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Description of a new species of mullid fish from south-western Australia, with comments on *Upeneichthys lineatus*

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Abstract

Upeneichthys stotti is described from 30 specimens from south-western Australia (Albany to Shark Bay). It is distinguished from *U. lineatus*, the only other member of *Upeneichthys*, by the different colour pattern on the snout (horizontal blue lines versus oblique blue lines respectively), different fin sizes, and a much smaller maximum length (138 mm SL versus at least 280 mm SL). Evidence is also provided to show that three distinct forms of *Upeneichthys lineatus* can be recognised, *U. lineatus lineatus* from eastern Australia, *U. lineatus vlamingii* from southern and south-western Australia, and *U. lineatus porosus* from New Zealand.

Introduction

Fishes of the mullid genus *Upeneichthys* inhabit sandy and silty bottoms in coastal waters of southern Australia and New Zealand. A recent review of the genus (Ben-Tuvia 1986) recognised only one species, *U. lineatus* (Bloch and Schneider, 1801), but also included a comment concerning the considerable morphological variability of the taxon. Subsequently Hutchins and Swainston (1986) and Stewart (1987) both distinguished two species, *U. lineatus* and *U. vlamingii* (Cuvier, 1829), although the findings of each study differed considerably. Hutchins and Swainston used *U. lineatus* for an eastern Australian goatfish and *U. vlamingii* for a species inhabiting southern and south-western Australia. However, the unpublished study of Stewart recommended that the species characterised by a dark stripe along the side of the body be known as *U. lineatus*, and that the species lacking this stripe be referred to as *U. vlamingii*. A third form was also identified from Port Phillip Bay but no name was provided for it. The purpose of the present paper is to describe a previously unrecognised species of *Upeneichthys* from south-western Australia as new, and to present evidence showing that *U. lineatus* is in fact represented by three distinct forms, *U. lineatus lineatus* from eastern Australia, *U. lineatus vlamingii* from Australia's south and south-western coasts, and *U. lineatus porosus* from New Zealand.

Counts and measurements follow Randall and Gueze (1984), with the following exception: when the jaws of a specimen are locked in a protractile position, the standard length (SL), head length, and snout length are all taken from the midline of the fleshy anterior margin of the snout instead of the upper lip. The material examined is housed at the following institutions: Australian Museum, Sydney (AMS); Bishop Museum, Honolulu (BPBM); British Museum (Natural History) (BMNH); CSIRO Fisheries, Hobart (CSIRO); National Museum of New Zealand, Wellington (NMNZ); Museum of Victoria, Melbourne (NMV); Queensland Museum, Brisbane (QM); and Western Australian Museum, Perth (WAM).

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Systematics

Upeneichthys stotti sp. nov.

Figure 1; Tables 1-2

Holotype

WAM P.28939-003, 117 mm SL, north-east of Rottnest Island, Western Australia (31°58'S, 115°34'E), trawled at 33 m, licensed fishing boat "Bluefin", 18 October 1965.

Paratypes

Twenty nine specimens from Western Australia, 85-135 mm SL (unless otherwise designated, all at WAM): P.5504-001, 138 mm SL, Wallabi Islands, Houtman Abrolhos, P. Barrett-Lennard, 1960; P.5594-001, 102 mm SL, Bluff Rocks, Kalbarri, 2 April 1963; P.5783-001, 102 mm SL, Shark Bay, R.J. McKay, 22 March 1962; P.20883-001, 112 mm SL, north of Rottnest Island, trawled at 31 m, R.V. "Flinders", 7 February 1972; P.20890-001, 110 mm SL, same data as for P.20883-001; P.22067-001, 2 specimens, 126-132 mm SL, north of Rottnest Island, D. Heald on R.V. "Flinders", 5 April 1972; P.27219-026, 98 mm SL, Hummock Island, Houtman Abrolhos, trawled at 40-44 m, D. Heald, 22 November 1980; P.27960-011, 2 specimens, 85-99 mm SL, off mouth of Murchison River, Kalbarri, rotenone at 16-17 m, J.B. Hutchins *et al.*, 17 April 1983; P.28614-001, 11 specimens, 93-115 mm SL (93 mm SL specimen cleared and stained), King George Sound, trawled in 34-36 m, J.B. Hutchins, 4 March 1986; P.28939-002, 5 specimens, 90-121 mm SL, same data as for holotype; AMS I.28972-001, 109 mm SL, same data as for P.22067-001; BPBM 33911, 2 specimens, 121-133 mm SL, off Point Peron (31°54'S, 115°18'E), trawled at 50-60 m, 8 January 1964.

