Review of the genus *Parablennius* Miranda-Ribeiro from Australia and New Caledonia (Pisces: Blenniidae: Salariinae)

Hans Bath

Abstract

The blenniid fishes of the genus *Parablennius* of Australia and New Caledonia (excluding Norfolk Island) are reviewed. *Parablennius tasmanianus* (Richardson, 1842) from southern Australia, *P. intermedius* (Ogilby, 1915) from eastern Australia and New Caledonia, and *P. postoculomaculatus* Bath & Hutchins, 1986 from Western Australia are valid species in the area. *Parablennius tasmanianus caledoniensis* Bath, 1989 **n. syn.** is a junior synonym of *P. intermedius*. One specimen questionably conspecific with *Parablennius intermedius* is known from the Solomon Islands. The colouration of freshly collected specimens is redescribed. A key to the species of the complex is presented.

K e y w o r d s : Blennies, Blenniidae, *Parablennius*, Australia, New Caledonia.

Zusammenfassung

Die Schleimfische der Gattung *Parablennius* aus Australien und Neukaledonien (außer Norfolk Island) werden überarbeitet. Gültige Arten des Gebietes sind *Parablennius tasmanianus* (Richardson, 1842) aus dem südlichen Australien, *P. intermedius* (Ogilby, 1915) aus Ostaustralien und Neukaledonien sowie *P. postoculomaculatus* Bath & Hutchins, 1986 aus Westaustralien. *Parablennius tasmanianus caledoniensis* Bath, 1989 **n. syn.** ist ein jüngeres Synonym von *P. intermedius*. Ein möglicherweise zu *Parablennius intermedius* gehörendes Exemplar ist von den Salomonen bekannt. Das Farbmuster frisch gesammelter Exemplare wird detailliert beschrieben. Ein Bestimmungsschlüssel unterscheidet die Arten des Artenkomplexes.

Contents

1 Introduction

The Australian and New Zealand species of the salariine blennies of the genus *Parablennius* were revised by Bath & Hutchins (1986), who distinguished five different taxa, *P. laticlavius* (Griffin, 1926) from New Zealand, *P. serratolineatus* Bath & Hutchins, 1986 from Norfolk Island, and *P. tasmanianus* (Richardson, 1842) including three subspecies, *P. tasmanianus tasmanianus* from South Australia, Tasmania, Victoria and southern New South Wales, *P. tasmanianus intermedius* (Ogilby, 1915) from Queensland and New South Wales, and *P. tasmanianus postoculomaculatus* from Western Australia. Bath (1989) described another subspecies, *P. tasmanianus caledoniensis* from Nouméa area, New Caledonia. Subsequently, several authors recognized the subspecies as species (e. g. Hutchins & Swainston 1986, Hutchins 1994, Kuiter 1996, Griffiths 2003).

Head and body colouration, as well as head lateral line pores, are important characters for distinguishing the species in the *Parablennius tasmanianus* complex. An extended fixation of specimens in formalin, or the effects of light over a longer period of time, may dramatically fade fresh colouration. Both Bath & Hutchins (1986) and Bath (1989) examined several older specimens, many of which were faded. When fresh material became available, it was considered important to re-examine the taxonomy of the group.

Acknowledgements

I would like to thank R. Fricke (SMNS, Stuttgart) for supporting the present study, and J. Reibnitz and H.-P. Tschorsnig (Stuttgart) for improving the figures.

2 Methods and materials

2.1 Methods

Methods follow Bath & Hutchins (1986). Species are diagnosed; the colour of freshly collected specimens which were preserved in alcohol is redescribed in detail. Standard length is abbreviated as SL, total length as TL, length of supraorbital tentacle as ST. Head lateral line pore numbers refer to the total count of pores on both sides of the head.

2.2 Materials

Specimens are deposited in the following collections (in general, acronyms follow Leviton et al. 1985 and Leviton & Gibbs 1988, but with additions and amendments):

AMS	The Australian Museum, Sydney, Australia
ANSP	Academy of Natural Sciences of Philadelphia, U.S.A.
BMNH	The Natural History Museum, London, U.K. [formerly British Museum (Natural History)]
NMW	Naturhistorisches Museum, Wien, Austria
QM	Queensland Museum, Brisbane, Australia
SB	Fish Collection Bath, Pirmasens, Germany
SMF	Forschungsinstitut Senckenberg, Frankfurt/Main, Germany
SMNS	Staatliches Museum für Naturkunde Stuttgart, Germany
USNM	National Museum of Natural History, Smithsonian Institution, Washington D.C., U.S.A.
WAM	Western Australian Museum, Perth, Australia

3 Species accounts

3.1 *Parablennius tasmanianus* (Richardson, 1842) (Figs. 1–2)

Blennius tasmanius Richardson, 1839: Richardson 1839: 99 (nomen nudum; Port Arthur/Tasmania, Australia).

