

In memoriam Thomas W. “Nick” Donnelly (23rd December 1932 – 7th May 2025)

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Abstract. A biography of Dr. Thomas W. “Nick” Donnelly, geologist and influential leader of American odonatology is provided. A list of odonate taxa described by Nick and a list of odonate taxa named after him are appended.

Further key words. Dragonfly, Odonata, *Argia*, *Selysia*, Dragonfly Society of the Americas, obituary

***Pseudagrion sublacteum* in Andalusia,
a new damselfly species for Europe
(Odonata: Coenagrionidae)**

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Abstract. On 04.vi.2025, a male *Pseudagrion sublacteum* was photographed perched on a rock in the Río Guadiaro near El Colmenar (Málaga province, Andalusia) in southern Spain. This damselfly species is common in sub-Saharan Africa and occurs also in the Levant, with a few relict populations in Morocco. The record from Río Guadiaro constitutes the first record of this species in Europe. Despite searching by several odonatologists in the following days, the species was not found again at the same site.

Further key words. Dragonfly, Zygoptera, Spain, Iberian Peninsula

Contrasting responses of Odonata diversity to the rainy season in lentic and lotic habitats in Colombia

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Abstract. The diversity of adult odonates in two artificial aquatic ecosystems in the Colombian Orinoquía region, a drainage canal and artificial ponds, was assessed in 2020 during both rainy and dry seasons. A total of 66 odonate species were recorded, 15 in the drainage canal and 51 in the artificial ponds. Overall, the assemblage was predominantly composed of common species; however, rare and threatened species (*Acanthagrion fluviatile*, *Agriogomphus jessei*) were also documented. Variation in rainfall between the two seasons influenced both species richness and community composition in each aquatic system. Although the ponds maintained higher overall richness, the drainage canal showed a significant increase during the rainy season compared to the dry season, reflecting a positive response to greater water availability and habitat heterogeneity and with a predominance of Zygoptera. In contrast, Anisoptera predominated in the ponds, which exhibited similar richness values between seasons, suggesting greater environmental stability. Despite their artificial origin and human-induced modifications, these water bodies serve as important habitats for various odonate

species throughout the year, functioning as temporary refuges that buffer the ecological impacts of seasonal climatic fluctuations.

Further key words. Dragonfly, Anisoptera, Zygoptera, climatic periods, artificial ponds, drainage canal, Meta Department

Odonata from a Tropical Dry Forest in Huatulco, Oaxaca, Mexico

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Abstract. A total of 587 adult Odonata belonging to six families, 25 genera, and 52 species were collected in 2005 from the tropical dry forests of Huatulco, Oaxaca, Mexico by bimonthly samplings of five days each for one year. Libellulidae with 26 species was the richest family, followed by Coenagrionidae (18), Calopterygidae (3), Aeshnidae and Gomphidae (2), and Lestidae (1). *Argia* with nine species was the most speciose genus, followed by *Erythrodiplax* (4), *Dythemis*, *Erythemis*, *Hetaerina*, *Micrathyria*, and *Macrothemis* (3). The remainder of the genera were represented by only two or one species. The observed species richness represented approximately 85.9% of the estimated species richness for Huatulco. Maximum values of species richness, abundance, and diversity apparently coincide with the months of greatest rainfall. No relationship between phylogenetic diversity with temperature and precipitation was found.

Further key words: Dragonfly, seasonal forests, national park, aquatic invertebrates, diversity, *Argia*


Investigations on the life cycle of *Orthetrum nitidinerve* in southern Spain (Odonata: Libellulidae)

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Abstract. Understanding life cycle patterns of Odonata is critical to identifying the factors that influence their voltinism. Few studies of this type have focused on the Mediterranean Libellulidae. A study on larval development and voltinism of *Orthetrum nitidinerve*, a threatened West Mediterranean endemic, was carried out in a stream in the Guadalquivir Valley of southern Spain. Final-instar larvae were found throughout the year. Larvae with signs of advanced metamorphosis or emergence were found in spring (April–May) and late summer (August). Head width of final-instar larvae differed significantly between those collected in spring and in late summer. Larvae contributing to an assumed first wave of emergence were larger than those contributing to the second wave. The appearance of small larvae (F-4 and smaller) in mid-summer (July and August) can be attributed to the hatching of eggs laid early in the same year. On the other hand, the appearance of medium size larvae (F-2, F-3) in late winter (March) can be attributed to the hatching of eggs laid in the previous year, followed by overwintering in interstitial habitats. This supports bivoltinism at the study site.

