

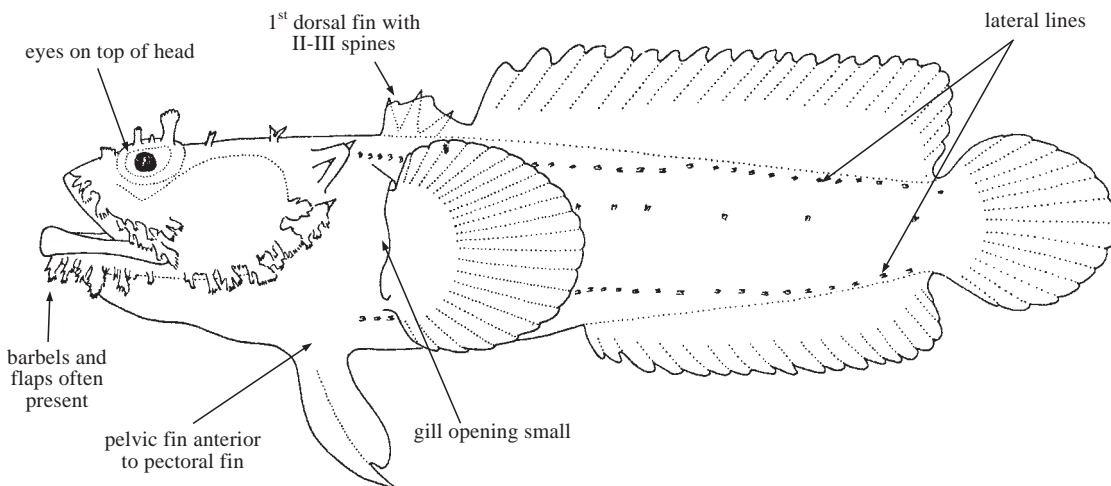
Order BATRACHOIDIFORMES

BATRACHOIDIDAE

Toadfishes

by D.W. Greenfield

Diagnostic characters: Small to medium-sized fishes of characteristic shape. **Head broad and flattened, often with barbels and/or fleshy flaps around jaws**; opercle and subopercle with spines. Mouth large, terminal, and slightly protrusible; moderately strong teeth present in jaws and on roof of mouth. Glandular tissue may be present in opercular region and pectoral-fin axil. **Gill openings small, restricted to sides of body.** Two separate dorsal fins; **first dorsal fin with II or III spines**; second dorsal fin long, with 15 to 25 soft rays. Anal fin somewhat shorter than second dorsal fin, with 12 to 28 soft rays. Pectoral fins large and broad-based. **Pelvic fins jugular in position, with I spine and 1 to 3 soft rays.** Skin scaly or naked. Lateral system very well developed, lateral line either single or multiple. Number of vertebrae ranging from 25 to 47. **Colour:** variable; back and sides usually brownish, often with spots, saddles, bars or other markings.

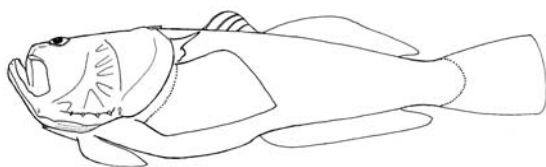


Habitat, biology, and fisheries: Toadfishes are bottom-dwellers, ranging from littoral areas to deep waters. They often hide in the sediment or in rock crevices. The spines may inflict wounds to people handling these fishes. Although none of the species occurring in the area are presently of commercial importance, they are taken in local artisanal or trawl fisheries and are used as food or in the production of fishmeal and oil. Species from brackish-water habitats may be exported as fresh-water aquarium fishes.

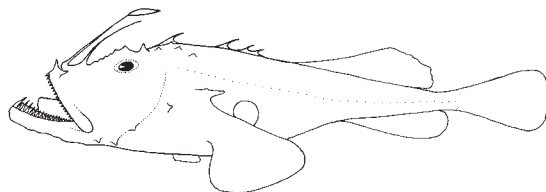
Similar families occurring in the area

Uranoscopidae: gill openings wide, gill membranes nearly separate, free from isthmus; pelvic fins with I spine and 5 soft rays.

Lophiidae: body and head more strongly depressed; first dorsal-fin spine modified into a long fishing rod with a fleshy bait.



