

A Description of the Juvenile Phase Colour Patterns of 24 Parrotfish Species (Family Scaridae) from the Great Barrier Reef, Australia

D.R. BELLWOOD & J.H. CHOAT

Department of Marine Biology,
James Cook University of North Queensland,
Townsville, Qld 4811, Australia

ABSTRACT. The juvenile colour patterns of 24 of the 27 parrotfish species presently recorded from the Great Barrier Reef are described. Two from the subfamily Sparisomatinae: *Calotomus carolinus* (Valenciennes) and *Leptoscarus vaigiensis* (Quoy & Gaimard). Twenty two from the subfamily Scarinae: *Bolbometopon muricatum* (Valenciennes); *Cetoscarus bicolor* (Rüppell); *Hipposcarus longiceps* (Valenciennes); *Scarus altipinnis* Steindachner; *Scarus bleekeri* (de Beaufort); *Scarus chameleon* Choat & Randall; *Scarus dimidiatus* Bleeker; *Scarus flavipectoralis* Schultz; *Scarus forsteni* (Bleeker); *Scarus frenatus* Lacepède; *Scarus ghobban* Forsskål; *Scarus gibbus* Rüppell; *Scarus globiceps* Valenciennes; *Scarus longipinnis* Randall & Choat; *Scarus niger* Forsskål; *Scarus oviceps* Valenciennes; *Scarus psittacus* Forsskål; *Scarus rivulatus* Valenciennes; *Scarus rubroviolaceus* Bleeker; *Scarus schlegeli* (Bleeker); *Scarus sordidus* Forsskål; *Scarus spinus* (Kner). Descriptions are given of the ontogeny of the colour patterns, where possible, from early post-settlement to the transition to the initial phase. Descriptions are based on field observations with additional colour notes on fresh and preserved specimens. Meristic data are also provided. Particular emphasis is placed on the size related ontogeny of colour patterns, with additional notes on short-term behavioural changes. The descriptions are intended for field identification of juvenile scarids; a rapid field identification guide and ecological notes on each species are given to facilitate field identification; specific notes for distinguishing species in the field are included. All species can be identified to the species level with the exception of two pairs of closely related species: *S. rivulatus* - *S. globiceps* and *S. psittacus* - *S. schlegeli*. Colour plates of live and/or fresh specimens of 22 species are given, sequential colour pattern changes are shown for some species. Most juvenile scarids share a common series of colour pattern changes during the early post-settlement period. These patterns are described and figured, and exceptions noted. Juvenile scarids likewise share a typical pattern of stripes and/or bars. The standard patterns are described and used as a basis for describing intraspecific differences in colour patterns. The juvenile colour patterns are discussed in relation to species complexes and adult relationships. The functions of juvenile colour patterns in relation to the ecology of juvenile scarids are also discussed. Two associations are described: schooling species bearing uniformly pale or striped patterns and solitary species with complex patterns.

BELLWOOD, D.R. & J.H. CHOAT, 1989. A description of the juvenile phase colour patterns of 24 parrotfish species (family Scaridae) from the Great Barrier Reef, Australia. Records of the Australian Museum 41(1): 1-41.