ODONATOLOGICAL ABSTRACTS

1995

(16851) FRANK, J.H. & E.D. McCOY, 1995. Precinctive insect species in Florida. *Fla Ent.* 78(1): 21-35. – (First Author: Ent. & Nematol. Dept, Univ. Florida, Gainesville, FL 32611, USA).
The Florida (USA) insect spp. are classified into 6 categories, for which the following terminology is used: (1) Indigenous (native): (a) precinctive (native and restricted to the area specified), (b) indigenous but not precinctive (native to the area specified and elsewhere); (2) Adventive (non-indigenous, arrived from elsewhere): (c) immigrant (not native to the area specified, and arrived there by means other than purposeful introduction), and (d) introduced (not native to the area specified and arrived there by purposeful introduction. – An estimated 144 odon. spp. were indigenous to Florida at the time of the European discovery (40 Zygopt., 104 Anisopt.). Of these, 1 Zygopt. and 4 Anisopt. spp. are precinctive. There are now 12 established spp. of immigrant Odon.: 1 from Asia, 3 from N America, and 8 from neotropics. No odon. sp. has been (deliberately) introduced to Florida. Additionally, 7 spp. have been found as vagrants, without breeding populations.

(16852) LABHART, T. & D.-E. NILSSON, 1995. The dorsal eye of the dragonfly Sympetrum: specializations for prey against the blue sky. *J. comp. Physiol.* (A) 176: 437-453. – (First Authr: Zool. Inst., Univ. Zürich, Winterthurerstr. 190, CH-8057 Zürich).
Dragonflies of the genus Sympetrum have compound eyes conspicuously divided into dorsal and ventral regions. Using anatomical, optical, electro-physiological, in-vivo photochemical and microspectrophotometrical methods, the design and physiology of the dorsal part which is characterized by a pale yellow-orange screening pigment and extremely large facets were investigated in S. vulgatum. The upper part of the yellow dorsal region is a pronounced fovea with interommatidial angles approaching 0.3°, contrasting to the much larger values of 1.5°-2° in the rest of the eye. The dorsal eye part is exclusively sensitive to short wavelengths (below 520 nm). It contains predominantly blue-receptors with a sensitivity maximum at 420 nm, and a smaller amount of UV-receptors. The metarhodopsin of the blue-receptors absorbs maximally at 535 nm. The yellow screening pigment transmits longwavelength light (cut-on 580 nm), which increases the conversion rate from metarhodopsin to rhodopsin. It is demonstrated that because of the yellow pigment screen nearly all of the photopigment is in the rhodopsin state under natural conditions, thus maximizing sensitivity. Theoretical considerations show that the extremely long rhabdoms (1.1 mm) in the dorsal fovea are motivated for absorption reasons alone. A surprising consequence of the long rhabdoms is that the sensitivity gain, caused by pumping photopigment into the rhodopsin state, is small. To explain this puzzling fact, arguments are presented for a mechanism producing a gradient of rhodopsin concentration along the rhabdom, which would minimize saturation of transduction units, and hence improve the signal-to-noise ratio at high intensities. The latter is of special importance for the short integration time and high contrast sensitivity these animals need for spotting small prey at long distances.

2000

(16853) PINDER, M.A., S.A. HALSE, R.J. SHIEL & J.M. McRAE, 2000. Granite outcrop pools in

south-western Australia: foci of diversification and refugia for aquatic invertebrates. *Jl R. Soc. West. Aust.* 83: 149-161. – (First Author: Dept Conserv. & Mngmt, CALMScience, P.O. Box 51, Wanneroo, WA 6946, AU).
11 odon. spp., recorded from granite outcrops in the wheatbelt wetlands of Western Australia, are listed. Pools and streams on granite outcrops in SW Australia are reliably filled, though highly seasonal freshwater habitats.

2001

(16854) CZERNIAWSKA-KUSZA, I., 2001. Changes in the bottom fauna community of the lower course of Nysa Klodzka river under the influence of abiotic and anthropogenic factors. *Zaszyty przyr. opol. Tow. przyjac. Nauk* 35: 72-84. (Pol., with Engl. s.). – (Zaklad Monitoringu & Prognoz Srodowiskowych, Univ. Opolski, Oleska 22, PO-45-052 Opole).
7 odon. spp. are listed; – Poland.

(16855) PLIŪRAITĖ, V., 2001. Seasonal changes of the abundance, biomass, species composition of macrozoobenthos in the rivers Merkys and Šventoji. *Ekologija*, Vilnius 2001(4): 16-30. (Lithuanian, with Engl. s.). – (Ekologijos Inst., Akademijos g. 2, LT-2600 Vilnius).
Calopteryx splendens, Gomphus vulgatissimus and Libellula quadrimaculata are recorded from the Šventoji R., Lithuania.

(16856) RELYEA, R.A., 2001. The relationship between predation risk and antipredator responses in larval anurans. *Ecology* 82(2): 541-554. – (Dept Biol. Sci., Univ. Pittsburgh, PA 15260, USA).
The predator-induced behavioural and morphological responses are quantified in 6 spp. of larval anurans (Bufo americanus, Hyla versicolor, Rana catesbeiana, R. clamitans, R. pipiens, R. sylvatica) across 5 different predator environments (incl. Anax spp.) and it was found that these responses were prey- and predator specific. The relationship between risk and response across the 6 prey spp. were also examined and it was found that higher predation risk across spp. leads to greater increases in tail depth in the presence of Anax.

(16857) SKILSKY, I.V. & O.M. KLITIN, 2001. Trophic relations of the Little Bittern (Ixobrychus minutus) in the Prut-Dniester interfluve of Ukraine. *Ekologiya*, Berkut 10(2): 203-206. (Ukrain., with Engl. s.). – (P.O. Box 532, UKR-58001 Chernivtsi).
In stomach contents of individuals collected between May and September, Aeshna grandis was identified among diet items in June.

(16858) WOODWARD, G. & A.G. HILDREW, 2001. Invasion of a stream food web by a new top predator. *J. Anim. Ecol.* 70: 273-288. – (First Author: IERM, Univ. Edinburgh, Mayfield Rd, Edinburgh, EH9 3JU, UK).
Full paper; for an elsewhere published advance abstract see *OA* 12188.

2002

(16859) FENOGLIO, S., G. BADINO & F. BONA, 2002. Benthic macroinvertebrate communities as indicators of river environment quality: an experience in Nicaragua. *Revta Biol. trop.* 50(3/4): 1125-1131. (With Span. s.). – (Dipto S.T.A., Univ. Piemonte Orientale, Via Cavour 84, I-15100 Alessandria).
10 odon. genera are listed from 7 streams of the Rio San Juan hydrographic system, SE Nicaragua.

(16860) LABUS, N., 2002. [*A list of dragonflies (Odonata) of the Medvedce retention reservoir*]. Individualna naloga Sist. zool. nevretenčarjev, Univ. Ljubljana. 14 pp. (Slovene). – (c/o Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
From the Reservoir nr Pragarsko, Slovenia, 26 spp. are listed, and their occurrence in various local habitats is noted. Sympetrum depressiusculum is among the 6 redlisted spp. – See also *OA* 13292.

(16861) LARA-VÁZQUEZ, J.A. & M.P. VILLEDA-CALLEJAS, 2002. Odonatos en la manifestación cultural de los pueblos. *Revta Chapingo* (Cien. Fores. & Ambiente) 8(2): 119-124. (With Engl. s.). – (Lab. Zool., FES-Iztacala, UNAM, Ave. de los Barrios 1, MX-54090 Los Reyes Iztacala).
A brief outline of some ethno-odonatological aspects, including sections on folk appellations, superstitions and symbolism, on dragonflies in music and figurative arts, in literature and poetry, etc.

(16862) MANCINELLI, G., M.L. COSTANTINI & L. ROSSI, 2002. Cascading effects of predatory fish exclusion on the detritus-based food web of a lake littoral zone (Lace Vico, central Italy). *Oecologia*

133: 402-411. – (Dept Genet. & Mol. Biol., Ecol. Area, Univ. Roma 'La Sapienza', Via dei Sardi 70, I-00185 Roma).
An exclosure experiment was carried out in the reed-dominated littoral zone of the volcanic Lake Vico to test whether the impact of predatory fish on benthic invertebrates cascades on fungal colonisation and breakdown of leaf detritus. Among invertebrate predators, odon. larvae (and the leech Erpobdella octoculata) were the most abundant taxa (Odon. abundance: 2.5%, biomass: 3.1%). In general, invertebrate predators did not show any significant response to fish exclusion, either on a trophic guild or on a single taxon level.

(16863) PFAJFAR, U., 2002. [*Some dragonflies in the Komenda environs*]. Individualna vaja Sistematsko-ekološki blok, Univ. Ljubljana, 2 pp. (Slovene). – (c/o Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
Komenda is situated on the northern fringes of the Ljubljana basin, Slovenia. 11 spp. are recorded from 3 locations (Lahovče, Podboršt, Tunjščica river).

(16864) STAVENGA, D.G., 2002. Colour in the eyes of insects. *J. comp. Physiol.* (A) 188: 337-348. – (Dept Neurobiophysics, Univ. Groningen, NL-9747 AG Groningen).
Deals with Diptera and Lepidoptera, but in the discussion the results of the work on Odon., described in *OA* 16852, are considered.

(16865) WOODWARD, G. & A.G. HILDREW, 2002. Body-size determinants of niche overlap and intraguild predation within a complex wood web. *J. Anim. Ecol.* 71: 1063-1074. – (First Author: Dept Zool. & Anim. Ecol., Univ. Coll. Cork, Cork, Ireland).
The predator guild was examined in the well characterized food web of Broadstone Stream, SE England (UK), to assess the importance of body-size within and among species in relation to intraguild predation and niche overlap. Cordulegaster boltonii was the largest predator. In agreement with recent food web theory, mutual predation and cannibalism were frequent. This intraguild predation was strongly asymmetric, being determined by relative body-size within and among spp. Predator size determined dietary overlap, with ontogenetic shifts often outweighing taxonomic differences. The body-size constraints driving feeding relationships within the predator guild, in terms of both resource partitioning and intraguild predation, lend support to niche model of food web structure.

2003

(16866) DRENIK, K., 2003, [*Dragonflies of the Koprska Brda region*]. Individualna vaja Sist. zool. nevretenčarjev, Univ. Ljubljana. 10 pp., 3 maps excl. (Slovene). – (c/o Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
22 spp. are recorded (spring-summer 2003) from 11 localities (alt. 20-300 m) in the Koperska Brda region, NW Istria, Slovenia. The sites are briefly described. The negative impact on dragonfly life of goldfish introduction in some ponds is emphasized.

(16867) FONTENLA, J.L., 2003. Libélulas (Insecta: Odonata) de Sierra de los Organos, Cuba. *Cocuyo* 13: 28-29. – Mus. Nac. Hist. Nat., Obispo 61, Habana Vieja-10100, Cuba.
A commented list of 35 spp.

(16868) [KIAUTA, B.] DE STEFANI, E., 2003. *Cognomi della Carnia*. Soc. filologica friulana, Udine. ii+370 pp. ISBN 88-7636-018-2. – (Publishers: Via Manin 18, I-33100 Udine).
A brief outline of the history of the (Carnian Rheto-Romance) family name of the odonatologist B. Kiauta is presented on p. 265. – In 1347 the family appears under the name *Ciavalute* (cf. G.B. Corgnali, *Schedario antroponimico*; deposited at Biblioteca civica V. Joppi, Udine) and since 1521 as *Chiautta* (Archivo di Stato di Udine, No. 4884). Mid 19th century, Giuseppe Chiautta moved from Cavazzo carnico (Carnia, Friuli; Italy) to Landol nr Postojna in Slovenia. On 23 Aug. 1909, the Landol branch amended their family name to the phonetical spelling, *Kiauta* (cf. *Status animarum*, Sv. Martin, Fara nr Landol).

