binnenveld, Drenthe, the Netherlands, took place on 26-II-2005. For one of the individuals this was the 128th day of hibernation at the same spot.
- (15741) NIEUWSBRIEF LIBELLENWERKGROEP DRENTHE. — [NEWSLETTER OF THE DRAGONFLY WORKGROUP DRENTHE], Assen. Vol. 1, No. 1 (Nov. 2003); Vol. 2, Nos 2-21 (2 Feb. - 12 Dec. 2004); Vol. 3, Nos 1-5 (18 Jan. - 16 March 2005). (Dutch). Compiled, produced and distributed by R. Manger, Stoepveldsingel 55, NL-9403 SM Assen).
The newsletter appears at irregular intervals, and it is supplied to those interested mainly electronically. It reports on the life and work of the Drenthe Dragonfly Workgroup, the Netherlands. At present, it is mainly concerned with the research on *Sympecma paedisca*, and with the general regional recording, as required for the preparation/updating of the Drenthe odon. atlas (see OA 15271). — Note: the first 21 issues were numbered consecutively, while the numbering per vol. was introduced in 2005.
- (15742) NOVELO-GUTIERREZ, R. & J.A. GÓMEZ-ANAYA, 2005. Description of the larva of *Telebasis digiticollis* (Odonata: Zygoptera: Coenagrionidae). *Can. Ent.* 137(1): 61-66. (With Fr. s.). — (Depto Ent., Inst. Ecol. A.C., Apartado Postal 63, MX-91070 Xalapa, Veracruz).
Based on material from Veracruz, Mexico, the larva is described, illustrated and compared with the congeners. A note on the habitat and a key to the Mexican *Telebasis* larvae are also provided.
- (15743) ODONATOLOGICAL ABSTRACT SERVICE (ISSN 1438-0269), No. 15 (Jan. 2005). Compiled by M. Lindeboom (Landhausstr. 10, D-72074 Tübingen) & M. Schorr (Schulstr. 78, D-54314
- Zerf).
Abstracts Nos 4181-4654, on 70 pp., of the works published 1997-2004.
- (15744) PENNINGTON, M.G., 2005. First record of *Pyrrhosoma nymphula* (Odon.: Coenagrionidae) in Shetland. *Ent. Rec.* 117(2): 84. — (9 Daisy Park, Baltasound, Unst, Shetland, ZE2 9EA, UK).
So far, *Enallagma cyathigerum* is the only known breeding odon. sp. in Shetland, UK. On 3-VII-2004, a ♂ *P. nymphula* was photographed at an isolated garden pond, which had not had any plants added to it for at least 2 yr. This would appear to rule out the possibility that the insect arrived as a larva with plants.
- (15745) PIAZZINI, S., L. FAVILLI & G. MANGANELLI, 2005. Segnalazioni faunistiche italiane. 433. *Boyeria irene* (Fonscolombe, 1838) (Odonata: Aeshnidae). *Boll. Soc. ent. ital.* 137(1): 61-62. — (Dipto Sci. Ambientali, via Mattioli 4, I-53100 Siena/SI).
A considerable number of larvae from various localities in (mostly southern) Tuscany is brought on record, and the status of the sp. in Italy is briefly discussed.
- (15746) PIORSKI, N.M., J.R.L. ALVES, M.R.B. MACHADO & M.M.F. CORREIA, 2005. Alimentação e ecomorfologia de duas espécies de piranhas (Characiformes: Characidae) do lago de Viana, estado de Maranhão, Brasil. *Acta amazon.* 35(1): 63-70. (With Engl. s.). — (First Author: Depto Oceanogr. e Limnol., UFMA, Campus do Bacanga, Av. does Portugueses s/n, BR-65085-580 São Luis, MA).
The composition of the diet was analyzed in 2 piranha spp. from Viana Lake, viz. *Serrasalmus* aff. *brandtii* and *Pygocentrus nattereri*. In both of these, the odon. represent a major food item, depending on the season.
- (15747) PROT, J.-M., F. MORA, D. LECORNU & B. TISSOT, 2005. Les libellules des tourbières de Franche-Comté. *Écho Tourbières* 10: 18-20. — (Office Insectes et Envir., OPIE Franche-Comté, Mus. Hist. Nat., La Citadelle, F-25000 Besançon).
A general presentation of the odon. world of the Franche-Comté marshes, France (45 spp., a checklist is not included). Among the highlights, there are *Aeshna subarctica elisabethae*, *Epitheca bimaculata*, *Somatochlora alpestris*, *S. arctica*, *Leucorrhinia du-*

bia, *L. pectoralis*, etc. Conservation of the habitats is advocated.