Uranoscopidae



Lophiidae

Key to the species of Batrachoididae occurring in the area

- 1a. Pore (foramen) present in upper part of pectoral-fin axil (Fig. 1); gill slit covering more than 4/5 of pectoral-fin base → 2
- 1b. No pore present in pectoral-fin axil; gill slit restricted from 1/2 to 4/5 of pectoral-fin base → 3

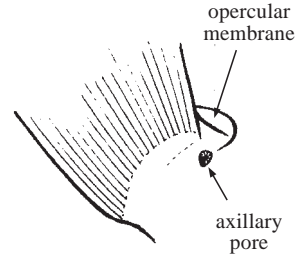


Fig. 1 axil of pectoral fin

- 2a. Pectoral and caudal fins dark, with scattered pale blotches; dorsal-fin with III spines and 19 or 20 soft rays; anal-fin rays 15 to 17 *Batrachomoeus dubius*
- 2b. Pectoral and caudal fins with series of dark transverse bars; dorsal-fin with III spines and 21 to 24 soft rays; anal-fin rays 17 to 20. *Batrachomoeus trispinosus*

- 3a. Upper and lower jaws about equally terminal (Fig. 2a); eyes raised above profile and diameter greater than snout length (Fig. 2a); interorbital width equal to or less than eye diameter (Fig. 3a); gill slit restricted to upper 1/2 to 2/3 of pectoral-fin base → 4
- 3b. Lower jaw terminal, projecting beyond upper jaw (Fig. 2b); eyes not raised above profile and diameter less than snout length (Fig. 2b); interorbital width greater than eye diameter (Fig. 3b); gill slit extending from upper 3/4 to 4/5 of pectoral-fin base → 6

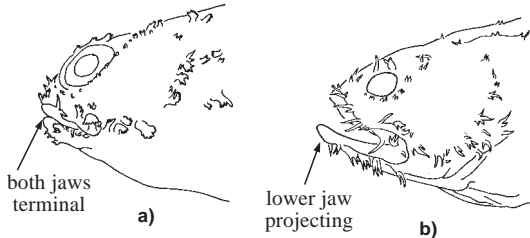


Fig. 2 lateral view of head

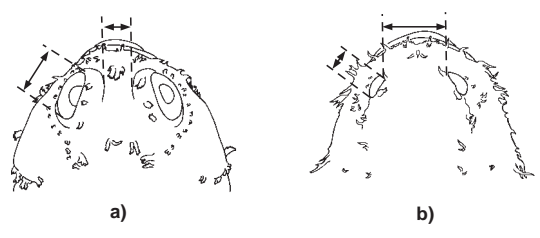


Fig. 3 dorsal view of head

- 4a. Three spines on gill cover (2 on opercle, 1 on subopercle; Fig. 4a) . . . *Halophryne queenslandiae*
- 4b. Four spines on gill cover (2 on opercle, 2 on subopercle) → 5
- 5a. Dorsal surface of head with distinct longitudinal skin ridges; 33 to 37 lower lateral-line pores; 19 to 21 pectoral-fin rays; 14 or 15 anal-fin rays *Halophryne diemensis*
- 5b. Dorsal surface of head with raised reticulated pattern, but no longitudinal skin ridges; 22 to 25 lower lateral-line pores; 21 to 24 pectoral-fin rays; 15 to 17 anal-fin rays *Halophryne hutchinsi*

- 6a. Teeth on jaws, vomer, and palatines all blunt and rounded (Fig. 5a); anterior orbital cirrus with 4 or more rounded tips *Allenbatrachus reticulatus*
- 6b. Teeth on jaws, vomer, and palatines all pointed (Fig. 5b); anterior orbital cirrus simple, tip pointed *Allenbatrachus grunniens*

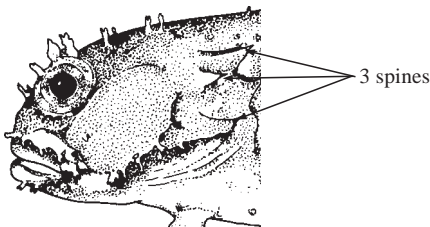









Fig. 4 *Halophryne queenslandiae*



Fig. 5 teeth on upper jaw and roof of mouth

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Allenbatrachus grunniens* (Linnaeus, 1758)
-  *Allenbatrachus reticulatus* (Steindachner, 1869)
-  *Batrachomoeus dubius* (Shaw, 1790)
-  *Batrachomoeus trispinosus* (Günther, 1861)
-  *Halophyrne diemensis* (Lesueur, 1824)
-  *Halophyrne hutchinsi* Greenfield, 1998
-  *Halophyrne queenslandiae* (De Vis, 1882)