Diagnosis

This species is distinguished from *Upeneichthys lineatus* by the distinctive coloration of its snout, different fin proportions, and smaller maximum size. The latter possesses oblique lines extending anteriorly from the eye to the upper jaw, whereas *U. stotti* has more horizontally arranged lines extending to the dorsal profile of the snout (*U. lineatus* also has some rather irregular blue cross bars on the dorsal surface of the head). *Upeneichthys stotti* possesses shorter fin rays in the second dorsal and anal fins (longest ray 2.2-2.6 and 2.5-2.8 respectively, both in head length, versus 1.1-2.4 and 1.7-2.6 for *U. lineatus*), and a longer first dorsal base (0.9-1.5 in head length versus 1.5-2.1). *Upeneichthys stotti* reaches a known maximum length of 138 mm SL, whereas U. lineatus grows to at least 280 mm SL.

Description

Measurments and counts of the holotype and paratypes are presented in Table 1. The following counts and proportions in parentheses represent the ranges for the paratypes when they differ from those of the holotype. Dorsal fin rays VIII,9 (last soft fin ray branched to base); anal fin rays I,7 (last soft fin ray branched to base); pectoral fin rays 15 (14-16, mostly 15 or 16) (upper two rays unbranched); pelvic fin rays I,5; principal caudal fin rays 15 (uppermost and lowermost rays unbranched); upper procurrent caudal fin rays 11 (10-11) and lower procurrent rays 10 (10-11); lateral line scales 27 (26-28, mostly 27) (pored scales on caudal fin base not included); scales above lateral line to origin of first dorsal fin 2½; scales below lateral line to origin of anal fin 5½; median predorsal scales 11-13; horizontal scale rows on cheek 3; gill rakers 6 + 17; branchiostegal rays 4; vertebrae 10 + 14.

Body moderately elongate and compressed, depth 3.1 (2.9-3.3) and width 6.9 (5.8-6.9), both in SL; head length 3.3 (3.0-3.3) in SL; snout length 2.3 (2.0-2.3) in head length; eye

3.9 (3.5-4.3) and interorbital space 4.0 (4.0-4.7), both in head length; barbels almost reaching to vertical through rear margin of preopercle, their length 1.3 (1.3-1.5) in head length; depth of caudal peduncle 2.8 (2.6-2.9) in head length.

Mouth moderate in length, maxilla reaching to below nostrils (to slightly behind front border of eye in three paratypes), its length 2.6 (2.6-2.9) in head length; lower jaw inferior to upper jaw; one row of small to medium-sized conical teeth in each jaw, forming two irregular series near symphysis, with some lateral teeth becoming noticeably larger with increasing SL; vomer with two patches of small teeth, each patch comprising 1-2 irregular rows; no teeth on palatines. Posterior nostril slitlike, located immediately in front of eye slightly above level of centre of eye; anterior nostril more rounded, positioned about three-fifths distance from eye to front of snout at level of centre of eye or slightly below. Gill membranes narrowly attached to isthmus. Longest gill filament on first gill arch about equal to eye diameter, and longest gill raker about three-fourths length of longest gill filament. Opercle with two flat spines on posterior margin at about level of middle of eye, lower one much stronger than upper.

Scales finely ctenoid; head partly scaled (no scales on snout, nor around eye); small partly imbedded scale on rear portion of maxilla, covered by lacrymal bone, and similar scale just behind and below rear margin of maxilla; fins naked except for basal half of caudal fin and two median ventral scales covering inner base of pelvic fins; lateral line following contour of back; pored scales of lateral line with numerous tubules, some tubules occasionally branched.

