

***Drepanosticta leonardi* n. sp., (Odonata: Platystictidae)
A NEW DAMSELFLY SPECIES FROM LEYTE ISLAND,
PHILIPPINES¹**

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ABSTRACT

One new species of damselfly, *Drepanosticta leonardi* n. sp., is described and illustrated based on specimens from Mt. Pangasugan, in the central part of Leyte Island, Philippines. It belongs to *Drepanosticta belyshevi* group and differs from its congeners based on the combination of characters on its posterior lobe of prothorax and cerci.

Key words: damselfly, *Drepanosticta leonardi* n.sp., Leyte, Odonata, Platystictidae, Zygoptera

INTRODUCTION

The Philippine archipelago is a treasure-trove for biologists. Its climate and location between two distinct biogeographic regions, with Palawan as part of Sundaland and the rest of oceanic Philippines as part of Wallacea, have resulted in high species diversity and endemism. This high endemism also applies to Philippine Odonata, a group with nearly 300 described species and many unidentified specimens from the archipelago already in museum collections. Many of those specimens probably represent undescribed species, most of which are often restricted to a single small island or a mountain range of a larger island.

Unfortunately, this rich biological treasure is in peril. The Philippines has lost huge tracts of forests in the last 100 years. Much of the dwindling habitats are lost without biological surveys being conducted in them (Mallari et al. 2004). Hence, the country most probably has been losing species without ever being recorded and documented. Due to rapid urbanization and lack of environmental management

schemes, several species of flora and fauna have already ended up in the list of the world's threatened species (IUCN 2010).

This fast vanishing natural treasure points to the need to study Philippine biodiversity and implement conservation measures. Unfortunately, the efforts have often been caught in the midst of an armed struggle between government forces and insurgents, or worst, between some businessmen and politicians. This paper is dedicated to Dr. Leonardo L. Co, an innocent botanist who was killed on the island of Leyte on November 15, 2010, while collecting seedlings for the conservation of native plants.

On the part of the authors, the study of Philippine dragonflies and damselflies (Odonata) is a continuing contribution to the broader study of Philippine biodiversity and conservation. Among damselflies, the genus *Drepanosticta* is a speciose one with several dozen species distributed in the Oriental region, including New Guinea and smaller adjacent islands. It is characterized by the Y-shaped anal vein. In the Philippines, nearly 30 valid names are recognized (van Tol 2005), mostly confined to an island or a particular mountain on an island.

Measurements are given in mm and drawings were made with the aid of a stereomicroscope equipped with micro ocular camera. Terminology generally follows Watson & O' Farrell (1991) and Cowley (1936). Acronyms for collections are as follows: RJTV – Reagan Joseph T. Villanueva (Private Collection) and MNH-UPLB – Museum of Natural History-University of the Philippines Los Baños, Philippines.