- (15748) REEMER, M., F. KOK, R.H. DE BRUYNE, V.J. KALKMAN & H. TURIN, 2005. Suitability of different groups of terrestrial invertebrates for assessment of heterogeneity of terrestrial parts of lowland floodplains. *Arch. Hydrobiol. Suppl.* 155(1/4): 289-303. — (First Author: EIS-Nederland, P.O. Box 9517, NL-2300 RA Leiden). A survey was carried out (2001-2002) on several invertebrate groups, incl. Odon., in 5 floodplain areas along the Waal R., the Netherlands. The aim of the study was to compare the investigated taxa in terms of biodiversity, in order to determine their sensitivity for heterogeneity of floodplain ecosystems. The odon. fauna of the Dutch Rhine R. branches is neither very specific nor very diverse. Many spp. that used to occur there in the past are now absent. This is mainly due to the water quality deterioration and habitat loss. At present, therefore, the odon. are not suitable for assessing floodplains in the Netherlands at a regional or small spatial scale.
- (15749) REZBANYAI-RESER, L. & S. BIRRER, 2005. Der Tag der Artenvielfalt in Sursee, Kanton Luzern, 2004 und die dabei festgestellten Insekten (Insecta). *Ent. Ber. Luzern* 52: 79-96. — (First Author: Natur-Mus. Luzern, Kasernenplatz 6, CH-6003 Luzern). Includes a list of 13 odon. spp., recorded at Sursee, canton Luzern, Switzerland, 12/13-VI-2004.
- (15750) ROUQUETTE, J.R. & D.J. THOMPSON, 2005. Habitat associations of the endangered damselfly, *Coenagrion mercuriale*, in a water meadow ditch system in southern England. *Biol. Cons.* 123: 225-235. — (Biosci. Bldg, Sch. Biol. Sci., Univ. Liverpool, Crown Str., Liverpool, L69 7ZB, UK). Density estimates of mature adult *C. mercuriale* were obtained during an intensive mark-release-recapture study over 7.65 km of a water meadow ditch network in the Itchen Valley, Hampshire, UK. Detailed habitat information was also collected, including a variety of physical variables, and data about the in-channel and bankside vegetation. *C. mercuriale* density and movement were analyzed in relation to habitat variables and local population size using Generalized Linear Models. Mean adjacent population density was the single most important factor determining density. However, the sp. was also associated with a number of habitat features, the most important of which were a channel substrate consisting primarily of silt, wide underwater ledges (berms), in-channel emergent dicots, and bankside monocots. The presence of trees was negatively associated with damselfly density. Mean net lifetime movement was greatest from sections with low density, with smaller than average berms, and with deeper water. The causes and consequences of these findings are discussed in relation to the conservation and management of this rare sp.
- (15751) RUITER, J., J.-L. VAN EIJCK & V. MENG, 2005. *Libellen in Overijssel: voorlopige verspreidingskaarten (1995-2003)*. — [*Dragonflies in the Overijssel province, the Netherlands: preliminary distribution maps (1995-2003)*]. Libellenwerkgroep Overijssel, Zwolle. 74 pp. Softcover (14.7×20.6 cm). ISBN none. (Dutch). — (Publishers: Cornelis Houtmanstraat 10, NL-8023 EA Zwolle). Commented distribution maps of 56 spp. sighted in the province during 1995-2003.
- (15752) SCHENK, K. & D. SONDERGATH, 2005. Influence of egg size differences within egg clutches on larval parameters in nine libellulid species (Odonata). *Ecol. Ent.* 30(4): 456-463. — (Inst. Geoökol., Techn. Univ. Braunschweig, Langer Kamp 19 c, D-38102 Braunschweig). In libellulids, egg size differs between spp. and populations. There are also size differences within egg clutches of individual ♀♀. Past experiments suggest that there are 2 different types of egg clutches: egg size decreases significantly during oviposition in spp. that perform non-contact guarding during oviposition, while egg size in spp. ovipositing in tandem is randomly distributed. This study deals with the possible consequences of egg size variation within the different egg clutch types. In 9 European and African spp. it was examined whether there is a correlation between egg development time, offspring sex or larval and egg size. In some spp. larger eggs needed more time to develop, in some spp. no correlation between egg size and egg development time could be found, whereas in other spp. larger eggs developed faster. The sex ratio was biased towards ♀♀ in *Leucorrhinia dubia* and in *Sympetrum striolatum* and egg size was not associated with sex. In both egg clutch types larger eggs resulted in larger larvae, and evidence was found that the effects of egg size diminished with progressing larval development

under favourable conditions, though it is possible that the effects may have a greater influence under harsh circumstances.