Origin of first dorsal fin above third lateral line scale; dorsal spines slender and flexible, first spine very short (about equal to pupil diameter), second to third spine longest, length 1.3 (1.3-1.6) in head length; origin of second dorsal fin above thirteenth lateral line scale; longest soft dorsal ray (sixth) 2.3 (2.2-2.6) in head length (longest ray in specimens below 100 mm SL usually the third ray); anal spine small, closely adherent to first soft ray; longest soft anal ray (third) 2.8 (2.5-2.8) in head length (longest ray varies between second and fourth ray); caudal fin forked, its length 1.1 (1.1-1.4) in head length; pectoral fin pointed, length 1.3 (1.3-1.4) in head length; origin of pelvic fin below upper base of pectoral fin; pelvic spine about two-thirds length of longest pelvic ray; pelvic fin about equal in length to pectoral fin.

Colour of holotype in alcohol: head and body pale yellowish brown, lower half more silvery; snout with three longitudinal yellowish stripes, each stripe with pale brown margins, interspaces silvery white; upper two stripes originating from anterior margin of eye, third from below eye, all joining with counterparts across dorsal surface of snout (first stripe narrower in width than remainder); all fins hyaline to pale yellowish brown.

Colour of paratypes when fresh (based on colour transparencies of both live and freshly dead individuals): head and body pinkish orange, lower half of head more silvery, and lower half of body more yellowish; body with two longitudinal series of purplish spots, extending from just above pectoral base to caudal peduncle (Figure 1); snout with three yellow stripes arranged as described for holotype above, but also continued posteriorly towards rear margin of head; spaces between yellowish stripes pale silvery purple, forming 3-4 pale stripes on head (Figure 1); barbels whitish with yellow tips; all

Figure 1 *Upeneichthys stotti,* paratype, WAM P.27960-011, 99 mm SL, Kalbarri, Western Australia, photographed underwater by J.B. Hutchins.

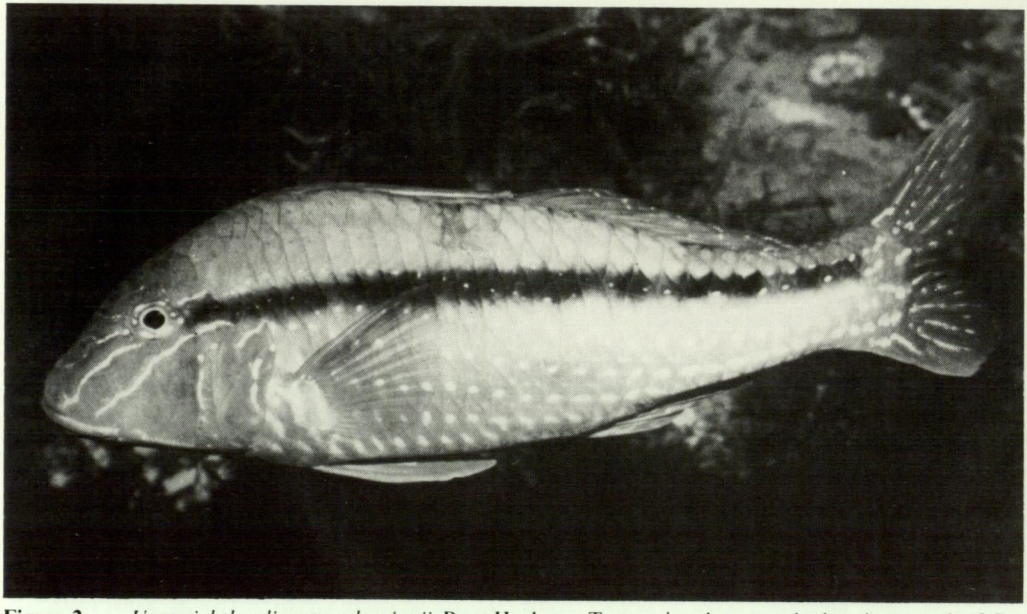

Figure 2 *Upeneichthys lineatus vlamingii,* Boat Harbour, Tasmania, photographed underwater by J.B. Hutchins.

fins pinkish orange, first dorsal, second dorsal, and caudal fins with irregular yellowish markings and bluish spots, spots of second dorsal arranged more longitudinally on outer half; after death, blue and purplish markings becoming paler, but yellowish stripes on snout still prominent.

