

## On collections of Odonata from the Lao People's Democratic Republic, with three new records

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**Abstract.** Collections of Odonata from the Lao PDR held at the Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main, Germany, the Museum Wiesbaden, Germany, and the Oberösterreichisches Landesmuseum Linz, Austria, were examined. Altogether 143 specimens of 47 species (26 Zygoptera, 21 Anisoptera) were examined. *Lestes dorothea*, *Nychogomphus lui* and *Tramea basilaris* are reported from the Lao PDR for the first time and their characters are briefly discussed. Records of *Caliphaea thailandica*, *Asiagomphus xanthenatus*, *Leptogomphus baolocensis* and *Macromia pinratani* are briefly discussed. Illustrations of the male appendages of *Lestes dorothea*, of the male appendages, secondary genitalia as well as the penis of *Nychogomphus lui*, of the male secondary genitalia of *Tramea basilaris* and of the female valvula vulvae of *Macromia pinratani* are provided.

Further key words. Dragonfly, damselfly, Anisoptera, Zygoptera, adults, Laos

# Rediscovery of the regionally critically endangered dragonfly *Lindenia tetraphylla* in Northeast Algeria after 170 years of apparent absence (Odonata: Gomphidae)

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**Abstract.** In 2018 we rediscovered the regionally critically endangered *Lindenia tetraphylla* (Vander Linden, 1825) in the El Kala National Park, Northeast Algeria, after 170 years with no record. A total of ten individuals were observed in the Ramsar listed Lac Noir along with dense populations of the regionally threatened *Urothemis edwardsii* and *Acisoma inflatum*. These findings suggest that Lac Noir, which suffered from major fire almost 30 years ago, has relatively recovered.

Further key words. Anisoptera, dragonfly, extinction, colonisation, North Africa, Maghreb

# Unusual Chinese records of *Lestes sponsa*, *Coenagrion armatum* and *Libellula quadrimaculata* (Odonata: Lestidae, Coenagrionidae, Libellulidae), far south of their known range

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**Abstract.** In 1995 and 2017 during excursions to high-altitude mountains in the Chinese provinces of Yunnan and Sichuan small numbers of dragonflies were encountered. These included two Palaearctic (*Coenagrion armatum*, *Lestes sponsa*) and one Holarctic (*Libellula quadrimaculata*) species present well south of their known range. These sightings are noted and revised distribution maps of the three species are presented.

Further key words. Dragonfly, damselfly, Anisoptera, Zygoptera, adults

## Differences in male-male tandem formation in two species of *Micrathyria* (Odonata: Libellulidae)

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**Abstract.** Male-male tandem formation in odonates is typically described as a mistaken sexual advance by one male on another. If so, male-male tandem formation should be less frequent in more sexually dimorphic species. In a small experiment designed to describe patterns of intra- and interspecific aggression by *Micrathyria atra* and *M. mengeri*, I placed live tethered male decoys of these species in the territories of territorial males. In the less sexually dimorphic *M. mengeri*, nine of 21 intraspecific interactions by three different males resulted in male-male tandem attempts. In the more sexually dimorphic *M. atra*, only one of 25 intraspecific interactions resulted in a male-male tandem attempt. The higher incidence of male-male tandem formation in *M. mengeri* may reflect a greater mistake rate by males in this less dimorphic species.

Further key words. Dragonfly, Anisoptera, sexual polychromatism, Costa Rica

**Twenty-two new records of Odonata for Andhra Pradesh state, India (Lestidae, Calopterygidae, Coenagrionidae, Platycnemididae, Gomphidae, Libellulidae)**

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**Abstract.** Field surveys were carried out during 2011–2014 in the State of Andhra Pradesh by scientists of Zoological Survey of India, Southern Regional Centre, Chennai. Collected specimens deposited in the National Zoological Collections of Zoological Survey of India, Chennai, were studied and yielded 22 species new to the state of Andhra Pradesh. These new records increase the number of odonate taxa known from Andhra Pradesh to 69.

Further key words. Dragonfly, damselfly, Anisoptera, Zygoptera, adults, Eastern Ghats

## Odonata from highlands in Niassa, Mozambique, with two new country records

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**Abstract.** ‘Afromontane’ ecosystems in Eastern Africa are biologically highly valuable, but many remain poorly studied. We list dragonfly observations of a Biodiversity Express Survey to the highland areas in north-west Mozambique, exploring for the first time the Njesi Plateau (Serra Jecci/Lichinga plateau), Mt Chitagal and Mt Sanga, north of the provincial capital of Lichinga. A total of 13 species were collected. *Allocnemis cf. abbotti* and *Gynacantha im-maculifrons* are new records for Mozambique.

Further key words. Dragonfly, damselfly, Anisoptera, Zygoptera, biodiversity, survey

## First records of Odonata from Sint Eustatius, Dutch Lesser Antilles

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**Abstract.** Six species of dragonflies are recorded for the island of Sint Eustatius, Lesser Antilles. Breeding records are established for four out of the six species, despite the lack of natural fresh water sources. DNA barcoding was used to match the larvae with the adults.

Further key words. Dragonfly, damselfly, Anisoptera, Zygoptera, exuviae, larvae, breeding, fresh water, cisterns, swimming pool