(16869) McKEE, D., I. HARVEY, M. THOMAS & T.N. SHERRATT, 2003. Mite infestation of Xanthocnemis zealandica in a Christchurch pond. *N. Z. Jl Zool.* 30: 17-20. – (First Author: Sch. Biol. & Biomed. Sci., Univ. Durham, Durham, DH1 3LE, UK).
Infestation of X. zealandica with larval Arrenurus spp. was examined in a single Canterbury (New Zealand) population during Nov.-Dec. 2001. Tenerals

of both ♂ and ♀ morphs showed a similar prevalence of infestation, higher than the prevalence of infestation found in mature adults. As anticipated, mature adult ♂♂ were more frequently infested than mature ♀♀, but there was no evidence that infestation reduced the mating activity of ♂♂. Up to 62 mites were found per infested host, although mean mite burdens were not significantly related to the size, gender or morph of the hosts.

(16870) SKRINJAR, P. (illustrations by D. Demšar), 2003. *Modri kačji pastir – [Blue dragonfly]*. Gyrus, Ljubljana. 12 pp. ISBN 961-6310-28-X. (Slovene).
A fable on the life of Calopteryx virgo.

(16871) SMITH, G.R., D.A. VAALA & H.A. DINGFELDER, 2003. Distribution and abundance of macroinvertebrates within two temporary ponds. *Hydrobiologia* 497: 161-167. – (Dept Biol., Denison Univ., Granville, OH 43023, USA).
The invertebrate distribution was investigated in 2 temporary ponds in central Ohio, USA. The densities of Zygopt. larvae were positively related to dissolved oxygen and depth and declined across the study. In one of the ponds, the Anisopt. larval density decreased 75% from the first sampling date (31 May) to the second (21 June). The decrease is tentatively ascribed to the emergence in the period between the samples. In the other pond, no Anisopt. decline occurred, which was perhaps due to the additional ovipositions since the pond retained water longer, and to the recruitment since it was closer to potential sources of recruits.

(16872) VOGRIN, M., 2003. Mrtvica pri Petanjcih: Zaton ob Muri. – [The oxbow at Petanjci: "Zaton ob Muri"]. *Svet & Ljudje* 6(3): 32-39. (Slovene). – (Zg. Hajdina 83 c, SI-2288 Hajdina).
A description of the oxbow (Prekmurje, NE Slovenia), with a reference to the local occurrence of Orthetrum albistylum and Leucorrhinia caudalis.

(16873) WESTNEAT, M.W., O. BETZ, R.W. BLOB, K. PEZZAA, W.J. COOPER & W.-K. LEE, 2003. Tracheal respiration in insects visualized with synchrotron X-ray imaging. *Science* 299: 558-560. – (First Author: Dept Zool., Field Mus. Nat. Hist., Chicago, IL 60605, USA).
Using a synchrotron beam to obtain X-ray videos of breathing insects, the rapid tracheal inflation-compression is described. This is a previously undescribed active mechanism of respiration, occurring in Blattodea, Coleoptera, Dermaptera, Diptera, Hemiptera, Lepidoptera, Odon., and Orthoptera.

2004

(16874) BARET, S., M. ROUGET, I. NÄNNI & T. LA BOURGEOIS, [Eds], 2004. *Proceedings of a workshop on biodiversity dynamics on La Réunion Island*. Region Réunion Conseil Regional, Saint Pierre-Saint Denis. 72 pp. ISBN none.
[Odonatol. papers]: *Quilici, S., M. Attie, F. Chiroleu & B. Reynaud*: Current status of knowledge on endemic entomofauna from highlands of La Réunion (p. 14); – *Samways, M.*: Insect diversity conservation with special reference to the Moscarenes (pp. 15-17).

(16875) BUDEN, D.W., 2004. The Odonata of Pakin, Ant, Mokil, and Pingelap atolls, eastern Caroline Islands, Micronesia. *Micronesica* 37(1): 145-155. – (Div. Nat. Sci. & Mathematics, Coll. Micronesia-FSM, P.O. Box 159, Kolonia, FM-96941 Pohnpei, Fed. Micronesia).
Ischnura aurora, Anax guttatus, Agrionoptera sanguinolenta, Diplacodes bipunctata, Pantala flavescens, Tholymis tillarga and Tramea transmarina are recorded. None is endemic to the islands, but A. sanguinolenta is known to breed only in Chuuk and Pohnpei states, East-central Micronesia. Multiple surveys on Ant and Pingelap reveal differences in species composition on the 2 atolls, but no marked seasonal variations. Evidence of breeding was obtained for all spp. but I. aurora and D. bipunctata, and data suggest that breeding occurs year-round.

(16876) HORTH, L., 2004. Predation and the persistence of melanic male mosquitofish (Gambusia holbrooki). *J. evol. Biol.* 17: 672-679. – (Sect. Evol. & Ecol., Univ. California Davis, 1 Shields Ave, Davis, CA 95616, USA).
54 predation trials were conducted in mesocosms and libellulid larvae were used as predators. Dragonfly larvae consume significantly more silver (43) than black (11) Gambusia ♂♂. The test is highly significant.

(16877) KUHELJ, A., 2004. *[Dragonflies from Ljubljansko Barje]*. Individualna vaja, Sist. zool. nevretenčarjev, Univ. Ljubljana. 5 pp., 1 map excl.

(Slovene). – (c/o Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
A checklist of 23 spp., collected June-Aug. 2004 at 4 localities on the southern fringes of the Ljubljana Moor, Slovenia.

(16878) MARDEN, J.H. & J.R. COBB, 2004. Territorial and mating success of dragonflies that vary in muscle power output and presence of gregarine gut parasites. *Anim. Behav.* 68: 657-665. – (First Author: Dept Biol., 208 Mueller Labs, Pennsylvania St. Univ., University Park, PA 16802, USA).
Competition for mating territories in libellulid dragonflies involves aerial contests that require high levels of exertion and locomotor performance. Here the hypothesis is tested that success of ♂ Libellula pulchella in territoriality and mating is affected by muscle contractile performance, and it is examined how gregarine gut parasites affect muscle performance, energy reserves and territorial behaviour of their hosts. At a pond where gregarine parasites are rare, long-term territorial and mating success of ♂♂ showed a significant positive association with muscle power output. At a nearby pond that had a much higher incidence and intensity of gregarine parasitism, there was no relationship between muscle performance and short-term territorial success. Instead, ♂♂ assorted themselves into aggressive territory holders and submissive satellites, with the large majority of territory holders having no parasites and nearly all of the satellites parasitized. Unparasitized ♂♂ showed a tight positive relationship between muscle power and fat content, which suggests that they use a known phenotypic adjustment in muscle contractile performance to allow the energy consumption rate of the flight muscles to match the rate at which energy can be mobilized from storage pools. Parasitized dragonflies showed a small decrease in average fat content and a marked change in the relationship between fat content and muscle power output. The apparent loss of the ability to match muscle contractility to the size of the energy storage pool in parasitized dragonflies suggests that gregarines may have systemic effects on signalling pathways and energy homeostasis. By indirectly choosing ♂♂ that had successfully competed for territories, ♀♀ consistently mated with physiologically or immunologically superior ♂♂ despite large between-pond differences in ♂ behaviour and the incidence and intensity of parasitic infection.

(16879) REYES-VILLANUEVA, F., 2004. Generalidades y potencialidad en biocontrol de las gregarinas entomoparásitas. *Ciencia Univ. auton. Nuevo León* 7(3): 355-360. (With Engl. s.). – (Fac. Cienc. Biol., Univ. Nuevo León, San Nicolás de los Garza, Apdo Postal 109-F, MX-66450 Nuevo León).
Based on literature, a brief overview is presented of systematic organisation, biological life cycle, host range (incl. Odon.) and pathogenicity of entomoparasitic gregarines (Protista; Sporozoa). Some suggestions are provided on the possibilities of gregarine application in biological control.

(16880) YAMAGUCHI, M.M., M.U. MIYA & M. NISHIDA, 2004. Use of a PCR-based approach for sequencing whole mitochondrial genomes of insects: two examples (cockroach and dragonfly) based on the method developed for decapod crustaceans. *Insect mol. Biol.* 13(4): 435-442. – (First Author: Ocean Res. Inst., Univ. Tokyo, 1-15-1 Minamidai, Nakano-ku, Tokyo, 164-8639, JA).
Recent development of a PCR-based approach for sequencing vertebrate mitochondrial genomes has attracted much attention as being more rapid and economical than traditional methods using cloned mtDNA and primer walking. Such a method has not been available for insect mitochondrial genomes, despite widespread use of them for the molecular phylogenetic, biogeographical and population genetic markers. A recently developed PCR-based approach for sequencing whole mitochondrial genomes of decapod crustaceans, which included the design of many versatile PCR primers for the latter, was applied with the same primers sets to mitochondrial genomes of 2 insects, Periplaneta fuliginosa and Orthetrum triangulare melania. Almost the entire region of the 2 mitochondrial genomes was successfully sequenced. Features of the 2 mitochondrial genomes are described and the usefulness of this PCR-based approach for sequencing insect mitochondrial genomes demonstrated.

(16881) ZHANG, D.-z. & Z.-m. ZHENG, 2004. Research progress and status of Odonata in China. *J. Shaanxi Normal Univ.* 32: 97-100. (Chin., with Engl. s.). – (Coll. Life Sci., Shaanxi Normal Univ., Xi'an-710062, China).
The odonatol. research in China is reviewed from 1930 to present and 50 bibliographic references are listed. The role of Odon. as human food, in pharmacology, as predators and in experimental biology

and insect phylogeny is emphasized.

(16882) ZHOU, X. & W.-b. ZHOU, 2004. A new species of the genus Heliocypha from Yunnan province of China (Odonata: Chlorocyphidae). *Wuyi Sci. J.* 20: 136-138. (Chin., with Engl. s.). – (Zhejiang Mus. Nat. Hist., Hangzhou, Zhejiang-310012, China).
H. yunnanensis sp. n. is described and illustrated. Holotype ♂: Malipo co., Wenshan Miaozu Auton. Reg., Yunnan prov., 20-VII-2003; deposited in Zhejiang Mus. Nat. Hist., Hangzhou. It is similar to H. p. perforata (Percheron); the differences are pointed out.

2005

(16883) FOOTE, A.L., C.L. RICE HORNUNG, 2005. Odonates as biological indicators of grazing effects on Canadian prairie wetlands. *Ecol. Ent.* 30: 273-283. – (First Author: Dept Renewable Resour., GSB 7-51, Univ. Alberta, Edmonton, AB, T6G 2H1, CA).
Aquatic macro-invertebrates have frequently been used as biological indicators in lotic environments but much less commonly so in lentic habitats. Odon. satisfy most selection criteria for lentic bioindicators of grazing impacts. Intensive cattle grazing affects most of the Canadian prairie pothole region but the effects of grazing on wetlands are poorly understood. Here the vegetation structure and invertebrate community composition of 27 prairie potholes in Alberta were studied and compared. Wetlands were evenly divided into three treatments of different grazing regimes. Removal of emergent vegetation by cattle grazing decreased odonate abundance and reproductive effort. Shorter Scirpus acutus stems resulted in significantly fewer Zygoptera and lower reproductive efforts. Overall odon. diversity was affected by the height of key plant spp., highlighting the importance of the vegetation structure of both emergent vegetation for breeding and adjacent upland vegetation for nocturnal roosts. Wetland vegetation structure was more important than vegetation composition to the life history of odon. Wetland water quality parameters of nitrogen, phosphorus, total dissolved solids (TDS), and chlorophyll-a concentration did not change due to the presence of grazing cattle at wetlands so water quality influences were rejected as mechanisms of change. Larval odon. diversity and abundance was positively correlated with overall aquatic macro-invertebrate diversity and abundance, hence it was concluded that the larval odonate community can be an accurate bioindicator of intactness and diversity of overall aquatic macro-invertebrate communities in Canadian prairie wetlands.