Table 1 Measurements in mm of selected types of *Upeneichthys stotti*

	Holotype	Paratypes				
	WAM P28939-003	WAM P5504-001	WAM P28939-002	WAM P28939-002	WAM P27960-011	WAM P27960-011
Standard length	117.0	138.0	121.0	102.0	99.0	85.0
Body depth	38.0	44.0	41.0	31.0	32.0	28.0
Body width	17.0	24.0	19.0	15.0	15.0	14.0
Head length	36.0	46.0	39.0	34.0	32.0	28.0
Snout length	16.0	23.0	20.0	16.0	15.0	13.0
Eye diameter	9.3	11.0	9.0	8.4	8.1	7.1
Interorbital width	9.0	11.0	8.9	7.7	6.9	6.0
Upper jaw length	14.0	17.0	15.0	12.0	11.0	9.7
Barbel length	28.0	34.0	30.0	24.0	22.0	21.0
Caudal peduncle depth	13.0	17.0	15.0	12.0	12.0	9.8
Caudal peduncle length	30.0	34.0	32.0	26.0	24.0	21.0
Snout to origin of first dorsal fin	45.0	54.0	46.0	39.0	39.0	33.0
Snout to origin of anal fin	73.0	85.0	75.0	67.0	62.0	*
Base of first dorsal fin	21.0	31.0	22.0	20.0	18.0	19.0
Base of second dorsal fin	21.0	27.0	25.0	18.0	20.0	16.0
Base of anal fin	17.0	21.0	18.0	13.0	14.0	12.0
First dorsal spine length	5.5	*	*	*	*	*
Longest dorsal spine	27.0	30.0	28.0	22.0	22.0	18.0
Longest dorsal ray	16.0	*	17.0	13.0	13.0	13.0
Longest anal ray	13.0	*	*	12.0	12.0	11.0
Caudal fin length	33.0	*	33.0	28.0	23.0	23.0
Pectoral fin length	27.0	*	29.0	24.0	24.0	21.0
Pelvic fin length	28.0	30.0	33.0	26.0	24.0	21.0

* *Measurement not taken because of damage*

Distribution

Upeneichthys stotti is known only from south-western Australia, from Albany (35°05'S 117°52'E) to Shark Bay (25°25'S 113°35'E).

Remarks

Upeneichthys stotti usually inhabits offshore areas at depths between 30 and 60 m. It has been sighted only once underwater by the author, when two individuals were found off Kalbarri at a depth of about 16 m. They were photographed (Figure 1) and subseqently collected.

Specimens of this species were first reported by Mees (1964) as northern examples of *Upeneichthys porosus* (= *U. lineatus vlamingii*, see Relationships below). At the time Mees was unaware that his material represented an undescribed form. Subsequently, additional specimens were collected by bottom trawl and also misidentified as *U.*

porosus. It was not until the above-mentioned specimens from Kalbarri were collected by the author that the uniqueness of the species was discovered.

This species is named *stotti* in recognition of the assistance given by Mr Chris Stott who, while an honorary field assistant with the Western Australian Museum, was involved in the collection of two paratypes.

Relationships

A summary of the main differences between the species of *Upeneichthys* is presented in Table 2. *Upeneichthys lineatus* is separated into three allopatric subspecies on the assumption that the differences between the three, as described below, do not warrant recognition at the specific level. Furthermore, the geographical allocation of these subspecies is discussed below in the section on type localities.

Upeneichthys stotti differs from *U. lineatus* as indicated in the Diagnosis above. The most noticeable differences are in the head coloration (compare Figures 1 and 2) and maximum size. The three subspecies of *U. lineatus* are very similar to each other in general appearance, but differ in the depth of the body, the shape of the head, structure of the lateral line scales, and coloration. *Upeneichthys lineatus lineatus* is best distinguished by its slightly deeper body (2.8-3.0 in head length versus 2.9-3.3 for *U. lineatus vlamingii* and 3.1-3.3 for *U. lineatus porosus*) and generally steeper snout profile (Figure 3). In addition, the dark longitudinal stripe on the body of *U. lineatus lineatus* is generally less distinct, at least in the adult, than in the other two (Figure 2), although examples of all forms, especially those from deeper waters, may occasionally lack any trace of a dark stripe. Both *U. lineatus vlamingii and U. lineatus porosus* have similarly shaped heads (Figure 3), even though there is considerable variation in the snout length for each form, but they are easily separated, at least in the adult stage, by the more highly branched pattern of tubules of the lateral line scales in the latter, the pattern becoming more complex with increasing SL (Figure 4). In addition, the blue lines on the head of *U. lineatus porosus* tend to be slightly wider than in both other forms (see Doak 1972, Pl. 17). Specimens of both *U. lineatus vlamingii* and *U. lineatus porosus* develop long posterior rays in the second dorsal and anal fins at sizes over 200 mm SL. However, in the largest available specimen of *U. lineatus lineatus* (188 mm SL), evidence could not be found to indicate that a similar development might occur in larger individuals of this form.

