The gonad maturation cycle of *Siganus sutor* (Valenciennes, 1835) (Osteichthyes-Siganidae) is described for both males and females using macroscopic criteria for the testes and both macroscopic and microscopic ones for staging the ovaries. *Siganus suror* has two major spawning seasons: one in January/February and the other in May/June. The presence of these seasons is established by (a) the temporal variations in the condition factor and in the relative weight of the gonads, (b) the progression of peaks of maturity stages with seasonal occurrence of spent fish in the samples, and (c) the seasonal appearance of juveniles. This is a significant result for a tropical marine fish.