(16884) GAL, M., 2005. [*Odonata from the Lendava region*]. Individualna vaja, Sist. zool. nevretenčarjev, Univ. Ljubljana. 7 pp., 3 maps excl. (Slovene). – (c/o Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
A checklist of adults and larvae, collected May-July 2005 at 6 localities in the area of the city of Lendava, Prekmurje, NE Slovenia.

(16885) *LIBELLULA*. Zeitschrift der Gesellschaft deutschsprachiger Odonatologen, GdO (ISSN 0723-6514), Vol. 24, No. 3/4 (15 Dec. 2005). (With Engl. s's). – (c/o Mrs G. Peitzner, Hamfelderedder 7 a, D-21039 Börnsen).
Bernard, R. & H. Wildermuth: Verhaltensbeobachtungen an Nehalennia speciosa in Bezug auf Raum, Zeit und Wetter (Odonata: Coenagrionidae) (pp. 129-153); – *Olias, M.*: Lestes parvidens am Südostrand Mitteleuropas: erste Nachweise aus Österreich, der Slowakei, Ungarn und Rumänien (Odonata: Lestidae) (pp. 155-161); – *Schiel, F.-J. & B. Kunz*: Zur aktuellen Bestandsentwicklung von Lestes barbarus, Aeshna affinis und Sympetrum meridionale in zwei Regionen Baden-Württembergs (Odonata: Lestidae, Aeshnidae, Libellulidae) (pp. 163-190); – *Brauner, O.*: Vorkommen, Entwicklung und Verbreitung von Aeshna affinis in Brandenburg (Odonata: Aeshnidae) (pp. 191-219); – *Müller, O. & T. Berger*: Wiederfund von Onychogomphus f. forcipatus in Sachsen (Odonata: Gomphidae) (pp. 221-226); – *Hanschitz-Jandl, W.*: Erstfund von Gomphus flavipes an der bayerischen Donau (Odonata: Gomphidae) (pp. 227-232); – *Ott, J.*: Larve des Gauklers Cybister lateralimarginalis erbeutet Weibchen von Aeshna grandis bei der Eiablage (Coleoptera: Dytiscidae; Odonata: Aeshnidae) (pp. 233-236); – *Conrad, A.*: Adalia bipunctata als Beute von Gomphus flavipes (Coleoptera: Coccinelidae; Odonata: Gomphidae) (pp. 237-239); – *Günther, A.*: Anax ephippiger in Europa – immer Invasionen in einer Sackgasse? (Odonata: Aeshnidae) (pp. 241-247); – *Bemmerle, B.*: Zygonyx torridus auf La Gomera, Kanarische Inseln (Odonata: Libellulidae) (pp. 249-256).

(16886) PAUNOVIĆ, M., V. SIMIĆ, D. JAKOVČEV-TODOROVIĆ & B. STOJANOVIĆ, 2005. Results of investigating the macroinvertebrate community of the Danube river on the sector upstream from the Iron Gate (km 1083-1071). *Archs Biol. Sci.*, Belgrade 57(1): 57-63. (With Serb. s.). – (First Author: Stanković Inst. Biol. Res., RS-11000 Belgrade, Serbia).
4 odon. spp. are listed from 2 sampling stations on the Danube, Serbia. – See also *OA* 16706.

(16887) PIVKO KNEŽEVIČ, A., 2005. [*A list of Odonata in the zoological collection of the Department of Biology, University of Ljubljana, collected in 2001 and 2002*]. Individualno delo Sist. zool. nevretenčarjev, Univ. Ljubljana. vii+39 pp. (Slovene). – (c/o Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
An annotated list of 268 specimens, referable to 36 spp. from various localities in Slovenia, with precise collection data and brief habitat descriptions.

(16888) PUST, M., 2005. *Quantitative analysis of macroinvertebrate community in Temenica river.* Graduation thesis, Univ. Ljubljana. xii+72 pp., 5 app. excl. (Slovene, with Engl. s.). – (c/o Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
The analysis was carried out (Oct. 2003-July 2004) in order to assess the ecological quality of the upper section (Pusti Javor-Ponikve) of the karst sinking river, Temenica (Lower Carniola, Slovenia), and the influence of some environmental variables on the structure of the macroinvertebrate communities. Information is presented on the occurrence of 8 odon. spp., 6 of which were used in cannonical correspondence analyses. – For an Engl. journal paper based on this study, see *OA* 16909.

(16889) SMILEY, P.C., Jr & E.D. DIBBLE, 2005. Implications of a hierarchical relationship among channel form, instream habitat, and stream communities for restoration of channelized streams. *Hydrobiologia* 548: 279-292. – (First Author: Dept Wildlife & Fish., Mississippi St. Univ., P.O. Box 9690, Mississippi State, MS 39762, USA).
Hierarchy theory provides a conceptual framework for understanding the influence of differently scaled processes on the structure of stream communities. Channel form, instream habitat, and stream communities appear to be hierarchically related, but the strength of the relationships among all components of this hypothesized hierarchy have not been examined. Channel form, instream habitat, fishes and macroinvertebrates (incl. Calopterigidae, Coenagrionidae, Aeshnidae, Gomphidae and Corduliidae) were sampled in a channelized stream in Mississippi and Alabama to examine the hypothesis that a hierarchical relationship exists among channel form, instream habitat, and stream communities. Mantel tests, multiple regressions, and correlation analyses were used to assess strength of the relationships among channel form, instream habitat, and stream communities. Positive correlations were observed between channel form and instream habitat, and correlations observed between these factors were the greatest observed in this study. Overall, fish and macroinvertebrate communities exhibited stronger relationships with instream habitat than with channel form. Species richness, evenness, and abundance tended to exhibit greater correlations with instream habitat, while species composition had greater correlations with channel form. It is concluded that channel form, instream habitat, and stream communities were hierarchically related.

(16890) VAN KLEEF, J., A.C. JAMES & G. STANGE, 2005. A spatiotemporal white noise analysis of photoreceptor responses to UV and green light in the dragonfly median ocellus. *J. gen. Physiol.* 126(5): 481-497. – (Cent. Visual Sci., Res. Sch. Biol. Sci., Austral. Natn. Univ., Canberra, ACT 2601, AU).
While the ocellar system is known to mediate stabilizing head reflexes during flight, the ability of the ocellar retina to dynamically resolve the environment is unknown. Here were the angular sensitivities of the photoreceptors of a dragonfly (Hemicordulia tau) median ocellus for the first time directly measured and the results are described.

(16891) WANG, Z.J., 2005. Dissecting insect flight. *Annu. Rev. fluid Mech.* 37: 183-210. – (Theor. & Appl. Mech., Cornell Univ., Ithaca, NY 14853, USA).
A brief history of research on insect flight (much of it based on Odon.) is presented and recent findings in unsteady aerodynamics of flapping flight at intermediate range Rainolds numbers (10-10^4) are discussed. In particular are examined the unsteady mechanisms in uniform and accelerated motions, forward and hovering flight, as well as passive flight of free-falling objects. The results of "taking the in-

sects apart" helped to resolve previous puzzles about the force estimates in hovering insects, to ellucidate basic mechanisms essential to flapping flight, and to gain insights about the efficiency of flight.

(16892) ZHOU, X. & W.-b. ZHOU, 2005. A new species of the genus Indolestes from Guizhou province of China (Odonata: Lestidae). *Wuyi Sci. J.* 21: 13-15. (Chin., with Engl. s.). – (Zhejiang Mus. Nat. Hist., Hangzhou, Zhejiang-310012, China).
I guizhouensis sp. n. is described and illustrated. Holotype ♂: locality data not transliterated, 28-V-2004; deposited in Zhejiang Mus. Nat. Hist., Hangzhou. The new sp. is similar to I. gracilis (Hag.).

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(16893) BATISTA, J.E., 2006. *Longitudinal distribution of adult Odonata in Cerrado streams: an ecophysiologic hypothesis.* M.Sci. Diss., Univ. Viçosa, MG/Brazil. viii+41 pp. (Port., with Engl. s.).
The longitudinal distribution of adult Odon. was examined in streams of different channel width in the Pindaiba R. Basin (Mato Grosso, Brazil), with the objective to assess the environmental gradients that affect the distribution, and to establish testable predictions regarding the River Continuum Concept. Two hypotheses were tested: (1) Longitudinally increasing channel width along the basin causes an increase of light input and, assuming restraints and distinct abilities, there would be a decrease of Zygopt. and increase of Anisopt. species richness; and (2) Odon. are affected by the gradient generated through river continuum mechanisms, increasing species richness in medium-sized streams. In total, 19 sites were sampled in dry and rainy seasons, and 17 Anisoptera and 30 Zygoptera spp. were documented. The abundance and proportion of the Zygopt. spp. decrease while the Anisopt. increase with channel width and mean depth of rivers and streams. The channel width is considered the best predictor of odon. spp. distribution. On the other hand, species richness did not corroborate the hypothesis of higher species richness in the middle courses of streams. The results obtained in this study confirm the thermoregulation hypothesis as a determining factor in the species distribution within the system.

(16894) BEUTEL, R.G. & S.N. GORB, 2006. A revised interpretation of the evolution of attachment structures in Hexapoda with special emphasis on Mantophasmatodea. *Arthropod Syst. Phylog.* 64(1): 3-25. – (Second Author: Evolutionary Biomaterials Gr., Max-Planck-Inst. Metallforsch., Heisenbergstr. 3, D-70569 Stuttgart).
Characters of hexapod attachment structures were analysed cladistically together with 110 additional morphological characters of immatures and adults. The monophyly of Pterygota and that of a clade comprising Odon. and Neoptera (Metapterygota) are well supported. This in contrast to the monophyly of Palaeoptera (Odon. + Ephemeroptera), as proposed by, e.g. F. Haas & J. Kukalova-Peck, 2001, *Europ. J. Ent.* 98: 445-509. The Palaeoptera hypothesis is weakened by the fact that it is largely or exclusively based on wing characters.

(16895) CIPOT, M., A. LEŠNIK, K. POBOLJŠAJ, A. ŠALAMUN & B. TRČAK, 2006. Rastlinstvo in živalstvo v kalih. – [Plant and animal life in karst ponds]. *In*: I. Maher, [Ed.], *Peljimo otroke h kalu*, pp. 11-35, Zavod Rep. Slovenije za varstvo narave, Nova Gorica. (Slovene). – (All authors CKFF, Klunova 3, SI-1000 Ljubljana).
The odon. section appears on pp. 25-29, dealing with odon. general biology and highlighting some of the over 40 spp. inhabiting karst ponds in Slovenia. The paper represents part of the working material for the teacher seminar that took place in Divača (Slovenia), 13 Jan. 2006.

(16896) CLAUSNITZER, V., 2006. Dragonflies (Odonata) of Rufiji district, Tanzania with new records for Tanzania. *J. East afr. nat. Hist.* 95(2): 139-162. – (Gräfestr. 17, D-06110 Halle).
73 spp. were recorded during several field trips in 2001-2003. Ceriagrion mourae, Teinobasis alluaudi, Gynacantha immaculifrons, Paragomphus magnus and P. sabicus are first records for Tanzania.