References

- Greenfield, D.W. 1997. *Allenbatrachus*, a new genus of Indo-Pacific toadfish (Batrachoididae). *Pac. Sci.*, 51(3):306-313.
- Greenfield, D.W. 1998. *Halophyrne hutchinsi*: a new toadfish (Batrachoididae) from the Philippine Islands and Pulau Waigeo, Indonesia. *Copeia*, 1998(3):696-701.
- Hutchins, J.B. 1976. A revision of the Australian frogfishes (Batrachoididae). *Rec. West. Aust. Mus.*, 4(1):3-43.
- Smith, J.L.B. 1952. The fishes of the family Batrachoididae from south and east Africa. *Ann. Mag. Nat. Hist.*, (12)5:313-339.

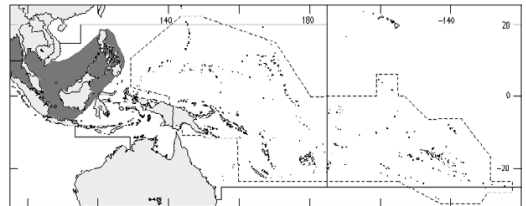
Allenbatrachus grunniens (Linnaeus, 1758)

En - Grunting toadfish.

Maximum standard length at least 19.1 cm. This species appears to range from the estuarine areas of the Ganges River (India) eastward to Borneo and the Philippines, including the Gulf of Thailand. There is some uncertainty concerning the taxonomic status of specimens outside of the Ganges area.



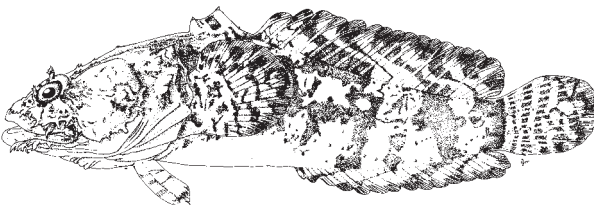
(from Greenfield, 1997)



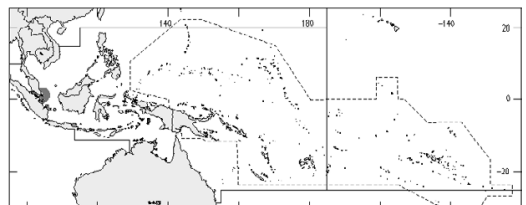
Allenbatrachus reticulatus (Steindachner, 1869)

En - Singapore toadfish.

Maximum standard length at least 15.3 cm. Known from the area around Singapore.



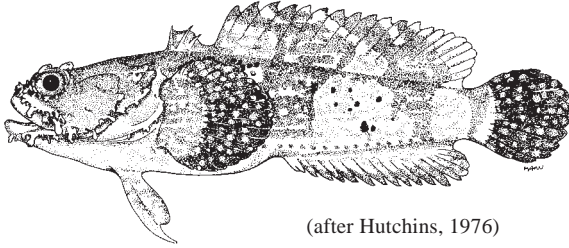
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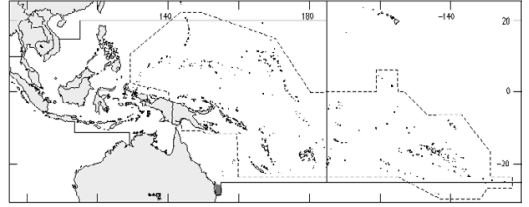
***Batrachomoeus dubius* (Shaw, 1790)**

En - Blotchtail toadfish.

Maximum standard length at least 24.4 cm. Occurs from estuaries and inshore reefs to depths of 140 m. Found only in Australia from Sydney north to Mooloolabar (Queensland).



