



Clarifying the identity of the Japanese Habu-kurage, *Chironex yamaguchii*, sp. nov. (Cnidaria: Cubozoa: Chiropodida)

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Abstract

Here we describe the new species *Chironex yamaguchii* (Cnidaria: Cubozoa) from the Ryukyu Archipelago, Japan. This highly venomous cubomedusa, commonly referred to as Habu-kurage in Japan, is the culprit for several fatalities in Japanese waters. The scientific name adopted for this species in the literature is *Chiropsalmus quadrigatus*, but our taxonomic investigations show that this represents a case of mistaken identity. In fact, Habu-kurage is a close relative of *Chironex fleckeri*, which is particularly interesting because the latter has a reputation for being the most venomous animal known. Differences in the shape of the pedalial canal bend, the number of tentacles, and bell size distinguish the two species. In addition to Japan, *Chironex yamaguchii* is widely distributed in the Philippines.

Key words: Habu-kurage, Okinawa, *Chironex*, *Chiropsalmus quadrigatus*, *Chiropsoides*

Introduction

The coastal beaches of the islands of Okinawa and the surrounding Ryukyu Archipelago (i.e., Ishigaki, Iriomoto, Miyako, and Kumei) are plagued every summer (from July to the end of September) by a highly venomous box jellyfish. It is known among local people as “Habu-kurage” in Japanese or in the Okinawan dialect as “Irah” or “Igoh” (Yamaguchi 1982), and encounters between this jellyfish and humans have led to at least three confirmed deaths, in which envenomation led to cardiac arrest in systole and respiratory failure with acute pulmonary edema (Okinawa Prefectural Institute for Health and Environment 1999). Several studies have addressed questions on the development of this animal (Kawamura *et al.* 2003; Oba *et al.* 2004) and its venom function and composition (Nagai *et al.* 2002; Sakanashi *et al.* 2002; Koyama *et al.* 2003; Nagai 2003; Noguchi *et al.* 2005). The scientific name adopted for the Habu-kurage in these works has been *Chiropsalmus quadrigatus* Haeckel, 1880. Our investigations, however, show that this identification is erroneous and we rectify the problem here. In particular, Habu-kurage is a species of *Chironex*, a genus represented so far by only a single species, *Chironex fleckeri* Southcott, 1956, from tropical Australia. *Chironex fleckeri* is infamous for its high toxicity, and its reputation as the most venomous animal known (Williamson *et al.* 1996) makes its close relationship with the Habu-kurage particularly interesting.