(16897) CUELLO, M.E., M.T. BELLO, M. KUN & C.A. ÚBEDA, 2006. Feeding habits and their implications for the conservation of the endangered semiaquatic frog Atelognathus patagonicus (Anura, Neobatrachia) in a northwestern Patagonian pond. *Phyllomedusa* 5(1): 67-76. – (Centro Regional Universitario Bariloche, Univ. Nac. Comahue, Quintral 1250, AR-8400 San Carlos de Bariloche, Rio Negro).
A. patagonicus is endemic to an endorheic pond

system in Neuquén prov., NW Patagonia, Argentina. It has an "aquatic" and a "littoral" form, the former living in the ponds associated to underwater rocks, the latter is found away from the water in comparatively dry environments. They are morphologically distinct and their diets are completely different. In the diet of the aquatic form, the odon. (Rhionaeschna and Coenagrionidae larvae) represent 96.19% of its volume, while in the diet of the littoral form odon. do not occur. For conservation of the frog, the odon. conservation is considered absolutely essential.

(16998) DOLMEN, D. & H. OLSVIK, 2006. Øyenstikkere-Odonata. *In*: J.A. Kalas et al., *2006 Norwegian Red List*, pp. 211-215, Artsdatabanken, Trondheim, ISBN-13: 978-82-92838-00-6; ISBN-10: 82-92838-00-7. (Bilingual: Norw./Engl.). – (Distributor of the book: Norw. Biodiv. Inf. Cent., N-7491-Trondheim).
Currently, 48 odon. spp. are known in Norway, but the knowledge on regular occurrence of 3 spp. is limited, therefore only 45 spp. were evaluated for the Red List, 17 (38%) of these are red-listed in the IUCN categories: "critically endangered"(1 sp.), "endangered" (8 spp.), "vulnerable" (4 spp.), and "near threatened" (4 spp.). The knowledge on the Odon. in Norway is rapidly increasing, which is the main reason for the decrease in numbers of red-listed spp. from 27 in 1992, and 21 in 1998, to the present 17, despite the fact that 4 spp. were recently added to the fauna of Norway.

(16899) DONATH, H., 2006. Blauflügel-Prachtlibelle (Calopteryx virgo L.) besiedelt die Schuge. *Biol. Stud. Luckau* 36: 82-86. – (Author's address not stated).
The status of C. virgo in the region of Luckau (E Germany) is reviewed, and a newly discovered population on the Schuge (NW of Rüdingsdorf) is described. It co-occurs with C. splendens.

(16900) DONATH, H., 2006. Die Südliche Heidelibelle, Sympetrum meridionale (Selys, 1841): Erstnachweis für das Land Brandenburg. *Biol. Stud. Luckau* 36: 86-87. – (Author's address not stated).
Several ♂ and ♀ S. meridionale are brought on record from 5 localities (Aug.-Sept. 2006) in Brandenburg, Germany. The sp. was not previously recorded from the province.

(16901) HUERTA, H., 2006. Nuevo registro de Forcipomiya (Pterobosca) incubans (Macfie) (Diptera: Ceratopogonidae) come parásito de Odonata. *Acta zool. mex.* (N.S.) 22(3): 157-158. (With Engl. s.). – (Lab. Ent., INDRE, Carpio 470, Col. Santo Tomás, MX-11340 Mexico, D.F.).
A ♀ F. incubans was collected from a ♂ Dythemis sterilis, Veracruz (Mexico), 10-VII-1999.

(16902) KWOK, W.P.W., S.K.F. CHAN, T.-w. TAM & F.K.Y. NG, 2006. Wetland restoration trial in Lions Nature Education Centre, Tsiu Hang Special Area. *Hong Kong Biodiv. Newsl.* 11: 14-16. – (Third Author: Agric., Fish. & Conserv. Dept, 7/F, Cheung Sha Wan Government Offices, 303 Cheung Sha Wan Rd, Kowloon, Hong Kong, China).
The objective of this trial is to collect supplementary information on wetland restoration in Hong Kong. The target is to increase habitat and species diversity by restoring the wetland functions of abandoned and degraded wetlands and by creating a mosaic of different wetland types. A list is provided of odon. marsh specialists for which different habitats are to be provided, and a list is given of the spp. documented by the summer 2006 surveys.

(16903) LAMBRECHTS, J. & G. DE KNIJF, 2006. Dragonflies in the Hoge Kempen National Park. *Jaarb. LIKONA* 2005: 50-57. (Dutch, with Engl. s.). – (Second Author: Kliniekstraat 25, B-1070 Brussel).
With 50 documented spp. (standing populations of 45 spp.), the Park is considered an odon. hotspot in Flanders (Belgium). The fauna is here reviewed (using vernacular nomenclature almost throughout), and the occurrence of Coenagrion hastulatum, Cordulegaster boltonii, Somatochlora arctica and S. flavomaculata is emphasized and briefly discussed.

(16904) ŁEGOVSKI, D. & A. KUNKA, 2006. Materials to the distribution of protected, rare and endangered species of insects in the Stobrawa Landscape Park. *Nature J. Opole scient. Soc.* 39: 57-60. – (Stobrawa Landscape Park, Reymonta 3, Ładza, PO-46034 Pokój).
Several Ophiogomphus cecilia specimens are brought on record; – Opole region, Poland.

(16905) LeROY POFF, N., J.D. OLDEN, N.K.M. VIEIRA, D.S. FINN, M.P. SIMMONS & B.C. KONDRATIEFF, 2006. Functional trait niches

in North American lotic insects: traits-based ecological applications in light of phylogenetic relationships. *Jl N. Am. benthol. Soc.* 25(4): 730-755. – (First Author: Dept Biol., Colorado St. Univ., Fort Collins, CO 80523 USA).
The use of species traits to characterize the functional composition of benthic invertebrate communities has become well established in the ecological literature. The primary objective of this paper is to explore the issue of inter-trait correlations for lotic insects and to identify opportunities and challenges for advancing the theory and application of traits-based approaches in stream community ecology. A new database is created on species-trait composition of N. American insects (311 taxa, incl. 36 odon. gen.).

(16906) *LIBELLULA* (SUPPL.) (ISSN 0723-6514), Vol. 7 (15 July 2006): Die Libellen Baden-Württembergs: Ergänzungsband. 188 pp. (With Engl. s's). – (c/o Mrs G. Peitzner, Hemfelderedder 7 a, D-21039 Börnsen).
Hunger, H. & F.-J. Schiel: Vorwort (p. 1); – Rote Liste der Libellen Baden-Württembergs und der Naturräume, Stand November 2005 (Odonata) (pp. 3-14); – *Hunger, H., F.-J. Schiel & B. Kunz*: Verbreitung und Phänologie der Libellen Baden-Württembergs (Odonata) (pp. 15-188).

(16907) MARSHALL, J.C., A.L. STEWARD & B.D. HARCH, 2006. Taxonomic resolution and quantification of freshwater macroinvertebrate samples from an Australian dryland river: the benefits and costs of using species abundance data. *Hydrobiologia* 572: 171-194. – (First Author: Queensland Dept Nat. Resour. & Mines, 120 Meiers Rd, Indooroopilly, QLD 4068, AU).
The usefulness of expending the extra cost necessary to identify macroinvertebrates (incl. Odon.) to species was quantified via the benefits this higher resolution data offered to its capacity to discriminate between sites and give accurate estimates of site species richness. It was found that very little information (< 6%) was lost by identifying taxa to family or genus, as opposed to species, and that quantifying the abundance of taxa provided greater resolution for pattern interpretation than simply noting their presence/absence. – The study was conducted in the Condamine-Balonne river system, where 29 sites covered a wide geographic range and a diversity of lotic conditions, reflected by differences in macroinvertebrate assemblage composition and richness.

(16908) OLOFSSON, F., 2006. Nya provinsfynd av trollsländor fran södra Norrland. – [New provincial dragonfly records from southern Norrland, N Sweden]. *Natur Norr* 25(2): 107-108. (Swed.). – (Miljöavdelingen, Länsstyrelsen Västernorrlands län, SE-871-86 Härnösand).
Records of Pyrrhosoma nymphula and Cordulegaster boltonii.

(16909) PUST, M. & M.J. TOMAN, 2006. Quantitative analysis of the macroinvertebrate community in the river Temenica (SE Slovenia). *Acta biol. slovenica* 49(2): 23-32. (With Slovene s.). – (Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
A concise journal paper, based on the thesis described in *OA* 16888.

(16910) RAMOS-ELORDUY, J., J.M. PINO & M. CONCONI, 2006. Ausenicia de una reglamentación y normalización de la explotación y comercialización de insectos comestibles en México. *Folia ent. mex.* 45(3): 291-318. (With Engl. s.). – (First Author: Dept Zool., Inst. Biol., UNAM, Apdo Postal 70-153, MX-04510 Mexico, D.F.).
Critical considerations on the urgent necessity of legal regulations on management, collecting and marketing of edible insects in Mexico, with an exhaustive list (pp. 310-315) of edible spp., and of the modes of preparation for consumption of some of them (pp. 316-318). The following odon. spp. are used in Mexico as human food: Enallagma praevarum, Ischnura denticollis, Aeshna multicolor, Aeshna sp., Anax sp., and Erythrodiplax umbrata.

(16911) ŚNIEGULA, S. & F. JOHANSSON, 2006. Trollsländor i Grössjöns naturreservat, Umeå . [Dragonflies of Grössjöns nature reserve, Umeå]. *Natur Norr* 25(2): 105-106. (Swed.). – (First Author: Rakowo 32, PO-78-445 Lubowo).
A commented list of 17 spp.; – Umeå, Sweden.

(16912) ŚNIEGULA, S. & F. JOHANSSON, 2006. Två nya trollsländor för Västerbotten: Coenagrion pulchellum och Somatochlora flavomaculata. – [Two new dragonflies from Västerbotten: Coenagrion pulchellum and Somatochlora flavomaculata]. *Natur Norr* 25(2): 103-104. (Swed.). – (Second

Author: Anim. Ecol. & Envir. Sci., Umeå Univ., SE-90-187 Umeå).
The 2 new spp. are brought on record, the respective habitats are described and the co-occurring odon. spp. are listed; – Sweden.

(16913) TAVZES, B., G. URBANIČ & M.J. TOMAN, 2006. Biological and hydromorphological integrity of the small urban stream. *Physics and Chemistry of the Earth* 31: 1062-1074. – (Dept Biol., Univ. Ljubljana, Večna pot 111, SI-1000 Ljubljana).
Biological and hydromorphological integrity of 5 reaches of the Glinščica stream, a small urban tributary of the Ljubljanica river, situated (alt. 310-298 m) on the western outskirts of Ljubljana (Slovenia), is assessed. The occurrence and relative abundance of Calopteryx virgo, Platycnemis pennipes, Coenagrion sp., Ischnura sp., Onychogomphus forcipatus, Somatochlora meridionalis and Orthetrum coerulescens are stated.

(16914) TRÄNKLE, U. et al., 2006. *Tierwelt in Gipssteinbrücken.* Bundesverband der Gipsindustrie, Darmstadt. 50 pp., ISBN none. – (Publishers: Birkenweg 13, D-64295 Darmstadt).
An outline of the animal life in the gypsum pits in Germany, directed at the general reader. It includes a chapter on dragonflies and presents the details on the biology of 3 spp.

(16915) WARNER, B.G. & T. ASADA, 2006. Biological diversity of peatlands in Canada. *Aquat. Sci.* 68: 240-253. – (Wetlands Res. Gr., Univ. Waterloo, Waterloo, ON, N2L 3GI, CA).
With the exception of a few marshes, peatlands are classified in Canada into bogs, fens and swamps. The latter are the most widespread. Peatlands occur throughout most of Canada, but are most common in the Boreal, Subarctic and Arctic Wetland Regions. There are no odon. spp. restricted to fens and swamps, but bogs do support the specialized genera Gomphaeschna, Williamsonia and Nannothemis (14 spp.).