Upeneichthys lineatus lineatus occurs in New South Wales and Southern Queensland. *Upeneichthys lineatus vlamingii* inhabits Victoria, Tasmania, and southern Western Australia, but on the basis of one specimen and several underwater transparencies, it may occasionally extend its range into southern New South Wales waters to Bermagui (36°25'S 150°04'E). *Upeneichthys lineatus porosus* is found in New Zealand, although one specimen from Norfolk Island (QM I.13432) is tentatively identified with this form.

Comments on the type localities of the nominal species of *Upeneichthys lineatus*

The type locality of *Mullus surmuletus* var. *lineatus* was given by Bloch and Schneider (1801) as New Holland (= Australia). The description appears to have been based on an

Table 2 A comparison of the species of *Upeneichthys* (only specimens between 80 and 200 mm SL were used for the proportions section of this table)

Character	*U. stotti*	*U. lineatus lineatus*	*U. lineatus vlamingii*	*U. lineatus porosus*
Dorsal fin count	VIII,9	VIII,9	VIII,9	VIII,9
Anal fin count	I,6-7	I,7	I,7	I,7
Pectoral fin count	14-16	15	14-16	15-16
Ventral fin count	I,5	I,5	I,5	I,5
Caudal fin count	15	15	15	15-16
Lateral line count	26-28	27-28	26-28	26-28
Predorsal scale count	11-13	11	11-12	11-12
Gill raker count	6+7	5-6+16-18	6+16-17	6+18-19
Vertebral count	10+14	10+14	10+14	10+14
In SL				
Body depth	2.9-3.3	2.8-3.0	2.9-3.3	3.1-3.3
Body width	5.8-6.9	5.7-6.9	6.0-7.2	6.4-6.8
Head length	3.0-3.3	3.0-3.2	2.9-3.2	2.8-3.1
In head length				
Snout length	2.0-2.3	2.0-2.4	1.9-2.5	2.0-2.4
Eye diameter	3.5-3.4	3.6-4.2	3.7-4.8	3.8-5.2
Interorbital width	4.0-4.7	4.2-4.9	4.3-5.3	4.8-5.3
Barbel length	1.3-1.5	1.1-1.3	1.2-1.4	1.2-1.5
Caudal peduncle depth	2.6-2.9	2.4-2.9	2.5-3.0	2.7-3.1
Caudal peduncle length	1.2-1.4	1.2-1.4	1.3-1.5	1.3-1.5
Upper jaw length	2.6-2.9	2.4-2.9	2.5-2.9	2.6-2.9
Longest dorsal spine	1.3-1.6	1.2-1.5	1.3-1.7	1.4-1.7
Longest dorsal ray	2.2-2.6	1.9-2.2	1.5-2.3	2.0-2.4
Longest anal ray	2.5-2.8	2.2-2.6	2.0-2.4	2.4-2.5
Pectoral fin length	1.3-1.4	1.1-1.3	1.3-1.4	1.2-1.3
Ventral fin length	1.2-1.5	1.2-1.3	1.2-1.4	1.3-1.4
Caudal fin length	1.2-1.4	1.2-1.4	1.3-1.6	1.3-1.6
First dorsal base	0.9-1.5	1.6-1.9	1.5-1.9	1.7-2.1
Second dorsal base	1.6-1.9	1.6-1.8	1.5-1.7	1.7-1.9
Anal base	2.1-2.6	2.0-2.3	1.9-2.3	2.1-2.4
Number and size range in mm SL	30:85-138	13:87-188	38:83-184	3:88-193
Maximum size examined in mm SL	138	188	242	280
Direction of stripes on snout	Horizontal	Oblique	Oblique	Oblique
Dark stripe on side of body	No	Often faint	Yes	Yes
Branched scale tubules	A few	A few	A few	Many
Snout profile steep	Yes	Yes	No	No

illustration sent to Bloch by the artist/naturalist John Latham (see Ben-Tuvia 1986). However, efforts to trace the origin of this illustration by the present author have been unsuccessful. Hindwood (1970) believed that the illustration of a mullid in the "Watling" drawings (No. 308) may have been copied by Latham and sent to Bloch. However, examination of a colour transparency of the Watling illustration, kindly made available by Dr P.J. Whitehead (BMNH), shows many inconsistencies in body form and coloration when compared with the type illustration in Bloch and Schneider. The latter

