Samples of species of the Chaetodontidae and Balistidae (along with other families) were caught with traps and/or lines at the Port Royal reefs, the north and south Jamaica shelf, and several oceanic banks during the period 1970 to 1973. Analyses involved length, weight, sex and gonad activity of the fishes. Scales of some chaetodontids were collected. Some chaetodontids tend to spawn in the early part of the year. Balistes vetula spawns mostly in January to February and August to October. Growth estimation is based entirely upon length-frequency distributions, as scale analyses proved fruitless. Size compositions of chaetodontids and balistids in trap and/or line catches from exploited and unexploited areas are compared. Mortality estimates for both families derived from length-frequency distribution analysis were high.