(16916) WENNEMANN, L., 2006. Kulturelle Entomologie: Insektenterminologie in der deutschen Sprache. *Mitt. dt. Ges. allg. angew. Ent.* 15: 435-438. (With Germ. s.). – (Napoleonweg 39, D-45721 Haltern am See).
162 general articles in German newspapers and general magazines were analyzed for their colloquial language containing entomological terms and phrases. Sayings and entomological expressions are often used in this kind of printed matters and are related to at least 11 insect orders. Among these, Hymenoptera occupy the first, and Odon. the last place.

(16917) WINKEL, S. & M. KUPRIAN, 2006. Die Libellenfauna neu angelegter Flachgewässer im Süden der Stadt Offenbach. *Jb. NatSchutz Hessen* 10: 34-39. – (First Author: Pommernstr. 7, D-63069 Offenbach).
From 2 man-made (1998) shallow ponds, located at the forest edge nr Bieber-Waldhof (S of Offenbach, Hessen, Germany), 27 spp. were documented during 2005-2006. Lestes virens, Aeshna affinis, A. isosceles and Leucorrhinia pectoralis are of regional interest. The assemblage includes teneral Crocothemis erythraea individuals.

(16918) ZAWAL, A., 2006. Morphology of larval stages of Arrenurus albator (O.F. Müller, 1776), A. fimbriatus Koenike, 1885, and A. bruzelli Koenike, 1885 (Acari: Hydrachnidia). *Genus* 17(1): 141-150. – (Dept Invert. Zool. & Limnol., Univ. Szczecin, Waska 13, PO-71-415 Szczecin).
The odon. appear as hosts of A. bruzelli larvae (cf. R.A. Baker et al., 2007, *Odonatologica* 36: 339-347). Here, the larva is described for the first time.

(16919) ZAWAL, A., 2006. Phoresy and parasitism: water mite larvae of the genus Arrenurus (Acari: Hydrachnidia) on Odonata from Lake Binowskie (NW Poland). *Biol. Lett.* 43(2): 257-276. – (Dept Invert. Zool. & Limnol., Univ. Szczecin, Waska 13, PO-71-415 Szczecin).
Larvae of the genus Arrenurus parasitize Odon., Diptera and Coleoptera. This work describes relationships between Arrenurus larvae and Odon. (imagines, larvae and exuviae) in a Polish lake. The mites examined were found on 2349 adult odon. (277 ♀, 872 ♂), 805 larvae (356 ♀, 449 ♂) and 395 exuviae of 34 spp. In total, 1128 larval water mites were collected from adult odon., 556 from larvae, and 165 from exuviae. Water mite larvae were found on imagines of 9 spp., on larvae of 12 spp., and on exuviae of 9 spp. Among adult odon. only Zygoptera were parasitized, and a high prevalence (up to 77.8%) and intensity (up to 195 parasites per host) of parasitism were recorded. Adult ♀ ♀ were more

frequently infested than ♂♂, the preferred body parts being the thorax and the ventral side of the middle segments of the abdomen. Both phoretic and parasitic larvae of water mites were found on odon. larvae. Phoretic larvae constituted 25.8% of the total number of water mite larvae on odon. larvae. The occurrence of water mite larvae on exuviae shows their mortality when mites fail to move onto the eclosing adult odon. or when mites do not get detached from odon. larvae before their emergence from water.

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(16920) (Anonymous), 2007. Dragonfly, the largest complete insect wing ever found. *Harvard Mag.* 2007(Nov./Dec.): 112.
On the significancy of the discovery of Meganeuropsis americana (by F.M. Carpenter, in Oklahoma, 1940), with a col. reproduction of the fossil.

(16921) *AOHADA*, Kyoto (ISSN none), No. 5 (30 Nov. 2007). (Jap. with Engl. titles). – (c/o A. Sasamoto, 190-4 Yakuoji, Tawaramoto, Shiki, Nara pref., 635-0341, JA).
Hisamatsi, S.: A record of Odonata collected in Taiwan (pp. 1-13); – *Kiyoshi, T.*: A review of the diversification of the genus Davidius in the insular East Asia (pp. 14-16); – *Sasamoto, A.*: Note on the species names of Paracercion sexlineatum and P. melanotum (pp. 17-22); – A memory of odonate collection trip in N. Vietnam with my friend (pp. 23-32); – *Kiyoshi, T.*: A brief memory on the Vietnamese food of odonate larvae [sic!] (p. 33).

(16922) ARAUJO, Y. & P. BESERRA, 2007. Diversidad de invertebrados consumidos por las etnias Yanomami y Yekuana del Alto Orinoco, Venezuela. *Interciencia* 32(5): 318-323. (With Engl. & Port. s's). – (First Author: INIA-Mérida, Apdo Postal 425, Avenida Urdaneta, Mérida, Venezuela).
In the Alto Orinoco region (Amazonas State) of Venezuela, the invertebrates are represented in the diet of the indigenous Yanomami communities by 20 terrestrial spp. of forest origin, and in that of the Yekuana communities, living in the vicinity of rivers and streams, by 28 largely aquatic spp. The latter include odon. larvae that are being consumed in uncooked condition. Dr J. De Marmels identified the following taxa, pertaining to 6 families: Argia, Oxystigma, Hetaerina, Mnesarete, Agriogomphus (locally called "*wüwajunmo*"), Progomphus, Zonophora, Lauromacromia dubitalis, Brechmorhoga and Dasythemis. The interviews were conducted with 27♂ and 9♀ persons, 12-70 yr old.

(16923) *ATROPOS* (ISSN 1478-8128), Nos 31 (May), 32 (Nov. 2007). – (c/o M. Tunmore, 36 Tinker Lane, Maltham, Holmfirth, W. Yorks, HD9 4EX, UK).
[Odon. articles:] [No. 31]: none; – [No. 32]: *Daguet, C.*: Odonata as indicators of climate change (pp. 32); – *Parr, A.*: Dragonfly news for spring/summer 2007 (pp. 29-30); – *Holt, C.*: Two female Anax imperator 'facing off' (p. 52); – *Dana, D.*: Unusual thoracic markings on Enallagma cyathigerum (p. 58); – *Parkes, K.*: Broad-bodied Chaser survey 2007 (p. 58); – *Roddis, S.*: Aeshna cyanea attracted by light (p. 59); – *Parkes, K.*: Dragonfly conservation from the BDS (p. 62).

(16924) BEDJANIČ, M., 2007. List of threatened insect fauna: Odonata. *In*: IUCN, *The 2007 Red List of threatened fauna and flora of Sri Lanka*, pp. 19 & 47, IUCN & Ministry Envir. and Nat. Resour., Colombo, ISBN 978-955-8177-63-1. – (Available from: IUCN, Sri Lanka Country Office, 53 Horton Pl., Colombo-7, Sri Lanka).
Out of the (ca) 120 odon. spp. known to occur in Sri Lanka (incl. 57 endemic spp.), 20 spp. are red-listed in the IUCN categories: "critically endangered" (13), "endangered" (5), and "vulnerable" (2). All of these are endemic.

(16925) BEDJANIČ, M., K. CONNIFF & G. DE SILVA WIJEYERATNE, 2007. *A photographic guide to the dragonflies of Shri Lanka*. Jetwing Eco Holidays, Colombo. 248 pp. Hardcover (11.1 × 15.4 cm). ISBN 978-955-1079-15-4. – (Publishers: Jetwing House, 46/26 Navam Mowatha, Colombo-2, Sri Lanka).
An attractive and most useful field guide, covering 91 out of the 117 spp. presently known from Sri Lanka. Good photographs of both sexes (adults only) are enhanced by brief descriptive notes, and statements on the habitats are provided for each sp. The book is directed at professional and non-professional workers and it will certainly much facilitate species identifications at the spot. Engl., Sinhala and Tamil names are added to the taxonomic nomenclature.

(16926) BERDEN ZRIMEC, M., 2007. Boj za potomstvo. – [The struggle for offspring]. *Gea*, Ljubljana 17(1): 43. (Slovene). – (Author's address not stated).
On the principles of sperm competition and displacement in dragonflies, directed at the general reader.

(16927) BERRY, R., J. VAN KLEEF & G. STANGE, 2007. The mapping of visual space by dragonfly lateral ocelli. *J. comp. Physiol.* (A) 193: 495-513. – (First Author: Res. Sch. Biol. Sci., Australian Natn. Univ., P.O. Box 475, Canberra, ACT 2601, AU).
In Hemicordulia tau the extent was studied to which the lateral ocelli of dragonflies are able to resolve and map spatial information, following the recent finding that the median ocellis is adapted for spatial resolution around the horizon. Physiological optics were investigated by the hanging-drop technique and related to morphology as determined by sectioning and 3-dimensional reconstruction. L-neuron morphology and physiology were investigated by intracellular electrophysiology, white noise analysis and iontophoretic dye injection. The lateral ocellar lens consists of a stronly curved outer surface, and 2 distinct inner surfaces that separate the retina into dorsal and ventral components. The focal plane lies within the dorsal retina but proximal to the ventral retina. 3 identified L-neurons innervate the dorsal retina and extend the 1-dimensional mapping arrangement of median ocellar L-neurons, with fields of view that are directed at the horizon. One further L-neuron innervates the ventral retina and is adapted for wide-field intensity summation. In both median and lateral ocelli, a distinct subclass of descending L-neuron carries multi-sensory information via graded and regenerative potentials. Dragonfly ocelli are adapted for high sensitivity as well as a modicum of resolution, especially in elevation, suggesting a role for attitude stabilisation by localization of the horizon.

(16928) DI GIÀ, I. & L. PERONA, 2007. *Le libellule in Val Cerrina*. Fondazione CRT, Torino; Associazione Libellula, Solonghello (AL) & Istituto Agrario "V. Luparia", San Martino di Rosignano Monferrato (AL). 60 pp. ISBN none. – (Distributor: Assoc. Libellula, Piazza Castello 17, I-15020 Solonghello/AL; – Authors: Via Latina 126, I-10093 Collegno/TO).
An attractive booklet on the odon. fauna (30 spp.) of Val Cerrina (Piemonte, N Italy). A brief description, photograph and fauna list are provided for each locality. The uniformly styled species accounts (1 page/sp.) include a photograph of the adult, an outline of diagnostic features for recognition in the field, and statements on habitat requirements, the occurrence in Val Cerrina and on the status of the respective sp. in the Piemonte region (bordering on France and Switzerland).

(16929) ENGLUND, R.A. & D.A. POLHEMUS, 2007. Argiolestes kula, a new species of damselfly from eastern New Guinea (Odonata: Megapodagrionidae). *Jl N. Y. ent. Soc.* 114(3): 95-107. – (First Author: Gressit Cent. Ent. Res., Bishop Mus., 1525 Bernice St., Honolulu, HA 96817, USA).
The new sp. is described from E New Guinea and nearby offshore islands (Sariba, Basilaki, Fergusson). Holotype ♂, allotype ♀: Papua New Guinea, Milne Bay prov., Sariba Is., Padi Stream, 14-I-2004; deposited in USNM. A comparison is provided to the closely related A. sidonia, and a distribution map and a checklist of Argiolestes spp. occurring on New Guinea and extralimital islands are given.