Blennius tasmanianus Richardson, 1842: Richardson 1842: 129–130 (Port Arthur/Tasmania, Australia; holotype: BMNH 1855.9.19.714). – Günther 1861: 214 (Van Diemen's Land/Tasmania, Australia). – Fowler 1908: 444 (in comparison with *B. victoriae*). – Waite 1921: 150, fig. (South Australia). – McCulloch 1929: 346 (Tasmania). – Whitley 1929: 65 (Government House jetty/Hobart, Tasmania; abundant on 1 Nov. 1881 according to R. M. Johnston's notes).

Bl[ennius] maoricus Kner, 1864: Kner 1864: 503 (Auckland, New Zealand, undoubtedly erroneous; see discussion; holotype: NMW 78544).

Blennius victoriae Fowler, 1908: Fowler 1908: 442–444, fig. 10 (Victoria/Australia; holotype: ANSP 33128). – McCulloch 1929: 346 (Victoria/Australia).

Pictiblennius tasmanianus: Whitley 1930: 19 (new generic association). – Bath 1977: 204 (revision; southeastern Australia, synonymy). – Scott et al. 1974: 277, fig. (South Australia). – Last et al. 1983: 442, fig. (Tasmania, Victoria, New South Wales and South Australia). – Grant 1987: 333, fig. 712 (New South Wales, Victoria, Tasmania/Australia; etc.).

Pictiblennius victoriae: Bath 1977: 205 (revision; Victoria/Australia).

Parablennius tasmanianus: Bath 1982: 219 (generic association). – Bath 1990: 66 (in key; Tasmania, SE Australia). – Hutchins & Swainston 1986: 94, 139, fig. 526 (Australia). – Kuiter 1996: 326, fig. (Australia). – Yearsley et al. 1997: Code 37 408002 (Australia; CAAB Code). – Watson & Miskiewicz in Neira et al. 1998: 378–379, figs. A–D (central New South Wales southward, Victoria, Tasmania/Australia; etc.; larvae). – Turner & Norman 1998: 152 (Wilson's Promontory/Victoria, Australia; in checklist).

Parablennius tasmanianus tasmanianus: Bath & Hutchins 1986: 172–179, figs. 4–8, 9a–k, 10a–l (revision; southeastern Australia). – Bath 1996: 91 (in checklist of tribe Parablenniini).

Material

Total: 74 specimens.

Australia, South Australia: AMS I.20160-028, 1 female, Vivonne Bay, Kangaroo Island, 35°58'S 137°10'E, 2 Mar. 1978; AMS I.20168-022, 1 male, Hanson Bay, Kangaroo Island, 6 Mar. 1978; AMS I.20166-016, 1 male, Stokes Bay, Kangaroo Island, 5 Mar. 1978; WAM P.27141-004, 1 male, Port James, east of Ceduna, 32°S 133°E, 11 Apr. 1981. – **Australia, Tasmania**: AMS I.17549-004, 1 male, Oyster Cove, 43°07'S 147°15'E, 1 Dec. 1972; AMS I.17585-003, 2 males and 3 females, Boat Harbour, 9 Dec. 1972; AMS I.18716-001, 1 male, Hobart, 42°54'S 147°18'E, 15 Feb. 1976; AMS I.20075-006, 2 males and 3 females, King Island, Naracoopa, 39°55'S 144°08'E, Dec. 1977; AMS I.20094-004, 4 males and 3 females, Killiecrankie Bay, Flinders Island, 6 Jan. 1978; SB uncat., 1 male, Granville Harbour, 12 Dec. 1972; SMNS 6054, 1 specimen, Stanley, Rocky Cape, northwestern Tasmania, 40°52'S 145°25'E, D. F. Hoese, 11 Dec. 1972; WAM P.27556-002, 2 males and 3 females, Saint Helen's Point, 41°16'S 148°20'E, 24 Feb. 1982; WAM P.27568-008, 4 males and 1 female, Western Bay, 8 Mar. 1982. – **Australia, Victoria**: AMS I.16968-001, 3 males, Cape Conran, 37°51'S 148°42'E, 13 Mar. 1972; AMS I.16979-002, 7 males and 2 females, Walkerville, 17 Mar. 1972; AMS I.16981-002, 1 male and 1 female, and AMS I.16982-003, 1 male and 4 females, Bell's Beach, south of Geelong, 38°10'S 144°26'E, 18 Mar. 1972; AMS I.16987-005, 2 males and 1 female, estuary at Petersborough, 38°36'S 142°55'E, 21 Mar. 1972; AMS I.18470-009, 2 males and 3 females, Children's Cove, east of Warmanbool, 22 Mar. 1972. – **Australia, New South Wales**: AMS I.16502-004, 1 female, Madgee River, 26 Apr. 1967; AMS I.16966-003, 1 female, off Twofold Bay, at Boydtown, 12 Mar. 1972; AMS I.28727-005, 6 males and 1 female, Cape Howe, 37°15'15"S 150°00'50"E, AMS party, 5 Apr. 1989; SMNS 21387, 3 specimens, Cape Dromedary, 500 m southeast of Mystery Bay, 10 km south of Narooma, 36°18'14"S 150°08'13"E, 0–2.5 m depth, R. Fricke, 11 July 1999. – **Locality unknown** (erroneously recorded from New Zealand): NMW 78544, 1 male, holotype of *Blennius maoricus* Kner, 1864, allegedly from Auckland, North Island, New Zealand.

