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# Molecular Evidence for the Taxonomic Status of an Undescribed Species of *Dasyatis* (Chondrichthyes: Dasyatidae) from Japan

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Specimens of an undescribed species of *Dasyatis* stingray (*D*. sp.) were collected from Nagasaki and Kagoshima Prefectures, Japan. These specimens are more similar to *D. akajei* (Müller and Henle, 1841), *D. laevigata* Chu, 1960, and *D. izuensis* Nishida and Nakaya, 1988 than they are to other congeners obtained from the western North Pacific Ocean. The genetic differences among *D*. sp., *D. akajei*, *D. laevigata*, *D. izuensis*, and two other congeneric species, *D. matsubarai* Miyosi, 1939 and *D. kuhlii* (Müller and Henle, 1841), were investigated on the basis of partial sequences (621 bp) of the mitochondrial cytochrome oxidase subunit I (COI) gene. All three specimens of *D*. sp. that were analyzed showed identical haplotypes and formed a well-diverged clade in the phylogenetic analysis. The pairwise sequence differences between *D*. sp. and the five other species of *Dasyatis* ranged from 7.09% to 15.30%. These values almost equalled, or exceeded, the interspecific differences among the latter five species [range, 5.82% (*D. akajei* vs *D. izuensis*) to 16.43% (*D. kuhlii* vs *D. izuensis*, and *D. kuhlii* vs *D. laevigata*)]. Our findings indicate that *D*. sp. is a reproductively isolated and distinct species.
**Key Words:** *Dasyatis*, evolutionary distance, mitochondrial DNA, cytochrome oxidase subunit I.

## Introduction

The genus *Dasyatis* (Chondrichthyes: Dasyatidae) comprises at least 38 species of stingray around the world (Nelson 2006), and 16 of these inhabit the western North Pacific Ocean (Nishida and Nakaya 1990; Zhu and Meng 2001; Aonuma and Yoshino 2002). Furumitsu *et al.* (2006) recently reported an undescribed species of *Dasyatis* (*D*. sp.) from Ariake Bay, Japan, which is characterized by a unique combination of morphological characters. These authors also collected a specimen of *D*. sp. (*sensu* Furumitsu *et al.* 2006) from Kasasa, Kagoshima, Japan.

*Dasyatis* sp. (*sensu* Furumitsu *et al.* 2006; Fig. 1) has a diamond-shaped disc, three to nine oral papillae, 15–22 intestinal valve turns, and a tail with both ventral and dorsal folds; it does not have a band of small denticles on its prespinal region, a scutellate spine on its tail, nor any characteristic spots on the dorsal side of its