(16930) *ERJAVECIA*. Bulletin of the Slovenian Odonatological Society (ISSN 1408-8185), No. 22 (31 Oct. 2007). (Slovene). – (c/o M. Bedjanič, Kolodvorska 21/B, SI-2310 Slovenska Bistrica).
The issue is dedicated to the 70th anniversary of Dr B. Kiauta. His life and odonatol. work are outlined in tribute articles by *M. Gogala* (pp. 1-5) and *M. Bedjanič* (pp. 6-11; incl. various portraits). – [Other articles:] *Hitij, T., J. Žalohar & M. Križnar*: Discovery of the first fossil dragonfly in Slovenia (pp. 11-13; with a computer reproduction of wing venation of the unnamed specimen); – *Šalamun, A.*: Survey of Cordulegaster heros in the Natura 2000 area of "Ježevec" in Carinthia (pp. 14-17); – A report on dragonflies in the project "1001 karst pond – 1001 story of life" (pp. 18-21); – *Bedjanič, M.*: Interesting observations on dragonflies occurring in April in Styria (pp. 22-26); – *Ferletič, U.*: Ceriagrion tenellum in Slovenia: a synopsis of the graduation dissertation (pp. 26-27; cf. *OA* 16818); – Dragonflies in literary works (pp. 28-30; from, respectively, *I. Geister*, 2005, "Doživetje krasa", Zavod za favnistiko, Koper; – and from *M. M. Prishvin*, published 2003 in the Bohorič-script translation by *J. Rugel* in *Revija Svoboda, Resnica, Pogum* 11[53/54]: 40); – *Anonymous*: The rock-

group "Dragonflies", a new star in the musical world of Slovenia (pp. 31-32); – *Fortun, M.*: Dragonfly, haute couture and the lace-ware of Idria: the lace school of Idria in the project "Intrecci naturali" (pp. 32-35); – *Announcements of the forthcoming (international) meetings* (pp. 35-36; by *A. Šalamun* and *anonymous*); – *Bedjanič, M.*: Additions to the odonatological bibliography of Slovenia, pt 22 (pp. 36-40; Nos 641-684).

(16931) FLENNER, I., 2007. *Forest lakes affected by forestry: how resilient are dragonfly communities to logging in central Sweden*? M.Sc. diss., Sch. Business & Engineering, Halmstad Univ. 16 pp. – (Author's current address unknown).
The odon. communities were examined at 34 lakes of the Uppland prov. (Sweden) in 1996-1997 and again in 2006. It is concluded that the logging does not affect the numbers of the odon. spp. occurring in a lake, but it does cause a serious alteration of the community structure: after logging many specialist spp. disappear, do not recolonize the respective lacustrine habitats, and they are replaced by the opportunist spp. The seeming similarity in the biodiversity levels before and after logging is misleading, since it does not involve the same spp.

(16932) FRANK, M., 2007. Erneute Beobachtung der Feuerlibelle (Crocothemis erythraea Brullé) in Nordwest-Mecklenburg. *Virgo/MittBl. ent. Ver. Mecklenburg* 10: 69-70. – (Lion-Feuchtwanger-Str. 25, D-55129 Mainz).
On 8-VIII-2007, for the second yr in sequence, C. erythraea was sighted at a fishpond in Schönberg, distr. West-Mecklenburg (E Germany). Pairing and oviposition were also observed, and 11 other spp. are listed for the same locality and date.

(16933) [GARRISON, R.W. et al.] HECKMAN, C.W., 2007. Dragonfly genera of the New World [...] Anisoptera, by R.W. Garrison et al. *Int Revue Hydrobiol.* 92(3): 358. (Engl.). – (Author's address not stated).
An appreciative book review of the volume described in *OA* 16339, by the Author of an almost simultaneously published similar work (*OA* 16465). – See also *OA* 16688 and 16960.

(16934) GHERASIMOV, Yu.L., 2007. Zooplankton as a component of urban ponds. *Vest. Samara gosud. Univ.* (Nat. Hist.) 2007(8): 39-49. (Russ., with Engl. s.). – (Dept Zool., Samara St. Univ., Samara-441301, Russia).
2 ponds in the Samara city were examined. Coenagrion armatum, Erythromma najas and Ischnura elegans are reported.

(16935) *GOMPHUS, LVV* (ISSN none), Vol. 1, Nos 1 (20 March), 2 (1 July), 3 (22 Oct. 2007). Published by the Libellenvereniging Vlaanderen. (Dutch, scient. articles with Engl. s's). – (c/o G. De Knijf, Matrouwstraat 10, B-9661 Brakel).
With Vol. 20, No. 2 the bilingual, all-Belgian journal, *Gomphus* ceased publication (cf. *OA* 16340). It is succeeded by 2 newsletters in, respectively, Dutch (covering the province of Flanders) and French (covering Wallonia and the Brussels metropolitan area) that retained the same general title (cf. *OA* 16936), are mutually similar in lay-out and scope but have different editorial boards. – [No. 1]: Explaining the current situation and announcing the foundation of the *Flamish Dragonfly Society*, the issue has no original scientific articles but contains several reports, notes, book reviews and a list of early 2006 records; – [No. 2]: On 19 pp., some of the noteworthy articles are: *Tailly, M., G. De Knijf & A. Anselin*: Dragonflies in western Flanders: a state of the art (pp. 2-3); – *Vander Schoot, P.*: Report on the field trip to the Herentals area (pp. 4-5); – *Anonymous*: Early records in Flanders in 2007 (pp. 6-7); – [No. 3]: *Anselin, A.*: From goldfish to Aeshna canea (pp. 2-3); – *Tailly, M., P. Vander Schoot, P.& H. Wallays*: Excursion of the 11th of July to the Mol area (pp. 5-6); – *Vander Schoot, P.*: Excursion [...] to "Het Vinne" in Zoutleeuw (pp. 7-8); – *De Knijf, G.*: Excursion [...] to the nature reserve Hageven in Neerpelt (pp. 8-9); – *Peeters, L., A. Anselin & M. Tailly*: Den Diel at Mol threatened? (pp. 10-11); – *De Knijf, G.*: Report on the European Odonata camp in Romania (pp. 12-13).

(16936) *GOMPHUS, WAL+* (ISSN none), Vol. 1, No. 1 (July 2007). Published by the Groupe de travail 'Libellules' de Wallonie et Bruxelles. (Fr.). – (c/o V. Fichefet, Centre de Recherche de la Nature, Av. de la Faculté 22, B-5030 Gembloux).
For general information, see *OA* 16935. – The first issue (9 pp.) has an informative *Editorial* and various management notifications; it is concluded by a checklist of the Wallonian spp., showing their status in the province.

(16937) GRAND, D., 2007. Cordulegaster boltonii boltonii (Donovan, 1807) (Odonata, Anisoptera: Cordulegastridae): étude comparative de sa distribution actuelle et passée dans le département du Rhône (France) et compléments biologiques. *Bull. romand Ent.* 24: 61-76. – (Impasse de la Voûte, F-69270 Saint-Romain au Mont d'Or).
The past C. boltonii distribution in the Dept Rhône (France) is shown theoretically, based on the environment conditions and land use in the 19th century. Details on the emergence, sex ratio, and on larval biometry are also provided.

(16938) HOESS, R., 2007. War Coenagrion scitulum (Rambur, 1842) (Odonata: Coenagrionidae) einst in der Schweiz heimisch? *Mitt. ent. Ges. Basel* 57(1): 2-9. (With Engl. s.). – (Normannenstr. 35, CH-3018 Bern).
A ♂ and a ♀ specimen of C. scitulum are deposited in the Nat. Hist. Mus. of Basel, collected in Liestal/BL, in 1919, probably by A. Portmann. For various reasons it seems likely the sp. was indigenous to Liestal at that time. New records from the Swiss cantons of Jura, Berne and Obwalden are presented, and some morphological details are provided to facilitate the identification.

(16939) HUDOKLIN, A. & M. ŽVIKART, 2007. *Jovsi in Dobrava: biser narave Posavja.* – [*Jovsi and Dobrava: a jewel of the Posavje nature*]. Zavod Rep. Slovenije za varstvo narave, Novo mesto. 8 pp. (Slovene). – (Publishers & First Author: Adamičeva 2, SI-8000 Novo mesto).
The Natura 2000 regions, Dobrava (lowland oak woods) and Jovsi (wet grasslands), located on the Brežice lowlands, Slovenia, are briefly described and some representatives of the animal life are highlighted. Cordulegaster heros breeds in the oak wood streams.

(16940) *INTERNATIONAL JOURNAL OF ODONATOLOGY* (ISSN 1388-7890), Vol. 10, No. 2 (1 Oct. 2007).
Abbott, J.C. & G. Mynhardt: Description of the larva of Somatochlora marginata (Odonata: Corduliidae) (pp. 129-136); – *Dijkstra, K.-D.B.*: The name-bearing types of Odonata held in het National Museum of Zimbabwe, with systematic notes on afrotropical taxa, 2: Zygoptera and descriptions of new species (pp. 137-170); – *Dow, R.A., C.Y. Choong & A.G. Orr*: Two new species of Chalybeothemis from Malaysia, with redefinition of the genus (Odonata: Libellulidae) (pp. 171-184); – *Garrison, R.W.*: Kalocora, a junior synonym of Cora (Odonata: Polythoridae) (pp. 185-188); – *Herdersen, S.*: Telemetry of Anisoptera after emergence: first results (Odonata) (pp. 189-202, pl. 1 excl.); – *Juillerat, L.*: Neoneura angelensis sp. nov. from French Guyana (Odonata: Protoneuridae) (pp. 203-208); – *Van Tol, J.*: The Odonata of Sulawesi and adjacent islands, 7: Libellago and Sclerocypha (Odonata: Chlorocyphidae) (pp. 209-248), pls 2-3 excl.); – *Wildermuth, H. & A. Martens*: The feeding action of Forcipomyia paludis (Diptera: Ceratopogonidae), a parasite of Odonata imagines (pp. 249-255, pl. 4 excl.); – *Worthen, W.B. & C.M. Jones*: The effects of wind speed, competition, and body size on perch height selection in a guild of Libellulidae species (Odonata) (pp. 257-272).

(16941) KALKMAN, V., 2007. Waarnemingenverslag 2007: Libellen. – [Report on the 2007 observations: Dragonflies]. *In*: EIS-Nederland et al., *Waarnemingenverslag 2007: dagvlinders, libellen en sprinkhanen*, pp. 4-5. (Dutch). – (EIS-Nederland, Naturalis, P.O. Box 9517, NL-2300 RA Leiden).
Annotations on the current status of Coenagrion lunulatum, Leucorrhinia dubia, Sympetrum meridionale and S. pedemontanum in the Netherlands, with maps of 1990-2001 and 2002-2006 records.

(16942) KRASSILOV, V., N. SILANTIEVA, M. HELLMUND & W. HELLMUND, 2007. Insect egg sets on angiosperm leaves from the Lower Cretaceous of Negev, Israel. *Cretaceous Res.* 28: 803-811. – (First Author: Inst. Evol., Univ. Haifa, Mount Carmel, Haifa-31905, Israel).
Zygopteran egg sets from the Albian of Makhtesh Ramon, central Negev were deposited on narrow leaves of an angiospermous Acaciaephyllum-like morphotype. The pattern resembles the extant and Tertiary "coenagrionid type", attesting to evolutionary conservation of this oviposition mode since the time of early angiosperms. A comparison with the Palaeozoic-Jurassic proto-odon. egg sets suggests a change in oviposition modes in several steps that can be related to the evolution of wetlands. The Albian remains are among the earliest of a modern aspect, supposedly related to the advent of angiosperms. A wetland source community has been previously suggested for Acaciaephyllum-like leaves on taphonomic grounds, and the finding of Zygo-

ptera egg sets provides additional evidence in favour of such a habitat, thus having a bearing on the palaeoecology of Early Cretaceous angiosperms.

(16943) MACAULAY, D., 2007. *Survey of the odonate fauna in Kakwa Wildland Park, June-July, 2006.* Prepared for the Alberta Natural Heritage Information Centre, Parks & Protected Areas Div., Alberta Community Development. iv+27 pp. – (Author's address not stated).
Detailed considerations on the occurrence of the 21 spp., evidenced in the Park (Alberta, Canada) during the 2006 survey.

