

Color Variation and Associated Behavior in the Epinepheline Groupers, *Mycteroperca microlepis* (Goode and Bean) and *M. phenax* Jordan and Swain

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ABSTRACT

Observations of grouper aggregations, scamp, *Mycteroperca phenax* and gag, *M. microlepis*, are reported from 64 submersible dives made on reef structures at depths between 70 and 100 m off the central east coast of Florida from February 1977 to September 1982. Prolonged dives provided 146 hours of observation time augmented with 420 minutes of video recordings supplemented with 35 mm photography. These observations reveal that both species are capable of displaying a variety of color morphs associated with intraspecific behavior patterns. A social hierarchy is evident in both species, with the dominant alpha individual being a male in the gag and of undetermined sex in the scamp due to the ephemeral nature of the display color phase in the latter species. Hierarchical displays are interpreted as courtship behavior and are presumed to be associated with spawning activity in both species, although obvious spawning was not documented. Courtship behavior is further implied due to the similarity of these displays to those recorded for a variety of other fishes including other serranids.