Age and growth of the Leopard grouper, *M. rosacea*, (Streets, 1877) in the southern Gulf of California, Mexico

J. Gabriel Díaz Uribe, Juan Félix Elorduy Garay & Ma. Teresa González Valdovinos

Growth of the leopard grouper, *Mycteroperca rosacea* (Streets, 1877), was analyzed in its natural habitat. Age determination was based on the reading of otoliths, and the method was validated under three main criteria: (1) proportionality, (2) seasonality, and (3) concordance with another method. Otolith growth is proportional to organism growth, with a slight degree of allometry, and the otolith registers the growth of the individual, even at advanced ages. The opaque growth zone in the otolith is deposited once a year, between July and October. Thus, taken together, one opaque and one hyaline mark represent an annual cycle. Back-calculated lengths-at-age agreed reasonably well with observed lengths-at-age at the time of capture, considering that back-calculated lengths represent an exact age (birthday), and observed lengths are taken at an intermediate age between birthdays. Fish length and otolith age data were fitted to the von Bertalanffy growth function by two methods: (1) linear regression (Ford-Walford and Beverton), using transformed data, and (2) nonlinear regression, by iteration. Although the nonlinear regression gave a fit with unbiased error, parameters resulting from linear regressions had a better biological meaning for the species. The resulting parameters were compared with those reported for other species of the family Serranidae.