Species composition of the genus *Scombrops* in the coastal waters of the Japanese Islands

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Introduction

The genus *Scombrops* caught in the coastal waters of the Japanese Islands includes two species, *Scombrops boops* and *Scombrops gilberti*. Both species are thought to inhabit seaweed beds in the sublittoral zone as juveniles and later move to the dysphotic bottom at 200-700 m depth, but little is known about the geographical distributions of the nursery grounds for these species and the habitat shift patterns from the shallow waters to the dysphotic zone. Species identification of *S. boops* and *S. gilberti* at early life stage is difficult from there external characters. In this study, we investigated the species composition of the genus *Scombrops* in the coastal waters of the Japanese Islands using molecular biological method, in order to clarify the life history of these species.

Materials and methods

Scombrops samples were collected from Ogusu (Kanagawa Pref.), Ifuri (Kochi Pref.) and Minami-satsuma (Kagoshima Pref.). Total genomic DNA was extracted from the muscle, and partial DNA fragments of 16S ribosomal RNA gene were amplified by polymerase chain reaction (PCR). Subsequently, the amplified DNA fragment was subjected to restriction fragment length polymorphism (RFLP) using two restriction enzymes, *Eco*NI and *Mva*I. The samples showing shared restriction profile were subjected to sequencing and phylogenetic analyses.

Results and discussion

Most of the *Scombrops* young caught in the coastal waters of Ogusu, Ifuri and Minami-satsuma showed *S. boops*-specific PCR-RFLP patterns. Several samples could not be determined using PCR-RFLP analysis alone. These samples were subjected to sequencing and phylogenetic analyses, and the most of the sequences formed cluster with those of *S. boops*. These results indicate that *S. gilberti* young are rare in coastal waters investigated in this study.