

# 1. INTRODUCTION

This catalogue includes major taxonomic references to all species currently recognized in the family Glaucosomatidae. It is based on a revision of the family made by the author on material examined for all species.

## 1.1 Glaucosomatids in World Fisheries

The fishes of this small family are recognized as possessing flesh of superior quality. They are taken by handline, bottom trawl, gillnet and spear. Not particularly sought except as a commercial and recreational fishery based on the Westralian jewfish and to a lesser extent on the pearl perch of eastern Australia.

## 1.2 Plan of the Systematic Catalogue

A family description is given, followed by general information on fisheries, biology, habitat and distribution. A key to the four species in the genus is provided. The species accounts are arranged alphabetically. The information pertaining to each species is arranged by paragraphs, in the order listed below:

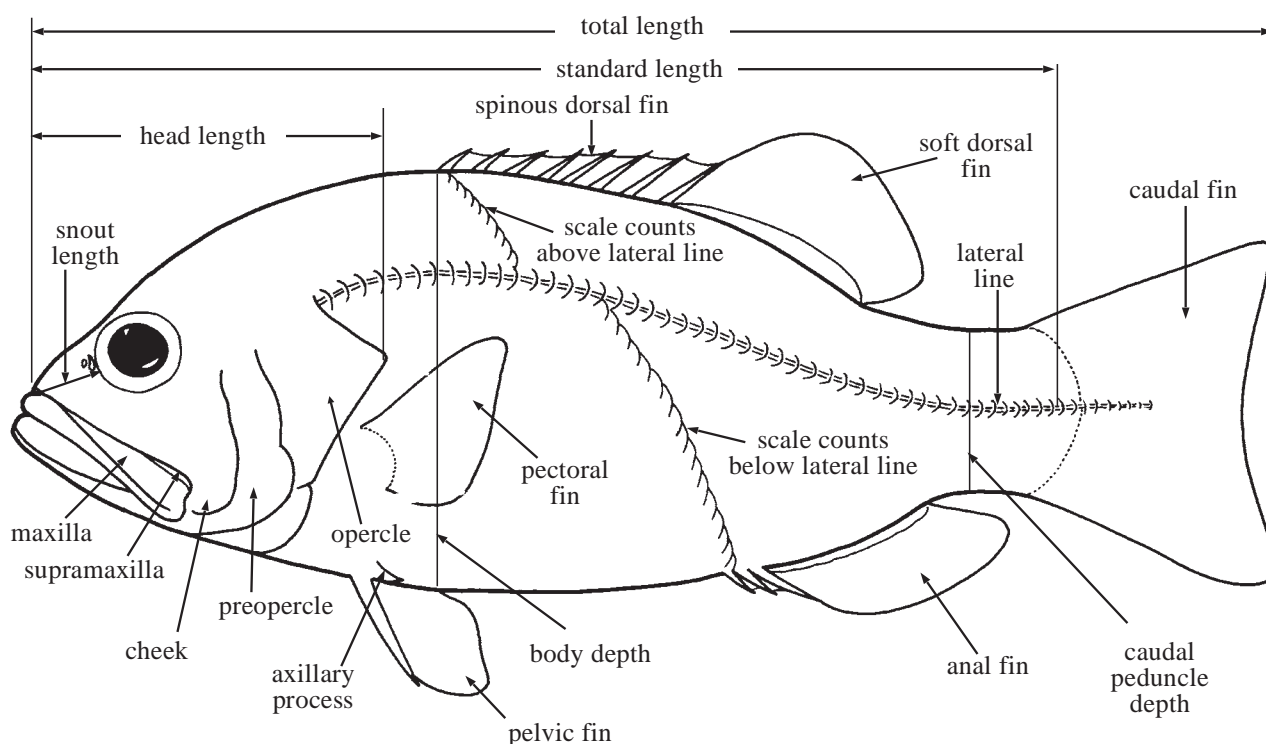
- (1) **Scientific Name:** The reference for the original description and type locality is given.
- (2) **Synonyms:** All invalid names and combinations that have been applied are referenced.
- (3) **FAO Names:** The FAO English name is considered the standard to be used for fishery purposes. This should avoid confusion which can be caused due to the existence of multiple names for the same

species or the same name for several species. The FAO name is not intended to supplant the use of local names but rather, to serve as a worldwide reference. The French and Spanish names are not yet available.

- (4) **Diagnostic Features:** Distinctive characters of the species are given as an aid for identification, accompanied by useful diagrams. These diagnoses should be consulted to confirm species identified using the illustrated key.
- (5) **Geographical Distribution:** The general geographic range is given in the text and illustrated on a map. The map shading includes known areas of occurrence and intermediate areas between locality records where a species is expected to be found.
- (6) **Habitat and Biology:** Information on habitat, behaviour, feeding and reproduction is included here.
- (7) **Size:** The approximate maximum known total length is given.
- (8) **Interest to Fisheries:** General information on the extent, type of fisheries and utilization.
- (9) **Local Names:** These are given where published names are available.
- (10) **Literature:** Recent references which contain illustrations that could be useful for identification are given.
- (11) **Remarks:** Useful information which is not appropriately covered in the previous sections is included here.