Diagnosis

A species of *Parablennius* usually with 18–19 segmented dorsal fin rays and 19–20 segmented anal fin rays; with the supraorbital tentacle in both sexes consisting of a large, stout main tentacle with a row of lateral branches at its median side; with 102–304 pores of the head lateral line system (mean 178.4); with the side of the head usually with two brown bands, extending down from the lower margin of the orbit; usually without an angular mark on the lower side of the head; sides of body with six groups of spots in its upper half, which fade at a larger body size and may disappear completely in large adults.

Colour description

Colour in alcohol. Body colouration: Head and body light yellowish brown to greyish brown. Head in most specimens in the postorbital region with a dark spot which is bordered dorsally by a light, dark-edged stripe and anteriorly by a narrow dark stripe, situated a little lower than the eye. Sides of head in most specimens with two brown bands. The anterior band is reaching from the lower anterior margin of the orbit down to the median upper margin of the upper lip, often extending on the upper lip; the posterior band extending from the lower posterior margin of the orbit to the posterior end of the maxilla, sometimes reaching the branchiostegal membrane.

Some specimens, collected throughout the distribution range of the species, have irregular blotches on the preopercle, opercle, and pectoral fin base. These blotches are usually faint, and are half diameter of pupil. The remainder of the sides of the head is usually a little darker than the body ground colouration. The head of males during courtship is plain dark greyish.

A few specimens have a complete angular brown streak on the lower sides of the head, most others are lacking this streak. Very rarely a pair of such streaks is observed; in which case, the anterior streak extends posteroventrally from below the posterior margin of the maxilla, and the posterior streak extends obliquely across the branchiostegal rays. The anterior pair of streaks, however, does not join in the middle to a complete angular marking.

The body colour is variable, and changes with age and body size. Specimens usually have a pattern of brown blotches, which become faint with age, and may disappear completely in large adults. Many specimens have six groups of large, brown to blackish brown blotches along the sides of the body; these may be confined to the upper one-third of the body, or may extend ventrally to the lateral line. In the latter case, the blotches in the upper one-third are significantly larger than those close to the lateral line. Usually, the largest blotches are found below the dorsal fin base; they may extend on the basal membranes of the dorsal fin. The anteriormost blotches, below the 3rd or 4th dorsal fin spines, are usually confluent, forming an oblique, broad, irregular cross-bar. The 3rd to 5th groups of blotches are usually most distinct. The 6th group is often very faint or may be lacking completely. The blotches above the lateral line, if present, are usually situated a little further caudally than the corresponding upper groups of blotches. Many specimens have very small, additional light or dark brown spots on the head and body, sometimes only extending across the anterior one-third of the body, in other cases reaching the caudal peduncle. If these additional spots are present, those on the head are smaller and paler than those on the body. The additional small spots are present in specimens from different areas throughout the distribution of the species.

The dorsal fin may be plain yellowish or light grey, sometimes with a darker distal margin. Few specimens may have irregular blackish brown spots on the basal parts of the fin membranes. Males with an oval or triangular dark greyish or black blotch on the distal one-third of the first inter-spinous membrane of the dorsal fin. Rarely, the second membrane has a similar, but paler blotch. Females have a very pale blotch on the first inter-spinous membrane, or lack the blotch entirely.

The anal fin is light grey to grey, with a darker distal margin. The tips of the fin rays are whitish. Pectoral fins plain grey. Pelvic fins whitish, brownish or greyish brown. Caudal fin plain light grey or yellowish brown.

Colour in life [based on a specimen from Tasmania, photo by D. Harasdi, published in the internet by Scuba Equipment U.S.A. Marine Species Gallery, http://www.scuba-equipment-usa.com/marine/JUL04/Tasmanian_Blenny(Parablennius_tasmanianus).html]. Head rose, anterior body cream, posterior body and back yellowish; supraorbital tentacle blackish; streaks and blotches on head and body pale brown; dorsal, caudal and pectoral fin rays yellowish; grey blotch on 1st membrane of dorsal fin; pelvic fins white.