(16944) MAIBACH, A. & I. FLOSS, 2007. 19e Symposium des odonatologues de Suisse, 25.11.2006, Musée d'Histoire naturelle, Neuchâtel. *Nouvelles Centre suisse Cartogr. Faune* 32: 33-36. – (First Author: La Croix, Rte de Moudon 9, CH-1610 Oron-la-Ville).
Includes abstracts (Germ. or Fr.) of the following presentations: *Hoess, R.*: Neuere und ältere Funde von Coenagrion scitulum in der Schweiz (p. 33); – *Carron, G. & O. Schaer*: Leucorrhinia albifrons, Gomphus vulgatissimus et Coenagrion mercuriale à Genève (pp. 33-34); – *Frei, M. & D. Küry*: Erfassung von Libellen: ein Methodenvergleich (p. 34); – *Hampel, F.*: Beobachtungen eines Anfängers am Hattikerweiher und anderswo (p. 34; canton Zürich); – *Angélibert, S., N. Indermuehle, D. Luchier, B. Oertli & J. Perfetta*: Les odonates adultes: quelle place dans la biodiversité aquatique du canton de Genève? (p. 34); – *Leclerc, D.*: Mise en place d'une liste d'espèces de libellules prioritaires pour le bassin genevois ("Liste rouge" régionale) (p. 35); – *Wildermuth, H.*: Erfolgreiche Förderung einer Population von Orthetrum coerulescens durch technische Naturschutzmassnahmen (p. 35); – *Indermuehle, N., B. Oertli, A. Maibach, O. Schaer & S. Lezat*: L'échantillonnage des odonates adultes: inventaire exhaustif et/ou "rapid assessment method"? Résultats préliminaire (p. 35-36); – *Fliedner, T.*: Biotopzerstörung durch Viehtritt nicht nur auf Alpweiden, sondern auch in Naturschutzgebieten (p. 36); – *Vonwil, G.*: Flutmulden, wenig bekannte Libellenrefugien (p. 36).

(16945) MAY, M.L. & S.W. DUNKLE, 2007. *Damselflies of North America.* Color Supplement. Scient. Publishers, Gainesville/FL-Washington-Hamburg-Lima-Taipei-Tokyo. viii+156 pp., 104 col. pls incl. Hardcover (18.0×26.0 cm). ISBN 0-945417-98-5. – (Orders to: Int. Odonata Res. Inst., P.O. Box 147100, Gainesville, FL 32614-7100, USA).
This is a col. supplement to the work described in *OA* 16670. It illustrates in full colour almost all of the 168 Zygoptera spp. of the US, Canada, bordering states of Mexico and the Greater Antilles. Both ♂♂ and ♀♀ are shown for each sp. in phot. taken in nature. Phot. of some colour variations due to age, differing forms and individual variants are also provided. A table (combined with a map) showing distribution of the spp. by region and an index to spp. and common names are also included. – The work will be utmost helpful for identification, when used in conjunction with the descriptions and morphological figs in the text manual.

(16946) MORA, A., B. BARNUCZ, P. BODA, Z. CSABAI, B. CSER, C. DEAK & L. PAPP, 2007. On the macroinvertebrate fauna of inflows of Lake Balaton. *Acta biol. debrecina. Oecol. Hung.* 16: 105-167. (Hung., with Engl. s.). – (First Author: Balaton Limnol. Res. Inst., Hung. Acad. Sci., Klebelsberg Kuno 3, HU-8237 Tihany).
Based on literature and on unpublished material, data are presented on 35 odon. spp., recorded from the streams in the catchment of the Balaton Lake, Hungary.

(16947) OLBERG, R.M., R.C. SEAMAN, M.I. COATS & A.F. HENRY, 2007. Eye-movements and target fixation during dragonfly prey-interception flights. *J. comp. Physiol.* (A) 193: 685-693. – (Dept Biol. Sci., Union Coll., Schenectady, NY 12308, USA).
The capture of flying insects by foraging dragonflies is a highly accurate, visually guided behaviour. Rather than simply aiming at the prey's position, the dragonfly aims at a point in front of the prey, so that the prey is intercepted with a relatively straight flight trajectory. To better understand the neural mechanisms underlying this behaviour, high-speed video was used to quantify the head and body orientation of ♀ Erythemis simplicicollis (flying in an outdoor flight cage) relative to an artificial prey object before and during pursuit. The results of frame-by-frame analysis showed that during prey pursuit, the dragonfly adjusts its head orientation to maintain the image of the prey centered on the "crosshairs" formed by the visual midline and the dorsal fovea, a high acuity streak that crosses mid-

line at right angles about 60° above the horizon. The visual response latencies to drifting of the prey image are remarkably short, ca 25 ms for the head and 30 ms for the wing responses. The results imply that the control of the prey-interception flight must include a neural pathway that takes head position into account.

(16948) PETRULEVIČIUS, J.F. & A. NEL, 2007. Enigmatic and little known Odonata (Insecta) from the Paleogene of Patagonia and Northwest Argentina. *Annls Soc. ent. Fr.* (N.S.) 43(3): 341-347. (With Fr. s.). – (Second Author: Entomologie, Mus. Natn. Hist. Nat., 45 rue Buffon, F-75005 Paris).
Fresh material of Latibasalia quiespeae (Latibasaliidae) and Frenguellia patagonica (Frengueliidae) is brought on record and described, and the phylogenetic position of the 2 families is discussed. The Italian Middle Eocene Bolcathemidae Gentilini, 2002 is considered a junior synonym of the Argentinian Paleocene Palaeomacromiidae Petrulevičius et al., 1999, supporting faunal contact between Europe and S America during the Late Cretaceous.

(16949) RAO, R.S.P. & M.K.S. GIRISH, 2007. Road kills: assessing insect casualties using flagship taxon. *Curr. Sci.* 92(6): 830-837. – (Green Club, No. 1456, E & F Block, Ramakrishna Nagar, Mysore-570022, India).
Insect road casualties were monitored between Aug.-Nov. 2005 at 3 sites in the Mysore region. Odon. and diurnal Lepidoptera were the major insect kills, with higher casualties on Sunday, which is associated with the increased traffic load. 13 odon. spp. (Aeshnidae, Gomphidae, Libellulidae) are listed as most common road kills. Pantala flavescens is the dominant sp. among them. Factors responsible for the high casualties are discussed and some protective measures are suggested. – The paper presents an excellent documentation and analysis of the phenomenon.

(16950) RICHARDSON, G.M., [Ed.], 2007. One of North America's rarest dragonflies discovered in Canada. *Ontario Insects* 13(1): 9-10. – (18 McDonald St. West, Listowel, ON, N4W 1K4, CA).
Several Somatochlora hineana individuals were sighted and photographed in the Minesing Wetlands, Ontario, 20/27-VI-2007.

(16951) SADYRIN, V.M., 2007. The growth, somatic and exuvial production of Leucorrhinia dubia V.d.L. (Odonata, Libellulidae). *In*: T.M. Mikheyeva, [Ed.], *Lake ecosystems* (Proc. 3rd Int. Conf.), p. 250 [abstract only]. Belarus St. Univ., Minsk-Naroch'. ISBN 978-985-476-521-1. (Russ., with Engl. title). – (Inst. Biol., Russ. Acad. Sci., Syktyvkar, Russia).
The larval length and mass increase were studied in the laboratory, at different temperatures.

(16952) SAMWAYS, M.J. & P.B.C. GRANT, 2007. Elephant impact on dragonflies. *J. Insect Conserv.* 2007, 6 pp. – DOI 10.1007/s10841-007-9089-2. – (Dept Conserv. Ecol. & Ent., Cent. Agric. Biodiv., Univ. Stellenbosch, P. Bag X1, Matieland-7602, SA).
African elephants and other indigenous megaherbivores have a major impact on local vegetation structure, including aquatic communities, as their big feet and large mass pound the fringes of water bodies. This disturbance is likely to have a profound influence on the structure and composition of insect assemblages in these habitats. It was investigated which odon. spp. were tolerant of trampling by elephants and other game. Assemblage composition differed according to extremely high, very high or high disturbance levels. Dragonfly abundance was greatest where impact was high, and decreasing when disturbance became very high or extremely high. Several odon. spp. are well-adapted to fairly high levels of disturbance, although too much is impoverishing. Medium and low impact sites were geographically separated, and this, combined with much lower disturbance levels, had a considerable influence on promoting regional dragonfly diversity. Several regional specialist spp. only occurred in the geographically separated, low-impact sites. The full complement of dragonflies is present only when there is a combination of various disturbance levels combined with spatial variation. Elephant impact is similar to that of humans, with too much of either or both, leading to a species-poor, habitat-generalist odon. assemblage.

(16953) SATO, M. & N. RIDDIFORD, 2007. A preliminary study of the Odonata of S'Albufera Natural Park, Mallorca: status, conservation priorities and bio-indicator potential. *J. Insect Conserv.* 2007. 9 pp. – DOI 10.1007/s10841-007-9094-5. – (First Author: Cent. Ecol. Res., Kyoto Univ., 2-509-3 Hirano, Hamitanakami, Otsu, Shiga pref., 520-2113, JA).

Investigations on adult odon. diversity in the Park (Spain) produced records of 14 spp. Detrended Correspondence Analysis ordination catagorised study sites according to geographical locations in the Park and showed clustering of the sites around particular spp. based on these locations. This pattern might reflect the difference in brackishness in water supplied by different water sources. Canonical Correspondence Analysis indicated that some environmental factors were related to particular spp. Water flow, vegetation, and depth and size of a water body could discriminate stenotopic spp. from eurytopic spp. Only a few spp. appeared to be tolerant to the sites with high salinity and low oxygen concentration. The ordination results can be useful for establishing conservation priorities with information of species diversity, abundance, distribution and flight period.

(16954) SCHWARZ, M., 2007. Wiederfund von Somatochlora arctica (Zetterstedt, 1840) (Odonata, Corduliidae) in Oberösterreich (Österreich). *Beitr. Naturk. Oberöst.* 17: 303-307. (With Engl. s.). – (Eben 21, A-4202 Kirchschlag).
S. arctica is recorded from the nature reserve "Rote Auen" (5-VII-2006) nr Weitersfelden. This is the first record for this sp. in Upper Austria north of the Danube. Other odon. spp. from the same site are also listed.

(16955) SCHWARZ, M., M. SCHWARZ-WAUBKE & G. LAISTER, 2007. Die Grüne Keiljungfer, Ophiogomphus cecilia (Fourcroy, 1785) (Odonata, Gomphidae), in den Europaschutzgebieten Waldaist-Naarn, Maltsch, Tal der Kleinen Gusen, Böhmerwald und Mühltäler (Österreich, Oberösterreich). *Beitr. Naturk. Oberöst.* 17: 257-279. (With Engl. s.). – (Third Author: Hans-Hofmannring 3/2, A-4470 Enns).
O. cecilia occurs in all the 5 surveyed Natura 2000 localities mentioned in the title; Upper Austria. Its status is outlined per locality. Although at present the sp. does not seem threatened anywhere, protective measures are indicated.

(16956) ŠEGULA, A., 2007. Kačji pastirji okoli vrtnega ribnika. – [Dragonflies around a garden pond]. *Moj mali Svet* 39(7): 12-13. (Slovene). – (Author's address not stated).
General. The intense predation of Coenagrion puella on Aphidae is emphasized.

(16957) SNIEGULA, S., 2007. New records of protected dragonflies (Odonata): Aeshna viridis Eversm. and Leucorrhinia pectoralis (Charp.) in the Drawsko Lake District. *Wiad. ent.* 26(1): 57-58. (Pol., with Engl. title). – (Rakowo 32, PO-78-445 Lubowo).
Records of the 2 spp., with a description of the habitats; – NW Poland.

