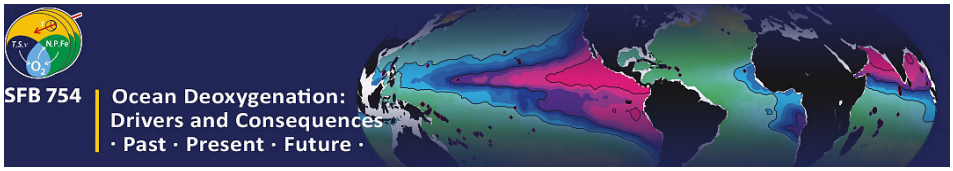

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Variation in growth, morphology and reproduction of the bearded goby (Sufflogobius bibarbatus) in varying oxygen environments of northern Benguela

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This paper examines variations in gender-specific body growth, morphology and reproduction of the bearded goby (*Sufflogobius bibarbatus*) across the Namibian shelf. The results indicate a spatial variation in the size composition, condition factor and maturation of gobies across the shelf area. Low oxygen (<0.5 ml O2/L) did not hinder reproduction in the bearded goby and off Walvis Bay, maturing and mature females and males were found mostly at the outer shelf edge (150–200 m depth). The histological analysis of gonads validates the macroscopic scale applied for assessing maturity, and the mean number of maturing oocytes was from 690 to 1060 per gram body weight. Males were smallest in the central area (where oxygen levels are known to be lowest), and relative condition increased latitudinally from north to south. The bearded goby displays clear sexual size dimorphism (males larger than females), and there is evidence that supports previous findings suggesting that males display alternative reproductive tactics. Assumed territorial males were older than assumed sneaker males, and all morphological measurements, except eye diameter, were larger (absolutely and relatively) in territorial males compared to sneakers. The morphologic measurements of sneakers did not differ from those of females suggesting female mimicry by sneakers. The role of unclassified males was less clear. The findings are discussed in view of environmental variation and behavioural ecology.

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