Distribution

The new species is known from South Australia, Tasmania, Victoria and southern New South Wales (Fig. 3); it is found on rocky reefs and tidal rockpools in shallow water, but also enters adjacent sand and shell rubble bottom.

Remarks

The species was treated by Bath & Hutchins (1986) as the nominal subspecies of *Parablennius tasmanianus*. It is now raised to species level (see discussion under 5).

Blennius maoricus was originally described by Kner (1864: 503) from Auckland, New Zealand. The holotype, NMW 78544, is extant, and is evidently not the New Zealand species *Parablennius laticlavius*, but most probably a specimen of *Parablennius tasmanianus*. The type locality of *Blennius maoricus* was most probably incorrect; the specimen may have been collected in Tasmania. *Blennius maoricus* is a junior synonym of *Parablennius tasmanianus*.

3.2 *Parablennius intermedius* (Ogilby, 1915) (Figs. 4–7)

a) Eastern Australian populations

Blennius tasmanianus (non Richardson, 1842): Günther 1880: 28 (Port Jackson/New South Wales, Australia).

Blennius castaneus Macleay, 1881: Macleay 1881: 5 (Port Jackson/Sydney Harbour, New South Wales, Australia; holotype: AMS I.16407-001; name invalid due to primary homonymy with *Blennius castaneus* Castelnau, 1861).

