Reef fishes Pari Island

Indonesia is the world’s richest country regarding reef fish diversity. Nevertheless, the reef ichthyofauna of the Indonesian Archipelago remains poorly known, primarily due to a lack of sampling. Coral reefs in the Kepulauan Seribu Marine National Park close to the Indonesian capital Jakarta are under threat by many destructive activities that trigger a loss of habitat and species diversity. This communication: (1) describes the reef fish community structure from three distinct reef habitats in the Pari Island group dominated by Acropora branching corals (ACB), foliose corals (CF) and massive corals (CM), using a number of community properties such as numerical abundance, species richness, diversity, and multivariate similarity; (2) examines the temporal variation of the fish community from the three habitats; and (3) discusses possible implications for the monitoring of qualitative changes in coral reef systems on small islands. During this study, a total of 13,536 individual fishes were counted, representing 205 species belonging to 36 families. In terms of species richness, Pomacentridae was the dominant fish family in ACB and CF sites (40 % and 48.6 %, respectively), and Labridae (27.4 %) was the dominant family in the CM plots. The most species-rich habitat was ACB with 125 species (with Amblyglyphidodon curacao as the most characteristic species), followed by CM and CF with 117 (Thalassoma lunare) and 79 species (Pomacentrus alexanderae), respectively. Average Shannon-Wiener diversity (ln basis) ranged from 2.0–2.9 (ACB), 2.4–3.1 (CF), and 2.1–3.0 (CM), with no significant difference between growth forms. Abundance, species richness and diversity showed significant seasonal variability, but the effects differed between habitats. Multivariate analysis of the reef fish community was able to detect significant differences between species composition and diversity of the reef fish community between sites with different coral growth forms at Pari Island, both when based on species abundances and when aggregated according to trophic categories. It thus constitutes a useful tool to detect qualitative differences of the species-rich Indonesian coral reef ecosystems.

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Seasonal trends and fish-habitat associations around Pari Island, Indonesia: setting a baseline for environmental monitoring