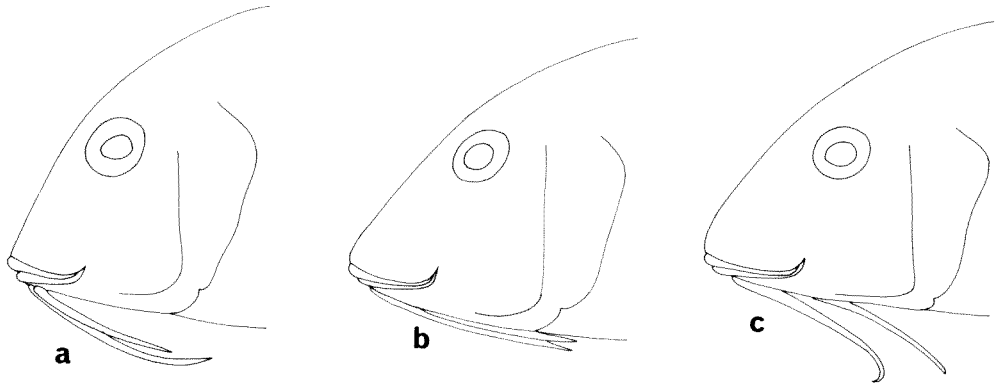

Figure 3 Diagrams of the head (lateral view) showing the different snout profiles of a. *Upeneichthys lineatus lineatus,* 188 mm SL; b. *Upeneichthys lineatus vlamingii,* 184 mm SL; and c. *Upeneichthys lineatus porosus,* 193 mm SL.