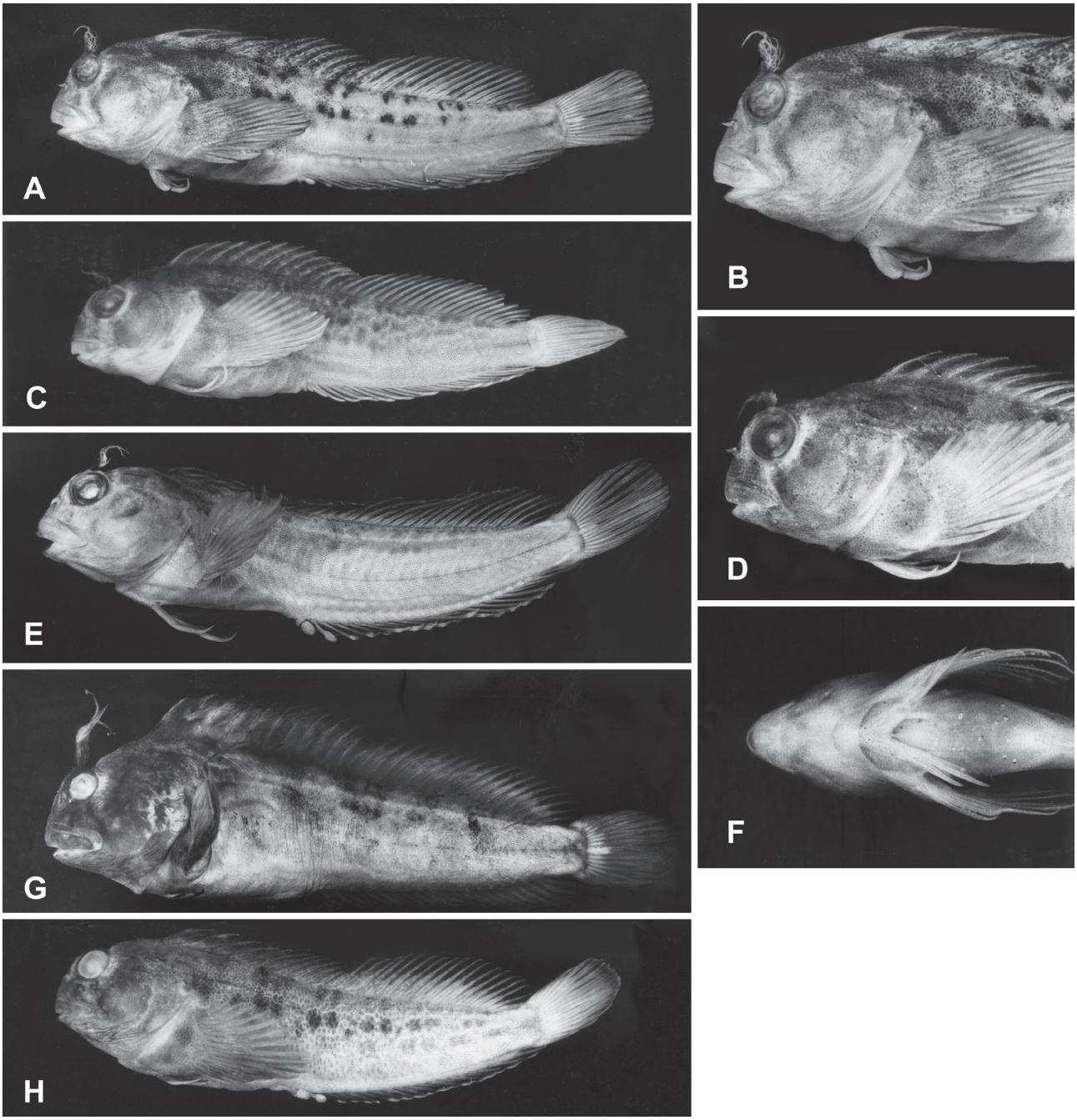

Fig. 1. *Parablennius tasmanianus* (Richardson, 1842), Australia. – **A–B**. WAM P.27556-002, male, 71.1 mm SL, Saint-Helen's Point, Tasmania, lateral view (A), enlarged lateral view of head (B). **C–D**. AMS I.16979-002, male, 39.3 mm SL, Walkerville South, Victoria, lateral view (C), enlarged lateral view of head (D). **E–F**. AMS I.18470-009, male, 44.5 mm SL, Robe, South Australia, lateral view (E), enlarged lateral view of head (F). **G**. AMS I.18716-001, male, 77.7 mm SL, Hobart, Tasmania, lateral view. **H**. AMS I.20094-004, male, 54.1 mm SL, Flinders Island, Tasmania, lateral view.

Blennius intermedius Ogilby, 1915: Ogilby 1915: 127 (Darnley Island/Queensland, Australia; holotype: QM I.1450). – McCulloch & Whitley 1925: 173 (Darnley Island, Queensland/Australia). – McCulloch 1929: 346 (Queensland/Australia).
Pictiblennius intermedius: Whitley 1930: 19 (type species of new genus description). – Bath 1977: 202 (revision; Darnley Island, Queensland).
Pictiblennius iredalei Whitley, 1931: Whitley 1931: 323 (replacement name for *Blennius castaneus* Macleay, 1881; holotype: AMS I.16407-001).