### 1.3 Glossary of Technical Terms, Measurements and Counts

A typical glaucosomatid is shown in Fig. 1. The proportional measurements found to be useful in the identification of these fishes are shown; these have been given in the species diagnoses as parts of standard length or of head length and are calculated from material examined by the author unless otherwise stated.



**Fig. 1** External morphology and measurements

**Anal fin** - The unpaired fin located on the ventral part of body (Fig. 1); usually of 3 spines followed by the soft rays, the posterior ray divided to the base counted as one ray.

**Anterior** - The front portion; the opposite of posterior.

**Body depth** - Measured as the greatest distance from the dorsal midline to the ventral midline of the body; expressed as parts of standard length (Fig. 1).

**Caudal fin** - Median fin situated at the posterior end of the body (Fig. 1).

**Caudal peduncle** - The narrow end of the body between the posterior basal end of the anal-fin base and the base of the caudal fin. The **caudal peduncle-depth** is measured as the least depth of the caudal peduncle; expressed as parts of standard length.

**Ctenoid scales** - Scales which have tiny tooth-like projections along their posterior margin.

**Dorsal fin** - The unpaired fin along the back of the fish, consisting of a spinous and a soft portion (Fig. 1). **Soft dorsal rays** are the flexible branched rays of the soft dorsal fin, the posterior ray is usually branched near its base thus appearing as two, but counted as one. This count follows that of the dorsal spines.

**Eye diameter** - Horizontal diameter between the fleshy margins of the orbit; expressed as parts of head length.

**Head length** - Distance from the tip of snout to the most distant end of the gill cover, including any fleshy membrane; expressed as parts of standard length (Fig. 1).

**Interorbital** - The shortest distance between the fleshy margins of the orbit is the Interorbital

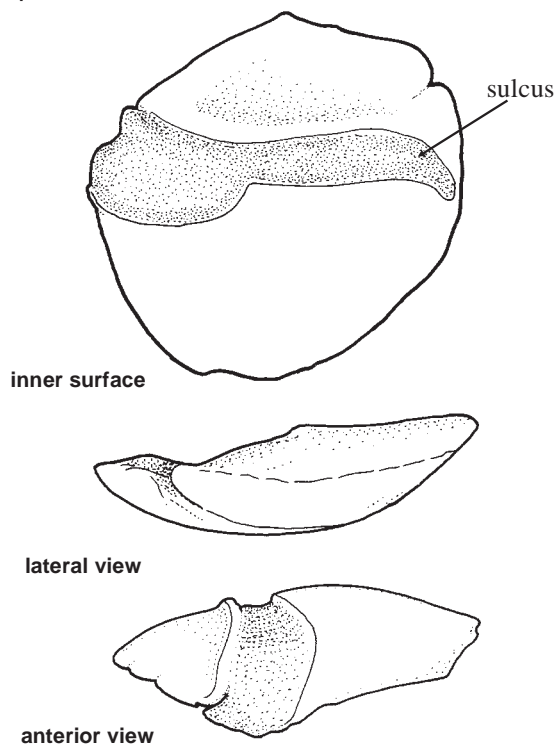
**width**; expressed as parts of head length. The **interorbital space** is the region between the eyes.

**Isthmus** - The area of the ventral surface where the gill membranes meet.

**Lateral line** - A series of pored or tubed scales forming a raised line along the side of the body (Fig. 1). The **Lateral-line scales** are the number of pored lateral-line scales from origin of gill cover above to the caudal fin flexure.

**Orbit** - The bony border surrounding the eye.

**Otoliths** - "Ear-stones", located in the ear capsules on each side of the head; one pair (sagitta) is always large (Fig. 2), while the other two pairs are rudimentary. The structure of otoliths provides information on age, growth, physiology, ecology, and phylogenetic relationships of fishes.



**Fig. 2 Right saccular otolith (sagitta) of a glaucosomatid**

**Pectoral fins** - The fins on each side of the body immediately behind the gill opening (Fig. 1). The **Pectoral-fin length** is the length of the longest pectoral-fin ray; expressed as parts of standard length.

**Pelvic fins** - Paired fins on the ventral edge of the anterior half of the body (Fig. 1).

**Posterior** - The rear or hind portion; the opposite of anterior.

**Preorbital depth** - From lower part of orbit to lower edge of preorbital, the largest of the bones forming the lower edge of the orbit; expressed as parts of head length.

**Rays** - The rigid structures that support the fin; soft rays are segmented, and flexible; spinous rays are stiff and unsegmented.

**Scales above and below lateral line** - Scales above the lateral line are counted from the origin of the dorsal fin in oblique series backwards and downwards to (but not including) the lateral line row; scales below the lateral line are counted from the origin of the anal fin obliquely forwards and upwards to the lateral line (but not including the lateral row) (Fig. 1).

**Snout length** - Distance from the tip of snout to the anterior margin of the eye; expressed as parts of head length) (Fig. 1).

**Standard length** - The straight line distance from the tip of the snout to a vertical line passing through the base of the caudal fin (taken to be the point of flexure of the caudal fin (Fig. 1).

**Swimbladder** - A gas filled sac in the dorsal part of the body cavity (Fig. 3).

**Total length** - The straight line distance from the tip of the snout to the posteriormost part of the caudal fin (Fig. 1).

**Ventral** - Toward the lower part of the body; the opposite of dorsal.

**Vomer** - A median bone which lies in the roof of the mouth, often bearing teeth.