- (15753) STEVENS, L.E. & R.A. BAILOWITZ, 2005. Distribution of *Brechmorhoga clubskimmers* (Odonata: Libellulidae) in the Grand Canyon region, southwestern USA. *West. N. Am. Naturalist* 65(2): 170-174. – (First Author: Stevens Ecological Consulting, Box 1315, Flagstaff, AZ 86002, USA).

The distribution of *B. mendax* and *B. pertinax* in N Arizona and S Nevada was examined. *B. mendax* occurs widely throughout the Southwest and in Arizona up to the Mogollon Rim and up to the Colorado R., at elevations 110-1400 m. In Grand Canyon it occurs along small to large tributaries and on the mainstream at elevations below 650 m. *B. pertinax* is reported along 5 small, perennial tributaries on the S side of central Grand Canyon. It appears to be somewhat more stenotolerant in its habitat requirements than *B. mendax*. The presence of *B. pertinax* isolated populations in Grand Canyon is an example of neotropical influence on the fauna and indicates biogeographic corridor and refuge functions of this large, deep canyon.

- (15754) TURGEON, I., R. STOKS, R.A. THUM, J.M. BROWN & M.A. McPEEK, 2005. Simultaneous Quaternary radiation of three damselfly clades across Holarctic. *Am. Nat.* 165(4): E78-E107. – (Last Author: Dept Biol. Sci., Dartmouth Coll., Hanover, NH 03755, USA).

If climate change during the Quaternary shaped the macroevolutionary dynamics of a taxon, it is expected to see 3 features in its history, viz. (1) elevated speciation and extinction rates should date to the time, (2) more northerly distributed clades should show greater discontinuities in these rates, and (3) similar signatures of these effects should be evident in the phylogenetic and phylodemographic histories of multiple clades. In accordance with the role of glacial cycles, speciation rates increased in the Holarctic *Enallagma* during the Quaternary, with a 4.25× greater increase in a more northerly distributed clade as compared with a southern clade. Finer scale phylogenetic analyses of 3 radiating clades within the northern clade show similar, complex recent histories over the past 250,000 yr to produce 17 nearctic and 4 palearctic extant spp. All 3 are marked by nearly synchronous deep splits that date to approx. 250,000 yr ago, resulting in speciation

in 2. This was soon followed by significant demographic expansion in at least 2 of the 3 clades. In 2, these expansions seem to have preceded the radiations that have given rise to most of the current biodiversity. Each also produced spp. at the periphery of the clade's range. In spite of clear genetic support for reproductive isolation among almost all spp., mtDNA signals of past asymmetric hybridization between spp. in different clades also suggest a role for the evolution of mate choice in generating reproductive isolation as spp. recolonized the landscape following deglaciation. These analyses suggest that recent climate fluctuations resulted in radiations driven by similar combinations of speciation processes acting in different lineages. – *E. cyathigerum* was hitherto generally considered as a single sp. with a circumpolar distribution. In the present paper it is shown that the Nearctic and Palearctic entities that share the specific epithet “*cyathigerum*” are actually 2 spp., one in each region. Therefore, the 1861 Hagen's name, *E. annexum*, is resurrected and used throughout for the New World “*cyathigerum*”.

- (15755) UEDA, K., T. KIM & T. AOKI, 2005. A new record of Early Cretaceous fossil dragonfly from Korea. *Bull. Kitakyushu Mus. nat. Hist. (A)* 3: 145-152. – (First Author: Kitakyushu Mus. Nat. Hist. & Human Hist., 2-4-1 Higashida, Yahatahigashi-ku, Kitakyushu, 805-0021, JA).

A well-preserved specimen of *Hemeroscopus baisicus* Pritykina (Anisoptera: Hemeroscopidae) is described and illustrated from the Early Cretaceous (Gyeongsang Group) of Banryong-ri, Chukdong myeon, Sacheon-si, Gyeongsangnom-do, Korea. This is the first record from Korea.