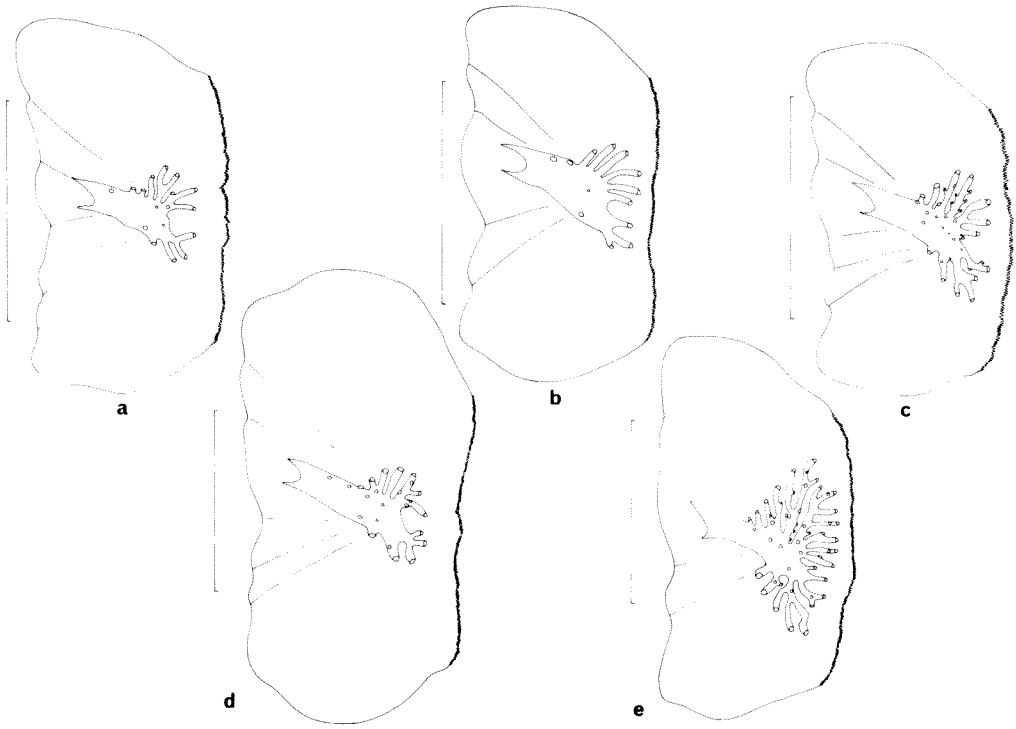

Figure 4 Diagrams of the eighth lateral line sensory scale showing branching of the tubules of a. *Upeneichthys lineatus lineatus,* 188 mm SL; b. *Upeneichthys lineatus vlamingii,* 184 mm SL; c. *Upeneichthys lineatus porosus,* 193 mm SL; d. *Upeneichthys lineatus vlamingii,* 242 mm SL; and e. *Upeneichthys lineatus porosus,* 245 mm SL (posterior border of the scale facing the right hand side of the page, sensory pores indicated by circles, and the vertical line representing 10 mm).

shows a more slender fish than that of Watling, with much longer-based second dorsal and anal fins, and oblique blue lines on the head (the Watling drawing lacks any blue lines). This indicates that Bloch must have had access to a different illustration by Latham. Nevertheless, the type illustration of *lineatus* is clearly based on a specimen of the common *Upeneichthys* of southern Australia. In addition to possessing three oblique blue lines on the side of the snout, the maxilla is hidden beneath the preorbital bones, a character combination which distinguishes *U. lineatus* from all other mullids. Furthermore, I believe, as did Whitley (1935), that the individual represented in the illustration of Latham was most likely collected in the Sydney area during the first years of the settlement. There are three reasons for this. Firstly, the type locality of *lineatus* is given as "New Holland". This rules out the possibility that Latham copied the illustration by Parkinson, who sailed with Captain Cook, of a New Zealand mullid which is the earliest known rendition of a member of *Upeneichthys* (this specimen was the basis for the unpublished description of *Labrus calophthalmus* by Solander, see below). Secondly, many of the specimen illustrations of animals collected in the Sydney area by naturalists of the first fleet were examined and probably copied by Latham (Hindwood 1970). Thirdly, there were few scientific collections and / or illustrations from other parts of Australia available to Latham at this time (late 1700's) (see Whitley 1964). Therefore, in the absence of evidence to the contrary, the area of Sydney is considered to be the type locality of *Upeneichthys lineatus lineatus*.

Upeneus vlamingii Cuvier (1829) was described without any mention of a collection locality. However, contrary to Whitley (1935) who believed it to be an Indonesian species, Ben-Tuvia (1986) showed that the two syntypes were collected in King George Sound. In addition, Cuvier's illustration of one syntype is an accurate rendition of the south coast form of *Upeneichthys lineatus*. Therefore King George Sound is the type locality of *Upeneichthys lineatus vlamingii*.

The description of *Upeneus porosus* Cuvier (1829) was based on a specimen collected from the Bay of Islands area of New Zealand (Whitley 1968), which is therefore the type locality of *Upeneichthys lineatus porosus*.

Labrus calophthalmus was first described in an unpublished manuscript entitled "Pisces Australiae" by Solander from a specimen collected in Queen Charlotte's Sound, New Zealand, by Captain Cook, and partially illustrated by Parkinson (see Richardson 1842). It was subsequently listed by Richardson (1842, 1843) as a junior synonym of Cuvier's *Upeneus vlamingii*. However , there is little doubt that it is the same species described as *Upeneus porosus* by Cuvier.

The description of *Upeneoides rubriniger* by De Vis (1885) was made from a specimen in the Queensland Museum, but no locality was given. The holotype was subsequently entered into the Museum's register in 1918 with a collection locality of the Tully River (18°01'S 146°02'E). However, as the specimen was part of an old collection, the possibility that an error was made cannot be ruled out (R.J. McKay, pers. comm.). Examination of the holotype during the present study revealed that it is typical of the southern Australian form *Upeneichthys lineatus vlamingii*. In addition, another old

specimen at the Queensland Museum with a collection locality of Port Jackson is also an example of the latter form, and its data may also be suspect.

Atahua clarki was described by Phillipps (1941) from a New Zealand specimen. Whitley (1968) considered it to be a junior synonym of Cuvier's *Upeneus porosus*, and I concur with this finding.

