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PE-1 **Geographical pattern of diversity in the intertidal fish assemblages of the Ryukyu Islands**

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Geographical variation in diversity and community structure of intertidal fishes were examined in the Ryukyu Islands (28 sites, 12 islands), subtropical region of southwestern Japan. The observation was also carried out in Mainland Japan (5 sites) as the temperate region for comparison with the Ryukyus. In the present study, relatively small tidepools (<1m<sup>2</sup> surface area) were observed 20-30 numbers on each sampling site. All fishes in the tidepools were collected by a hand net and species, number and body sizes were recorded. The species and family richness of communities tended to increase towards the lower latitude. Species increase in relation to tidepool surface area and relative abundance patterns (based on number of individuals) were not significantly different between most sites. Although the similarity of family composition did not show any relation to the geographical distance of each site, similarity of species composition was negatively co-related with geographical distances. The trend was emphasised when data included Mainland. However, further analysis revealed that the trend is mainly due to the effect of species replacement between Mainland and Ryukyus rather than the distance decay pattern. In the southern area of the species replacement breakpoint, most temperate species probably cannot disperse due to the barrier of the ocean current. Smaller tidepools in the Ryukyu Islands are considered to have more severe environmental conditions for fishes than those in the temperate areas. In contrast, with the intuitive expectation, the species accumulation analysis showed that some fishes, especially blenniidae, in the Ryukyu Islands could utilise smaller tidepools than those in the mainland. Such variation in tidepool utilisation may reinforce species diversity in the Ryukyu Islands.