DESCRIPTION

Drepanosticta leonardi Villanueva, Gapud & Lin, **new species**

Figs 1-3

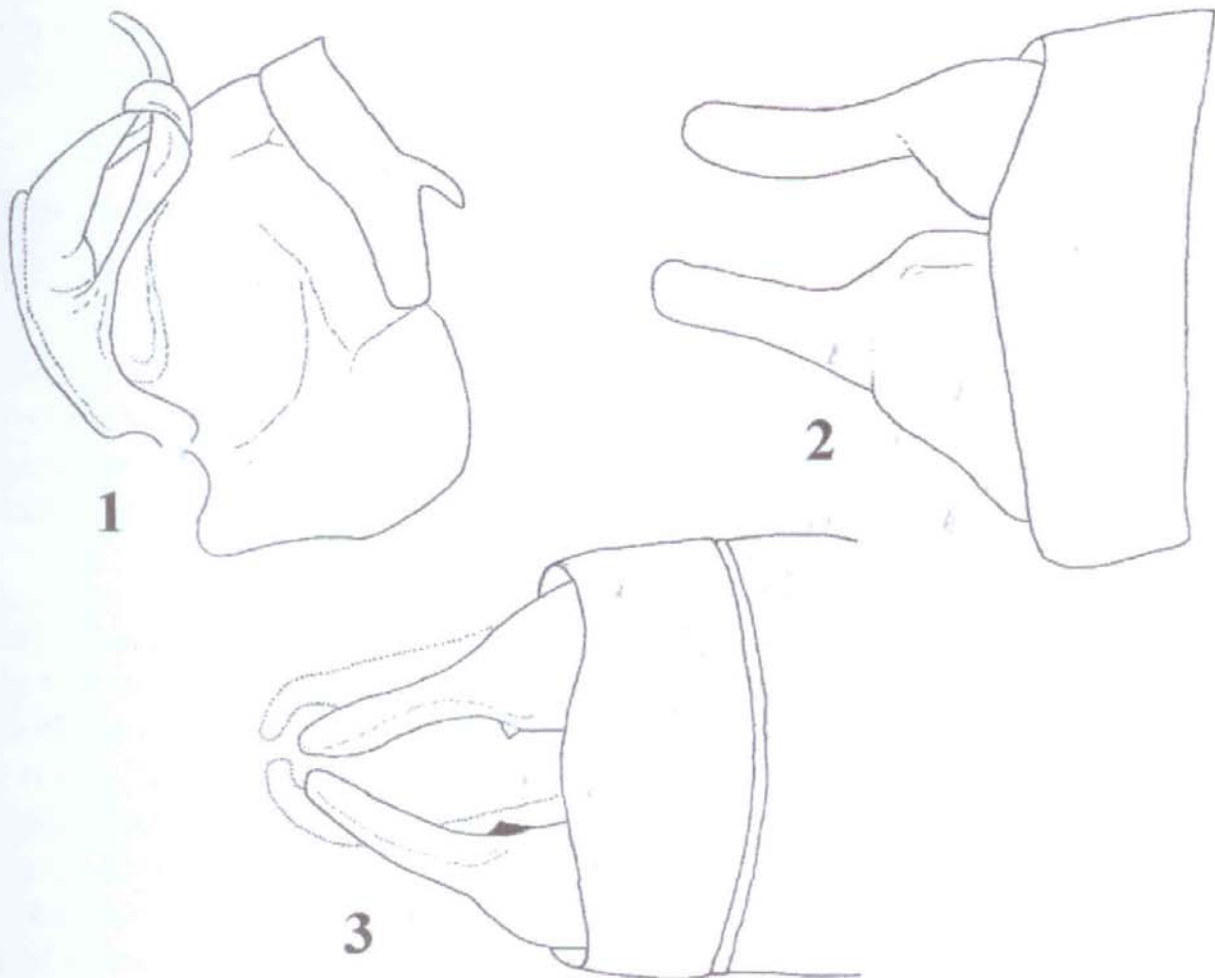
Drepanosticta indet. B, van Tol, 2005: 275

DIAGNOSIS: This species belongs to *Drepanosticta belyshevi* group, as defined by van Tol (2005), i.e., with transverse occipital carina well developed, pair of developed processes on both anterior and posterior lobes, and characteristic marking on the synthorax. It differs from *Drepanosticta flavomaculata* van Tol, 2005 by having an elongate anterior lobe reaching over the posterior border of the middle lobe. It also differs from the other members of this group, viz. *D. belyshevi* Hämäläinen, 1991 and *D. trachelocele* van Tol, 2005, by the very short posterior lobe, and the base of its lateral portion being well apart and directed ventrad.

DESCRIPTION. *Male.* Labium and mandibles yellowish with brownish apices. Labrum yellow except for black anterior margin. Genae and anteclypeus yellow.

The rest of head shiny black except for brownish antennae and yellow scapus. Transverse occipital and paraorbital carinae well developed.