(16958) STRANGE, A.M., G.H. GRIFFITHS, S. HINE, K. YOUNG & G.J. HOLLOWY, 2007. Habitat associations of the Small Red Damselfly, Ceriagrion tenellum (de Villers), in heathland of southern England (Zygoptera: Coenagrionidae). *J. Insect Conserv.* 11: 241-249. – (First Author: Landscape & Landform Res. Gr., Dept Geogr., Univ. Reading, P.O. Box 227, Whiteknights, Reading, RG6 6AB, UK).
C. tenellum is classed as vulnerable throughout the UK, and is included in certain Local Biodiversity Action Plans in the South. A large proportion of any Biodiversity Action Plan is concerned with the requirement of conservation and management programmes. In order to guide them, information about the habitat preferences of the sp. concerned is vital. Detailed habitat information was collected to include a variety of physical parameters particularly vegetation, both in-channel and bankside. The sp. was found to be primarily associated with in-channel emergent broad-leaved plants, bankside grasses and rushes, and shallow, narrow channels with dark organic substrate. The consequences of these findings are discussed in relation to the conservation and management of C. tenellum.

(16959) *TOMBO. ACTA ODONATOLOGICA* (ISSN 0495-8314). Vol. 50, Nos 1/4 (17 Nov. 2007). (Engl. & Jap., mostly with Engl. titles). – (c/o Dr S. Eda, 3-4-25 Sawamura, Matsumoto, Nagano, 390-0877, JA).
13 articles commemorating the 50th anniversary of the Japanese Society for Odonatology (pp. 1-26), of these in Engl. or with Engl. title: *Eda, S.*: Advance of the Japanese Society for Odonatology in these 50 years (pp. 1-6); – *Corbet, P.S.*: Dr Syoziro Asahina: fond recollections of fifty years of friendhsip (pp. 7-9). – Other papers and notes: *Eda, S., I. Kawashima, A. Sasamoto, Y. Saito & K. Inoue*: A checklist of publications by Dr Syoziro Asahina, (1928-) (pp. 27-48); – *Karube, H.*: Occurrence of a new species of the genus Procordulia (Anisoptera, Corduliidae)

from northern Vietnam (pp. 49-52; P. asahinai sp. n.); – *Sasamoto, A. & H. Karube.*: Descriptions of two new species of Drepanosticta (Zygoptera, Platystictidae) from Sumatra, Indonesia, with a note on unknown female of D. pytho (pp. 53-59; D. asahinai sp. n., D. sumatrana sp. n.); – *Kakichi, K., K. Kakichi & R. Futahashi*: The first collecting records of Tholymis tillarga (Fabricius, 1798) (Libellulidae) from Toyama prefecture, Honshu, Japan (p. 60); – *Naraoka, H.*: Reproductive behaviour of the damselfly Lestes japonicus Selys (Odonata: Lestidae), with the comparison of other two Japansese Lestes (pp. 61-66); – *Wada, S.*: Record of a gynandromorphic individual of Sympetrum maculatum Oguma, 1915 (Anisoptera: Libellulidae) (pp. 67-68); – *Hisamatsu, S. & L. Takechi*: Tramea virginia (Rambur, 1842) overwinters as larval stages in Ehime prefecture (pp. 69-70); – *Karube, H.*: On the scientific name of the Japanese name "Kiiro-harabiro-tombo" (pp. 71-72); – *Futahashi, R. & H. Futahashi*: A record of black mutant of Nannophya pygmaea Rambur, 1842 (pp. 73-74); – *Shimizu, N.*: A record of nocturnal oviposition in Boyeria maclachlani (Selys) Aeshnidae, Brachythroninae) (pp. 74-75); – *Eda, S.*: An abnormal connection between two males of Leucorrhinia dubia orientalis Selys (p. 76); – *Karube, H.*: The southernmost record of dragonfly in Japanese territory (p. 76).

(16960) VAN TOL, J., 2007. Encyclopedia of South American aquatic insects: Odonata-Anisoptera, by C.W. Heckman; – and Dragonfly genera of the New World [...] Anisoptera, by R.W. Garrison et al. *Tijdschr. Ent.* 150: 30, 38 (Engl.). – (Naturalis, P.O. Box 9517, NL-2300 RA Leiden).
A careful and detailed book review of the works described in *OA* 16465 and 16339, respectively.

(16961) WATANABE, M., S. MATSU'URA & M. FUKAYA, 2007. Changes in distribution and abundance of the endangered damselfly Mortonagrion hirosei Asahina (Zygoptera: Coenagrionidae) in a reed community artificially established for its conservation. *J. Insect Conserv.* 2007, 8 pp. – DOI 10.1007/s10841-007-9108-3. – (First Author: Grad. Sch. Life & Envir. Sci., Univ. Tsukuba, Tsukuba, Ibaraki, 305-8577, JA).
In Ise (Mie pref., Japan), a man-made M. hirosei reed habitat (surface ca 2100 m²) was set up adjacent to a natural habitat in 2003. In the flying season of that yr, the artificial site was populated by ca 1000 individuals. The estimated numbers of Mortonagrion were continuously increasing in the subsequent yrs: ca 10.000 in 2004, 23.000 in 2005, and up to 45.600 in 2006, when the population density became almost equal to that in the adjacent natural habitat.

(16962) ZAWAL, A., 2007. Morphology of larval stages of Arrenurus papillator (O.F. Müller, 1776) and A. pustulator (O.F. Müller, 1776) (Acari: Hydrachnidia). *Genus* 18(1): 117-124. – (Dept Invert. Zool. & Limnol., Univ. Szczecin, Waska 13, PO-71-415 Szczecin).
The odon. are known as hosts of A. papillator larvae (cf. e.g. R.A. Baker et al., 2007, *Odonatologica* 36: 339-347). Here, the larvae of the 2 spp. are described for the first time.

(16963) [ZESSIN, W.] Anonymous, 2007. Bücher aus dem Schweriner Zoo. *Ursus* 13(1): 58-61. – (c/o Dr W. Zessin, Zool. Garten Schwerin, Waldschulweg 1, D-19061 Schwerin).
A comprehensive presentation of 2 non-odonatological books (2007: "*Anekdoten aus dem Zoo*" and "*Zootiere*"), authored by Dr W. Zessin, a well-known odonatologist and odon. paleontologist. An outline of his biography and a portrait are included (born 1948, graduated physicist and zoologist, since 1988 associated with the Schwerin Zoological Garden). A list of his professional interests, political offices, and memberships in professional societies is also provided.

(16964) ZETTLER, M.L. & D. DAUNYS, 2007. Long-term macrozoobenthos changes in a shallow boreal lagoon: comparison of a recent biodiversity inventory with historical data. *Limnologica* 37: 170-185. – (First Author: Baltic Sea Res. Inst., Seestr. 15, D-18119 Rostock).
From the Curonial Lagoon, the largest coastal lagoon in the Baltic Sea (Lithuania), 18 odon. spp. were reported, mostly between 1951-1957. Currently only 4 spp. were documented, and all are considered rare.

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(16965) *AGRION, WDA*. Newsletter of the Worldwide Dragonfly Association (ISSN 1476-2552), Vol. 12, No. 1 (Jan. 2008). – (c/o L. Averill, 49 James Rd, Kidderminster, Worchester, DY10 2TR, UK).

Wilson, K.: Editorial (p. 1); – *Pritchard, G.*: Message from the President (p. 4); – *Taylor, J.*: Searching for the elusive Lathrocordulia metallica (p. 5); – *Clausnitzer, V.*: Hora est! A tribute to African odonatology (pp. 6-7; on the PhD award to Dr K.-D.B. Dijkstra); – *Corbet, P.*: The Fifth WDA International Symposium of Odonatology Namibia, April 2007 (pp. 8-9); – *Manci, C. & V. Kalkman*: Some results of fieldwork in Romania (p. 9); – *Riservato, E.*: Preliminary results on the status and distribution of Odonata in the Mediterranean Basin (pp. 10-11); – *Yates, N.*: Bingo in a Pingo (p. 11; autobiographic note); – *Hämäläinen, M.*: Ulrique and Louise (pp. 12-15; on Calopteryx nomenclature); – *Dijkstra, K.-D.B.*: Ghana gold mine (pp. 15-17); – Damsels, the systematist's muse (pp. 18-19); – *Endersby, I.*: Mapping the Australian Odonata (p. 19); – *Clausnitzer, V. & V.J. Kalkman*: The global status of dragonflies (Odonata) based on the Red List Index approach (pp. 20-21); – *Ubukata, H.*: Accomplishment of the translation project of Philip Corbet's "Dragonflies" (1999) into Japanese (pp. 22-23); – *Orr, B.*: Eight days in Peninsular Malaysia and the benefits of hindsight (pp. 24-27); – *Dyatlova, E.*: Odonatological year 2007: Odessa, Ukraine (pp. 28-29); – *Corbet, P.*: The origin and development of WDA: the first ten years, 1997-2007 (pp. 30-36).

(16966) DIJKSTRA, K.-D.B., 2008. The systematist's muse: two new damselfly species from 'Elisabetha' in the Congo Basin (Odonata: Chlorocyphidae, Platycnemididae). *Zool. Med. Leiden* 82(3): 15-27. – (Natn. Zool. Colln Surinam, Univ. Surinam, P.O. Box 9212, Paramaribo, Surinam).
Platycypha eliseva sp. n. (holotype ♂: Dem. Rep. Congo, Orientale prov., Terr. Basoko, 20 km NW of Lokutu, Latissé river, alt. 410 m, 1-XI-2004) and Mesocnemis saralisa sp. n. (holotype ♂: Dem. Rep. Congo, Orientale prov., Terr. Basoko, Lokutu, Congo river, alt. 370 m, 7-XI-2004) are described. The taxonomy and distribution of Platycypha and Mesocnemis are discussed and keys are provided for the ♂♂.

(16967) *ECHO*. Communicating about Odonata of tropical Asia. (ISSN none), No. 5 (Jan. 2008; published in *Agrion, WDA* 12/1). Editors: V. Kalkman (Naturalis, P.O. Box 9517, NL-2300 RA Leiden).
Van der Poorten, N.: Work on dragonflies in Sri Lanka (p. 1); – *Yu, X.*: Ovipositing of Ischnura aurora (p. 2); – *Villanueva, R.*: Some notes on the dragonflies of Dinagat, NE Mindanao, Philippines (p. 2); – *Dow, R. & G. Reels*: List of species recorded at Gunung Mulu National Park, Sarawak, Malaysian Borneo in 2005-2006 (pp. 2-3); – *Choong, C., B. Orr & R. Dow*: Checklist of dragonflies of UKM Campus, including Bangi Forest Reserve, Bangi, Selangor, Malaysia (pp. 4-5); – *Wilson, K.D.P., G.T. Reels & Z. Xu*: Revised checklist of Hainan Odonata, China (pp. 6-14); – *Wilson, K.D.P.*: Crepuscular activity of Orientogomphus minor (Laidlaw) comb. nov. from Thailand and clarification of the taxonomic status of closely related species (pp. 15-21).

(16968) JOVIĆ, M., Lj. ANDJUS, M. BEDJANIČ & S. SANTOVAC, 2008. Review of the Odonata fauna of Montenegro. *Opusc. zool. flumin.* 224: 1-26. – (First Author: Nat. Hist. Mus. Belgrade, Njegoševa 51, P.O. Box 401, RS-11000 Beograd, Serbia; – for a pdf, apply to: *matjaz-bedjanic@yahoo.com*).
The 57 hitherto known spp. are listed along with the locality data and bibliographic references, where applicable. Coenagrion pulchellum, Erythromma najas, Anaciaeschna isosceles, Anax parthenope, Brachytron pratense, Cordulegaster heros and Selysiothemis nigra were not previously recorded from Montenegro. The biogeographic composition of the fauna is analysed. Observations on Somatochlora metallica from Mt Durmitor are briefly discussed, and a comprehensive bibliography on the odon. fauna of Montenegro is appended.