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ABSTRACT BOOK
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Diversity, Conservation Status, and Ecological Significance of Ray Fishes (Batoidea) Along the Tamil Nadu and Pondicherry Coasts, Southeast India

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Abstract
Ray fishes (Batoidea) form an ecologically vital group within benthic and coral reef ecosystems, functioning as habitat engineers, nutrient recyclers, and regulators of prey populations. However, their populations are declining due to overfishing, habitat degradation, and pollution. Despite their ecological significance, comprehensive assessments on ray fish diversity and conservation along Indian coasts remain scarce and geographically fragmented.

The present study documents the diversity, distribution, and conservation status of ray fishes along the Tamil Nadu (Parangipettai, Nagapattinam, Gulf of Mannar, and Chennai) and Pondicherry coasts. Data were collected through field surveys and secondary literature reviews. Information pertaining to species diversity, IUCN status, reproductive biology, maximum growth, feeding habits, and habitat preferences was compiled to assess ecological vulnerability and spatial trends.

A total of 48 species of ray fishes belonging to five families were recorded from Tamil Nadu and seven species from Pondicherry waters. Four species—*Rhinobatos granulatus, R. variegatus, R. obtusus,* and *R. annandalei*—were classified as Critically Endangered, while sixteen species were listed as Endangered under the IUCN Red List. Ray fishes were observed to play key ecological roles in bioturbation, sediment turnover, and coral reef hydrodynamics.

The study underscores the urgent need for location-specific conservation measures, focusing on critical spawning, nursery, and feeding habitats. Effective management strategies should integrate socio-economic assessments of Chondrichthyan fisheries and review current policy frameworks. This baseline documentation will aid in long-term monitoring, conservation planning, and sustainable management of ray fish populations along India's southeast coast.