- (15756) VERSTRAEL, T., 2005. Butterflies and dragonflies in Dutch nature policy. *Vlinders* 20(1): 16-19. (Dutch, with Engl. s.). – (Author's address not stated).

The Netherlands nature conservation policy is primarily based on the purchase, development and management of nature areas within the National Ecological Network. Secondly, the conservation of spp. and their habitats is receiving attention. Dutch Butterfly Conservation was closely involved in setting up the Multiple Plan for the implementation of the Species Specific Policy, covering also 11 odon. spp. Its aims are to improve habitat conditions for existing populations, and to create appropriate conditions at new sites in order to attract the spp. to

colonise them. Species Specific Nature Policy already yielded some results, but met also with some difficulties, mainly due to the lack of funds and lack of integration into other fields of policy.

- (15757) WHITE, J.M. & T.C.R WHITE, 2005. Macro-invertebrates captured in artificial substrates in the restored Watervalley wetlands in South Australia. *Trans. R. Soc. S. Aust.* 129(1): 25-38. – (First Author: Sch. Nat. & Built Envir., Mawson Lakes Campus, Univ. S. Australia, Mawson Lakes, SA 5095, AU).

13 identified odon. spp. are recorded from 6 wetlands in the upper SE of S. Australia, 1992-1995. During this study the salinity of the wetlands fluctuated between fresh or slightly saline and moderately saline; in 2 instances the salinity temporarily exceeded that of sea water. The changes in salinity had no apparent negative effect on the odon. abundance.

- (15758) WILDERMUTH, H., 2005. Kleingewässer-Management zur Förderung der aquatischen Biodiversität in Naturschutzgebieten der Agrar- und Urbanlandschaft. Wirkungskontrolle am Beispiel Libellen im Schweizer Mittelland. *NatSchutz Landschaftsplanung* 37(7): 193-201. (With Engl. s.). – (Haltbergstr. 43, CH-8630 Rüti).

The study describes how the aquatic flora and fauna could be protected and promoted by suitable shaping and management, using the example of odon. in the "Drumlinlandschaft Zürcher Oberland", which is the relict of an originally widestretched moorland in the Swiss Midlands. After abandoning the extensive use of bedding and peat around 1950, the peat cuttings and ditches became widely overgrown and the diversity and population size of aquatic organisms reduced. In the course of 35 yr of protection activities peat cuttings were regenerated and maintained according to the rotation principle: ditches were renewed, extended and retained in spatial and

temporal sections, and measures were undertaken for the regeneration of rised bogs. Efficiency controls showed that the species diversity of aquatic organisms could be conserved to a large extent. Additionally, some spp. could be resettled in new areas. Monitoring controls concentrated on dragonflies. From the 49 spp. identified, 23 spp. regularly and 8 spp. sporadically reproduce in the area. In the first yr, up to 28 spp. were found around the newly created ponds and streams. At the longer existing ponds, 26 spp. were identified in 2004, incl. those requiring advanced succession stages. Based on the exuviae, the development of the *Leucorrhinia pectoralis* metapopulation during the past 20 yr is outlined. The establishment of a regional network of regenerated peat cuttings is advocated for the sake of the long-term maintenance of biodiversity.

- (15759) ZHANG, D.-Z. & Z.-M. ZHENG, 2005. Application of molecular genetic marker technique in Odonata studies. *Chin. Bull. Ent.* 42(2): 123-127. (Chin., with Engl. s.). – (First Author: Coll. Life Sci., Ningxia Univ., Yinchuan-750021, P.R. China).
A review, with bibliographic references.

- (15760) ZHOU, X., W.-b. ZHOU & S.-x. LU, 2005. Two new species of Onychogomphinae (Odonata: Gomphidae) from Yunnan province, China. *Entomotaxonomia* 27(1): 1-4. (Chin., with Engl. s.). – (Second Author: Zhejiang Mus. Nat. Hist., Hangzhou, Zhejiang-310012, P.R. China).
Nichogomphus lui sp. n. (holotype ♂: Malipo Co., Wenshan Miaozu, Yunnan; 28-V-2000) and *Scalmogomphus wenshanensis* sp. n. (holotype ♂: same locality and date as above) are described, illustrated, and compared with *N. flavicaudus* (Chao) and *S. falatus* Chao, respectively. The holotypes and the other specimens are deposited in the Zhejiang Mus. Nat. Hist.