Prothorax (Fig. 1) yellow except for black lateral portion of middle and posterior lobes. Anterior lobe sub-cylindrically elongate; its base broad and acutely bent medio-caudad, tip tapered and pointed, acutely curved dorsad and cephalo-laterad. Posterior lobe collar-like; lateral portion very short, triangular and directed ventrad. Synthorax shiny black except for broad metepisternal yellow stripe, and slightly brownish postero-distal border of metepimeron. Legs yellow except for brownish streak on posterior border of femora and 'knees'. Femoral and tibial spines including tarsi, brownish. Wings hyaline with brownish veins; Arc just off Ax2, Ab and Ac veins forming distinct Y-shape, Pnx 14/13 in forewing and hindwing, respectively. Pterostigma brownish, rectangular.



Figures 1-3. *Drepanosticta leonardi* n. sp.: 1. Prothorax, oblique lateral view. 2. Cerci, lateral view. 3. Cerci, dorsal view.

Abdomen brownish, blackening at each distal segment; S10 black. S4-S7 with pale basal rings occupying about 1/8 of each segment. S9 with large dorso-lateral white patch, occupying 2/3 of segment. Cerci brown (Figs 2-3); basal third dorsally broad with short spine at medio-apical surface directed medio-ventrad; the rest dorso-ventrally flattened with rectangular tip; distal 2/3 laterally bent ventrad. Paraproct brownish, broad base and elongate tip curved medially. Measurements: abdomen + cerci: 33; hind wing: 21.

Female. Similar to male except for shorter anterior lobe that barely reaches posterior border of middle lobe. Posterior lobe broadly collar-like without distinct lateral portion. Wing color and venation similar to that of male. S9 entirely dark brown. Cerci short, triangular and brownish. Ovipositor just reaching tip of cerci, brownish with pale tip. Measurements: abdomen: 31; hind wing: 20.

MATERIALS EXAMINED. **Holotype** – 1 male, LEYTE IS.: Mt. Pangasugan, Bo. Patag, Leyte Prov., Philippines, 7.viii.2001, leg. V.P. Gapud (to be deposited in the UPLB MNH). **Paratypes** – 1 male and 1 female, LEYTE IS.: Hilusig, Mahaplag, Leyte Prov., Philippines, 15.ix.2009, leg. RJTV/HC (in RJTV collection).

ETYMOLOGY. The specific epithet is a noun in apposition and named after the late Dr. Leonard L. Co, Filipino conservationist and botanist.

DISTRIBUTION. Leyte Is., Panaon Is.

REMARKS. The foregoing description of the male is based solely on the holotype. It should be mentioned that the male paratype differs only on the white patch on S9 that is limited to basal half of the segment. Its measurements are: abdomen + cerci, 30 mm and hind wing, 19 mm.

Van Tol (2005) listed a single female specimen as '*Drepanosticta* indet. B' from Panaon and wrote that it presumably represents a new species. Due to lack of male specimens it was not described or discussed further. This specimen with the following data: 'Panaon Id., San Francisco, Batong Lapad, viii. 1988, W. Catal leg.' was in the collections acquired by Roland A. Müller. The specimen had been misidentified as *Drepanosticta lestoides* and included in the series of correctly identified *D. lestoides* specimens from Panaon. Therefore, the range record 'Panaon' for *D. lestoides* in Hämäläinen & Müller (1997) refers both to *D. lestoides* and the new species herein described.

During the author's (RJTV/CPL) survey in parts of Leyte in 2009, a pair of this then undescribed species was collected. The pair was found perching high on a shady

cliff. The same site also hosts the widely distributed *Drepanosticta mylitta* Cowley, 1936. However, *D. mylitta* is found very close to the flat ground. Again due to limited material the pair of specimens was left untreated, until another male was found in the second author's (VPG) odonate collections. Although the present specimens have not been compared with the single female specimen mentioned by van Tol (2005), the short description of that female suggests that it is conspecific with our specimens.

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