Further key words. Dragonfly, Anisoptera, larval biometry, development, phenology, voltinism, endemic species, agricultural landscape streams, Mediterranean streams

Diet and foraging of larvae of *Somatochlora alpestris*, an alpine dragonfly at its upper distribution limits (Odonata: Corduliidae)

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Abstract. *Somatochlora alpestris* is a Palaearctic dragonfly distributed in cold areas from Europe to the Far East. It is adapted to environments with low mean annual temperatures and short summers. At the upper limit of its altitudinal distribution, conditions for the larvae are particularly unfavourable. Little is known on what and how the larvae prey on during the short summer growth period. To answer this, larvae of *S. alpestris* were collected in the Central Alps and kept in aquaria until they had egested all their faecal pellets. These were examined under the microscope for remains of prey animals. In addition, various experiments were carried out in the laboratory to determine how the larvae recognize and capture prey. The diet consisted mainly of Cladocera, Chironomidae, and Hydrachnidia, living in peat mud together with the dragonfly larvae. Cannibalism also occurred. The prey is detected and recognised by tactile stimuli, visual and olfactory senses play virtually no role. The perfectly camouflaged larvae are typical sit-and-wait predators, hiding in mud and among plant debris. At the study sites, *S. alpestris* mostly occurred together with *Aeshna juncea*. The former predominated in small ponds and in runnels arising from seepages, while the latter dominated in large ponds. *Aeshna juncea* is considered the main predator of *S. alpestris* larvae, probably restricting local population sizes. The upper and lower altitudinal limits of distribution are briefly discussed with respect to global warming and the corresponding habitat changes.

Further key words. Dragonfly, Anisoptera, microhabitat, feeding, behaviour, prey capture, visual sense, tactile sense, larval growth, cannibalism, predator avoidance, Switzerland

Latitudinal variation in the effects of winter temperature on egg hatching and larval development in *Sympetrum frequens* (Odonata: Libellulidae)

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Abstract. *Sympetrum frequens* has recently been classified as an endangered species in 11 (26 %) Japanese prefectures, which are mainly located at lower elevations with higher temperatures. This study investigates the impact of warmer winters on the post-diapause development of overwintering eggs in *S. frequens*, a dragonfly species that depends on rice paddies for reproduction. We conducted two laboratory experiments comparing eggs from cooler northern regions (Fukushima Prefecture) and warmer southern regions (Miyazaki Prefecture). Eggs were exposed to temperature regimes simulating average winter conditions in these regions from 1990 to 2020. Our results revealed significant effects of regional temperature differences on hatching success and synchronization. Both, hatching rate and synchronized hatching coefficient, were significantly lower in eggs derived from Miyazaki province than in those from Fukushima. Eggs from warmer regions exhibited reduced hatching success and synchronization, indicating greater vulnerability to climate change. Elevated water temperatures (27.8°C) significantly reduced larval head width in eggs collected from the warmer southern region, supporting evidence that higher temperatures adversely affect larval development. These findings emphasize the critical role of global warming in reducing the reproductive success of *S. frequens* and highlight the need for targeted conservation strategies that address the species' climate-related vulnerabilities in rice paddy ecosystems.

Further key words. Dragonfly, Anisoptera, overwintering eggs, hatching success rate, synchronized hatching coefficient (SHC), climate change

**Name-bearing types of Libellulidae
preserved at the Senckenberg Naturmuseum
Frankfurt/Main
(Odonata: Anisoptera)**

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Abstract. The name-bearing types of Libellulidae preserved at the Senckenberg-Museum Frankfurt/Main, Germany (SMF) are catalogued. There are 124 name-bearing types of 56 taxa deposited at the SMF as well as 40 additional paratypes and paralectotypes. The syntypes of *Orthetrum bismarckianum*, *Perithemis naias*, and *Perithemis domitia octoxantha* as well as the paratypes of *Perithemis electra* and *Perithemis cornelia* could not be found at SMF, although they are stated to be deposited there. The type status of *Orthetrum stemmale lemur*, *Orthetrum azureum lugubre*, *Trithemis selika maia*, and *Crocothemis saxicolor* is investigated. All types of these taxa are considered syntypes, because their previous lectotype designations were invalid. In addition, 103 paratypes and paralectotypes of 34 other taxa are listed. A supplementary list of name-bearing types of Libellulidae of 89 taxa described by Friedrich Ris and deposited in collections other than the SMF is provided. Another list refers to previously overlooked type specimens and contains five name-bearing types of five taxa, of these taxa additionally six paratypes, as well as 23 paratypes of seven other taxa within the families Calopterygidae, Coenagrionidae, Petaluridae and Gomphidae.

Further key words. Dragonfly, Anisoptera, Friedrich Ris, Selys Longchamps, taxonomy, nomenclature, collection