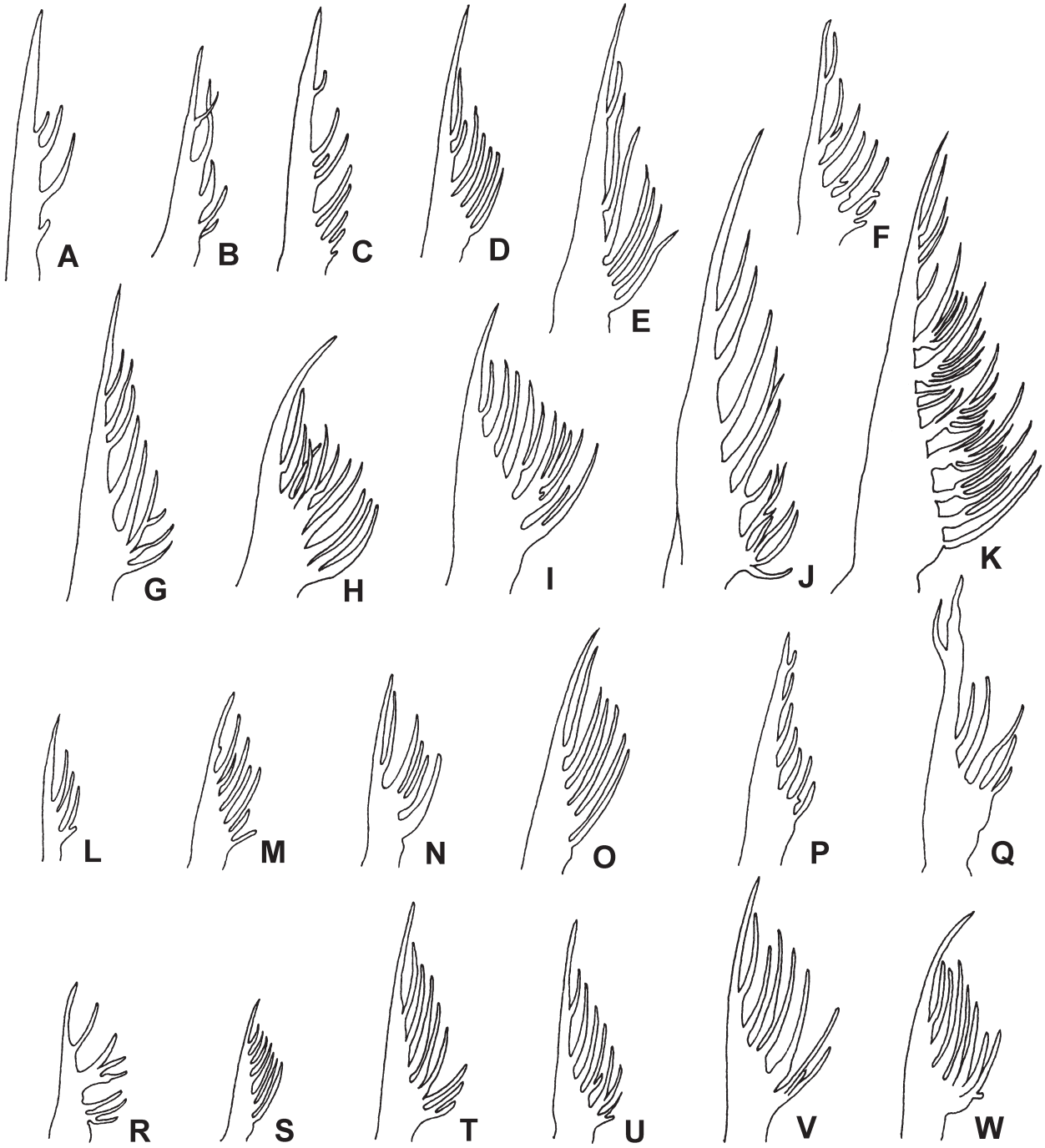

Fig. 2. *Parablennius tasmanianus* (Richardson, 1842), Australia, right supraorbital tentacle of males (A–K) and females (L–W). – **A**. Oyster Cove, Tasmania, 46.5 mm TL, 4.2 mm ST. **B**. Granville Harbour, Tasmania, 50.0 mm TL, 5.0 mm ST. **C**. Petersborough, Victoria, 36.8 mm TL, 4.1 mm ST. **D**. Robe, South Australia, 53.5 mm TL, 4.3 mm ST. **E**. Stokes Bay, Kangaroo Island, South Australia, 93.5 mm TL, 8.0 mm ST. **F**. King Island, 54.3 mm TL, 4.1 mm ST. **G**. Flinders Island, Tasmania, 64.4 mm TL, 7.6 mm ST. **H**. Saint Helen's Point, Tasmania, 83.2 mm TL, 6.7 mm ST. **I**. Port James, South Australia, 113.0 mm TL, 6.0 mm ST. **J**. Bell's Beach, Tasmania, 82.0 mm TL, 6.8 mm ST. **K**. Hobart, Tasmania, 91.4 mm TL, 9.9 mm ST. – **L**. Vivonne Bay, Kangaroo Island, 40.2 mm TL, 2.3 mm ST. **M**. Robe, South Australia, 46.3 mm TL, 1.9 mm ST. **N**. Robe, South Australia, 53.3 mm TL, 2.4 mm ST. **O**. Children's Cove, Victoria, 64.4 mm TL, 3.4 mm ST. **P**. Petersborough, Victoria, 40.5 mm TL, 3.0 mm ST. **Q**. Madgee River, New South Wales, 46.0 mm TL, 4.0 mm ST. **R**. King Island, 70.6 mm TL, 2.8 mm ST. **S**. Flinders Island, Tasmania, 53.8 mm TL, 1.8 mm ST. **T**. Bell's Beach, Victoria, 60.9 mm TL, 3.8 mm ST. **U**. Western Bay, Tasmania, 66.0 mm TL, 3.6 mm ST. **V**. Boat Harbour, Tasmania, 70.3 mm TL, 4.2 mm ST. **W**. Saint Helen's Point, Tasmania, 85.8 mm TL, 5.8 mm ST.

