



Fig. 1 Four Brazilian endemic reef fishes (clockwise): *Apogon americanus* (Castelnau 1855), 72.5 mm SL; *Opistognathus* sp. n., 76 mm SL; *Gramma brasiliensis* Sazima, Gasparini and Moura 1998 56.2 mm SL; *Labrisomus* sp. n., 69.2 mm SL. (Photographs by J.L. Gasparini)

Brazilian endemic reef fishes

The Brazilian reef fish fauna comprises approximately 320 species (Gasparini and Floeter, unpublished) which are distributed along the mainland's coast and the oceanic islands Atol das Rocas, Fernando de Noronha, St. Paul's Rocks, and Trindade Island. At least 57 (~18%) of these species are restricted to the southwestern Atlantic. Most (75.4%) endemics are small [< 120 mm standard length (SL)] benthic demersal-spawners or brooders [e.g. Labrisomidae (9 species), Pomacentridae (7), Gobiidae (7), Blenniidae (4), Opistognathidae (3), and Syngnathidae (3); see Fig. 1].

Larvae of small demersal-spawning species typically remain in the plankton for 15–25 days (Thresher 1991). As a consequence of their relatively short planktonic duration, they are less likely to disperse long distances. In addition, these species generally have short generation times and mature earlier than would be predicted from their longevity. They appear to be able to exist as isolated populations on small spatial scales, characteristics that are believed to enhance speciation rates among small cryptobenthic fishes (Munday and Jones 1998).

The gigantic Amazon River fresh-water and sediment discharge probably played a major role in isolating many Brazilian small benthic shallow-water forms. The proportion of demersal-spawning species decreases from the Caribbean (45.5%) to the Brazilian coast (~30%), and with the distance from the mainland – Fernando de Noronha and Trindade (24.3%) and St. Paul's Rocks (22.7%) (Floeter and Gasparini 2000). The Brazilian endemic species have been reported to be taxonomically similar to their western North Atlantic counterparts. This suggests a relatively recent origin, probably during the period of maximum terrigenous sediment deposition by the Amazon River initiated in the Late Pliocene (1.6 Ma).

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