



## Description of the first two tropical Indo-Pacific species of *Dendronotus* (Gastropoda: Nudibranchia) with new data of the poorly known species *Dendronotus gracilis* Baba, 1949

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### Abstract

*Dendronotus regius* **sp. nov.** and *Dendronotus noahi* **sp. nov.** are the first two species of the genus *Dendronotus* Alder & Hancock described from tropical western Pacific waters. Both have unique color patterns as well as radulae that are distinct from other known species of the genus. *Dendronotus regius* **sp. nov.** is recorded from Indonesia, the Philippines and Malaysia while *Dendronotus noahi* **sp. nov.** is found in Papua New Guinea. Along with these descriptions, new data on *D. gracilis* Baba, 1949 are given to provide supplemental information on its morphology and report an increase in its range to include the tropical waters of Okinawa, Japan. A comparative table as well as scanning electron micrographs for almost all recognized species is also provided.

**Key words:** Opisthobranchia, Dendronotina, Indo-Pacific, new species

### Introduction

Since Alder and Hancock erected the genus *Dendronotus* in 1845, the number of species within this genus has slowly increased, as well as the amount of information about the genus, mainly due to the revisions made by MacFarland (1966) and Robilliard (1970, 1972). Valdés and Bouchet (1998) described the most recent species of *Dendronotus* from the hydrothermal vents of the mid-Atlantic ridge. To date, thirteen species belonging to the genus are currently valid; all but four found in the eastern Pacific, from Alaska to Baja California. Of those four, only *D. gracilis* Baba, 1949 is found in the Indo-Pacific region (northern Japan and New Zealand).

This paper describes the first two species of *Dendronotus* from warm waters of the western Pacific. This tropical environment has not previously been known to contain representatives of this genus, whose distribution was believed to be antitropical (see Table 1). Previously, *Dendronotus gracilis* Baba 1949 was only reported from deep waters of Sagami Bay, Japan (Baba 1949). An additional specimen was collected off Okinawa, tropical Japan (Rudman 2001), increasing the previously known range and habitat of *D. gracilis*. This specimen is examined herein to supplement the information previously published. Cuticular structures are compared in detail, presenting scanning electron micrographs of the radulae and jaws of most valid *Dendronotus* species for the first time (Figures 7–16).

The name *Dendronotus* refers to the branching pattern of cerata-like appendages along the dorsal surface of the organism (dendro = tree, notum = back). Species of *Dendronotus* are characterized by having numerous and highly branched dorsolateral processes, retractable rhinophores with 8–30 leaves protruding from a protective sheath with 4–6 crown papillae, and elongate bodies (Valdés & Bouchet 1998). They also have a dis-