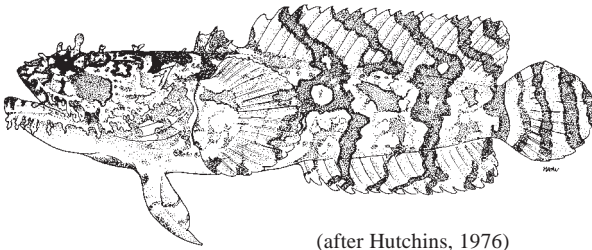
(after Hutchins, 1976)



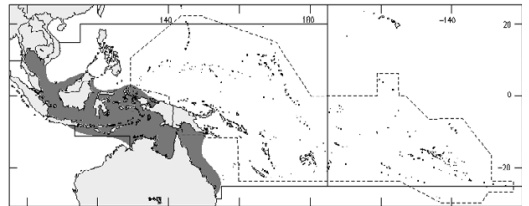
***Batrachomoeus trispinosus* (Günther, 1861)**

En - Threespine toadfish.

Maximum standard length at least 26.2 cm. Found from intertidal areas near mangroves, estuaries, and reefs down to depths of 36 m. Occurs from northern Australia north through New Guinea and the Indo-Australian Archipelago to the Gulf of Thailand.



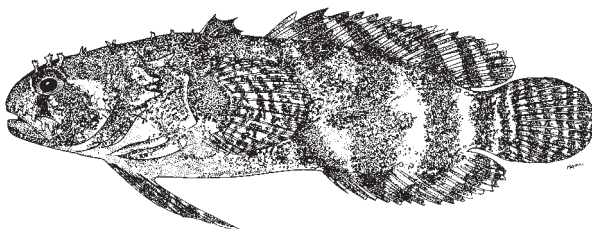
(after Hutchins, 1976)



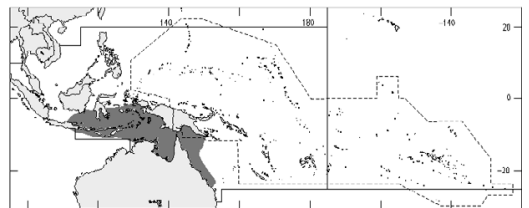
***Halophyrne diemensis* (Lesueur, 1824)**

En - Banded toadfish.

Maximum standard length at least 23.3 cm. Prefers dark holes and ledges. Found from the northern half of Australia north through New Guinea and possibly up the Indo-Malayan Archipelago.

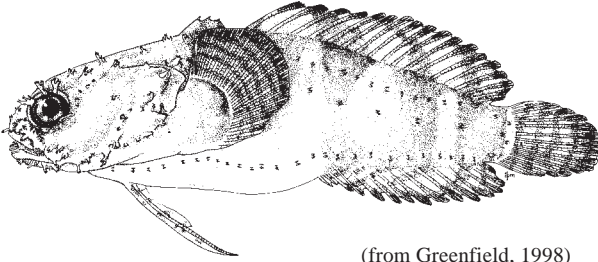


(after de Beaufort and Briggs, 1962)

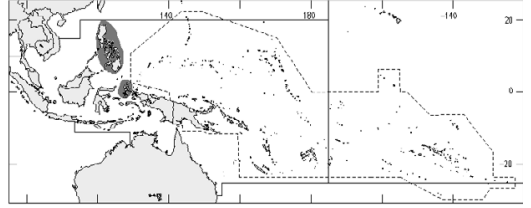


Halophyrne hutchinsi Greenfield, 1998**En** - Hutachins' toadfish.

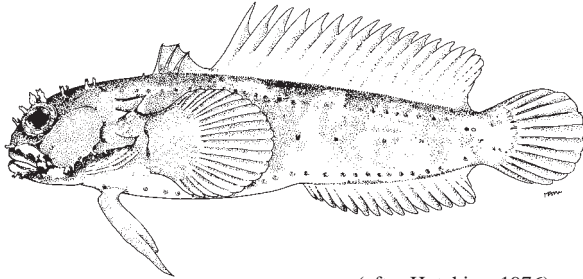
Maximum standard length at least 14.1 cm. Known only from the Philippines and Pulau Waigeo (Indonesia).



(from Greenfield, 1998)

***Halophyrne queenslandiae*** (De Vis, 1882)**En** - Queensland toadfish.

Maximum standard length at least 21.2 cm. Known only from Queensland, Australia from Brisbane River north to Dunk Island from river estuaries and islands close to the coast.



(after Hutchins, 1976)