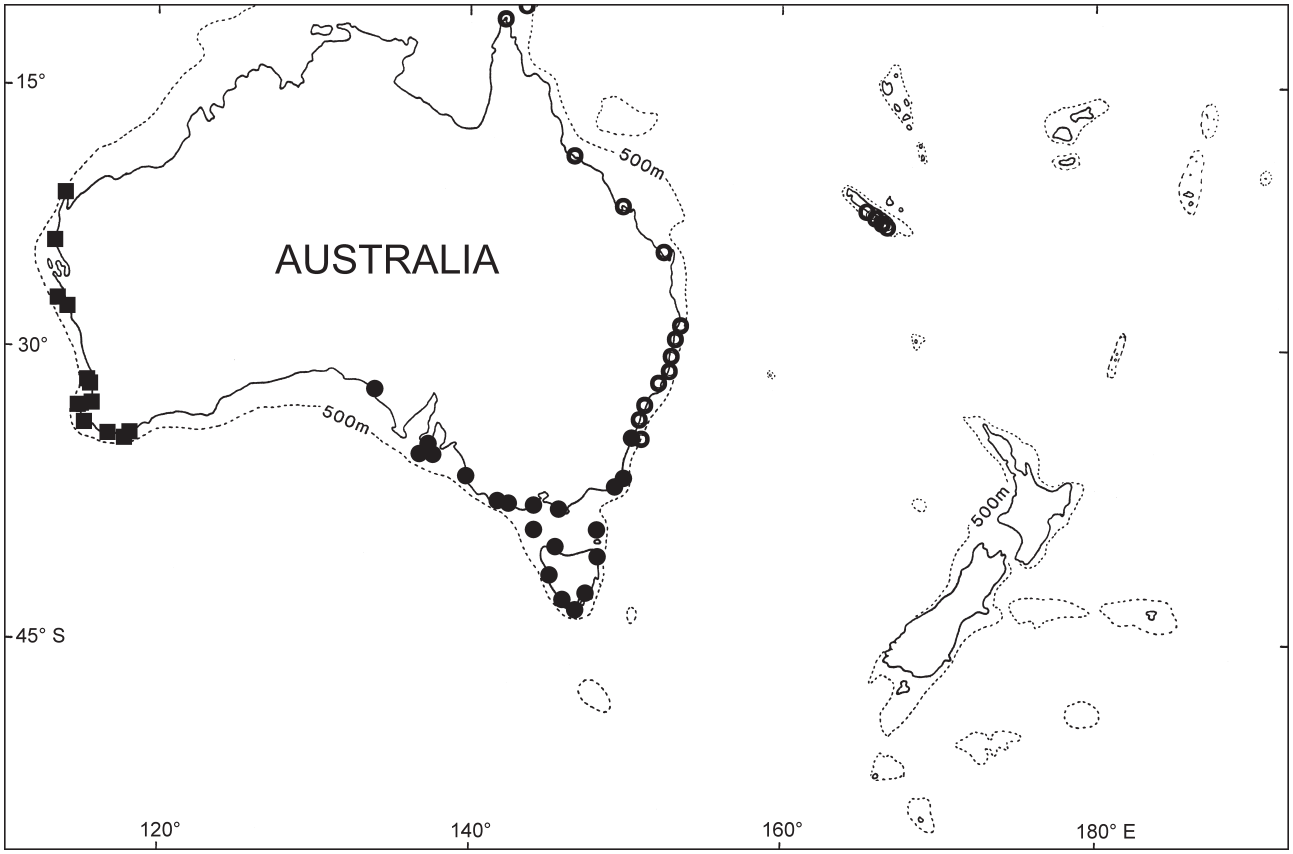

Fig. 3. Geographical distribution of the Australian and New Caledonian species of *Parablennius*. – *P. intermedius* (○), *P. tasmanianus* (●), *P. postoculomaculatus* (■).

Parablennius tasmanianus intermedius: Bath & Hutchins 1986: 179–187, figs. 12–15, 22 a–l, 23a–n (revision; eastern Australia). – Bath 1990: 66 (in key; eastern Australia). – Johnson 1999: 746 (Moreton Bay; in checklist). – Springer 2001: 3545 (W Pacific; in checklist).

Parablennius intermedius: Hutchins & Swainston 1986: 94, 139, fig. 527 (Australia). – Kuiter 1996: 326, fig. (Australia). – Yearsley et al. 1997: Code 37 408067 (Australia; CAAB Code). – Watson & Miskiewicz in Neira et al. 1998: 374–375, figs. A–E (Cape York/Queensland southward, New South Wales, Cape Conran/Victoria northward/Australia; etc.; larvae). – Coleman & Connell 2001: 236 (Sydney Harbour/New South Wales, Australia). – Silberschneider & Booth 2001: 198 (northern beaches, Sydney/New South Wales, Australia). – Griffiths 2003: 167 (rock pools; Bass Point, Bellambi Point, Caravan Point/S New South Wales, Australia).

Parablennius tasminianus intermedius: Bath 1996: 91 (name in checklist of tribe Parablenniini).

Material

Total: 123 specimens.