Additional material examined

Upeneichthys lineatus lineatus (all from New South Wales unless otherwise stated): AMS I.12413-001, 188 mm SL, Narrabeen, April 1912; AMS I.15535-004, 2 specimens, 119-123 mm SL, off Brisbane, Queensland, 28 July 1968; AMS I.16879-006, 15 specimens, 90-132 mm SL, Jervis Bay, 22 September 1971; AMS I.17019-014, 2 specimens, 87-104 mm SL, 27 March 1973; AMS I.17326-004, 181 mm SL, Sydney Harbour, 29 August 1971.

Upeneichthys lineatus vlamingii (all from Western Australia unless otherwise stated): AMS IB.8200-001, 242 mm SL, Eden, New South Wales, 9 June 1968; AMS I.20090-009, 104 mm SL, Flinders Island, Tasmania, 4 January 1978; AMS I.20180-038, 137 mm SL, Kangaroo Island, South Australia, 9 March 1978; AMS I.20194-028, 14 specimens, 61-121 mm SL, Investigator Strait, South Australia, 14 March 1978; AMS I.21323-001, 182 mm SL, Furneaux Group, Tasmania, 14 October 1979; NMV A2527, 8 specimens, 33-109 mm SL, Leonard Bay, Victoria, 20 February 1982; NMV A2715, 30 specimens, 33-131 mm SL, Wilsons Promontory, Victoria, 10 February 1982; NMV A3641, 11 specimens, 128-168 mm SL, Port Phillip Bay, Victoria, 10 January 1982; QM I.3092, holotype of *Upeneoides rubriniger*, 147 mm SL, Tully River, Queensland (?); QM I.9777, 214 mm SL, Port Jackson, New South Wales (?); WAM P.4185-001, 168 mm SL, Lancelin; WAM P.5478-001, 179 mm SL, Esperance, November 1960; WAM P.5683-001, 167 mm SL, King George Sound, 12 June 1959; WAM P.5723-001, 99 mm SL, Frenchman Bay, 2 August 1959; WAM P.5731 001, 172 mm SL, Rottnest Island, 25 October 1961; WAM P.20191 001, 218 mm SL, Albany, 13 November 1971; WAM P.20884-001, 137 mm SL, Rottnest Island, 7 February 1972; WAM P.22146-001, 118 mm SL, Cockburn Sound, 25 September 1972; WAM P.24987-001, 180 mm SL, Cockburn Sound, August 1974; WAM P.25344-005, 103 mm SL, Cockburn Sound, 27 June 1975; WAM P.25346-005, 67 mm SL, off Fremantle, 30 June 1975; WAM P.25730-003, 145 mm SL, Rottnest Island, 21 February 1977; WAM P.25761-008, 54 mm SL, Rottnest Island, 11 March 1977; WAM P.26891-001, 184 mm SL, off Ocean Reef, 20 July 1980; WAM P.27130-011, 4 specimens, 34-48 mm SL, Apollo Bay, Victoria, 12 March 1981; WAM P.27219-036, 103 mm SL, Houtman Abrolhos, 22 November 1980; WAM P.27569-003, 5 specimens, 33-49 mm SL, Rocky Cape, Tasmania, 9 March 1982; WAM P.28615-003, 2 specimens, 83-147 mm SL, King George Sound, 5 March 1986; WAM P.28939-001, 108 mm SL, Rottnest Island, 18 October 1965; WAM P.28947-001, 205 mm SL, Flinders Island, Tasmania, 1910; WAM P.30010-001, 176 mm SL, Fremantle, 12 July 1970.

Upeneichthys lineatus porosus (all from New Zealand unless otherwise stated): AMS IB.3499-001, Bay of Islands, no other data; NMNZ P.14363, 67 mm SL, Waikato Bay, 19 August 1983; NMNZ P.21612, 280 mm SL, Gannet Rock, 2 December 1987; NMNZ P.21769, 88 mm SL, between Jackson and Fantail Bays, 8 December 1987; NMNZ P.22180, 193 mm SL, off Waiaka, 2 March 1988; NMNZ P.22969, 125 mm SL, off Waiaka, 2 March 1988; QM I.13432, 173 mm SL, off Norfolk Island, 18 January 1976.

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