Australia, Queensland: AMS I.7096–I.7103, 6 males and 6 females, Capricorn Group, Masthead Island, 23°30'S 151°14'E, 8 Feb. 1905; AMS I.20776-037, 2 males and 3 females, Cape York, False Oxford Ness Point, 10°42'S 142°32'E, 18 Feb. 1979; AMS I.20904-005, 2 males, Cape Fergusson, 4 Feb. 1979; QM I.1450, holotype of *Blennius intermedius* Ogilby, female, Darnley Island, ca. 9°35'S ca. 143°46'E; WAM P.27064-011, 3 males and 2 females, Bargara, Kelly's Beach, 24°49'S 152°29'E, H. Bath, 2 Dec. 1980. – **Australia, New South Wales**: AMS IA.5926, 1 male, Bottle and Glass Rocks, Port Jackson, 33°55'S 151°10'E; AMS IA.8051, 1 male, off Balmoral Beach, Port Jackson; AMS I.16236-003, 3 males and 2 females, Long Reef, Dee Why, 12 Feb. 1972; AMS I.16250-019, 3 males and 2 females, Seal Rocks, 27 May 1972; AMS I.16407-001, holotype of *Blennius castaneus* Macleay and *Pictiblennius iredalei* Whitley, female, Port Jackson; AMS I.16467-006, 5 males and 2 females, Minnie Waters, 14 Feb. 1965; AMS I.16970-004, 2 males and 2 females, Nullica Bay, Boydtown, 13 Mar. 1972; AMS I.40838-015, 6 males and 2 females, Sydney Harbour, Gore Cove, AMS team, 3 May 2001; AMS I.40869-005, 1 male and 2 females, Sydney Cove, north end of overseas terminal, 33°51.45'S 151°12.33'E, AMS team, 24 May 2001; AMS I.41262-019, 6 males, south end of Lennox Head, 28°49.36'S 153°36.36'E, A. Gill, M. McGrouther & J. Pogonoski, 20 Mar. 2002; AMS I.41268-015, 1 female, Broken Head Point, 28°42.45'S 153°37.13'E, M. McGrouther, K. Parkinson & J. Pogonoski, 21 Mar. 2002; AMS I.41273-018, 4 males and 4 females, Hastings Point, Cudgera Creek, 28°21.69'S 153°34.58'E, A. Gill, M. McGrouther & J. Pogonoski, 22 Mar. 2002; AMS I.41874-016, 5 males and 7 females, Hastings Point, Cudgera Creek, 28°21.63'S 153°34.53'E, M. McGrouther, A. Gill & J. Pogonoski, 11 Dec. 2002; AMS I.41877-029, 3 males and 4 females, Spooky Point, Angurie, 29°28.73'S 153°32.83'E, 12 Dec. 2002; SB uncat., 1 male, Seal

Rocks, 9 May 1971, SB uncat., 1 female, Maroubra Beach, Sydney, 23 Mar. 1967; SMNS 14760, 1 specimen, Red Head, 1 km east of Bendalong, 13 km eastnortheast of Ulladulla, 35°14'55"S 150°32'39"E, 0–3 m depth, R. Fricke & T. Trnski, 12 May 1993; SMNS 21407, 10 specimens, Wagonga Head, 1 km east of Narooma, deep tidal pool at outer base of southern harbour jetty, 36°13'02"S 150°07'55"E, 0–3 m depth, R. Fricke, 11 July 1999; WAM P.17112-006, 1 male, Shelley Point, Summercloud Bay, 9 Feb. 1981. – **Australia, Australian Capital Territory**: AMS I.15330-018, 7 males and 3 females, Jervis Bay, Chinaman's Beach, 3 Jan. 1969; AMS I.15912-029, 3 males and 2 females, Jervis Bay, Cabbagetree Point, 17 Dec. 1970. – ?**Solomon Islands**: CAS 66848, 1 specimen, New Georgia, outer reef of Wana-Wana Island and Blackett Straits, W. M. Chapman & H. Cheyne, 25 June 1944.

b) New Caledonian populations

Parablennius tasmanianus caledoniensis Bath, 1989: Bath 1989: 293–300, figs. 1–4, 5a–e, 6a–b, 9 (Ducos Peninsula, Nouméa, New Caledonia; holotype: USNM 195795). – Bath 1990: 66 (in key; New Caledonia). – Bath 1996: 91 (name in checklist of tribe Parablenniini). – Springer 2001: 3545 (W Pacific; in checklist).

Parablennius tasmanianus (non Richardson, 1842): Fricke & Kulbicki 2006: 347 (New Caledonia; in checklist).

Material

Total: 17 specimens.

New Caledonia, Grande Terre Group, Province Sud: SMF 18007, 1 paratype of *Parablennius tasmanianus caledoniensis* Bath, male, same data as the holotype; SMNS 22624, 4 specimens, and SMNS 22834, 4 specimens, Baie de Gouaro, at Roche Percée, 20 m east of rock, 9 km southwest of Bourail, southwest coast, 21°36'29"S 165°27'21"E, 0–4 m depth, R. Fricke, 15 May 2000; SMNS 23045, 4 males, Île Nou/Nou Island, 200 m west of Pointe Kongou, at lighthouse, 6.5 km westnorthwest of Nouméa, southern entrance of Grande Rade, southwest coast, 22°14'54"S 166°23'13"E, 0–2 m depth, R. Fricke, 24 Nov. 2000; USNM 195794, 1 paratype of *Parablennius tasmanianus caledoniensis* Bath, female, Nouméa Harbour, W. M. Chapman & H. Cheyne, 25 Mar. 1944; USNM 195795, holotype of *Parablennius tasmanianus caledoniensis* Bath, male, Nouméa, Ducos Peninsula, W. M. Chapman & H. Cheyne, 8 Apr. 1944; USNM 195796, 1 paratype of *Parablennius tasmanianus caledoniensis* Bath, female, Nouméa, tide pool near Camp Goetige, W. M. Chapman & H. Cheyne, 28 Mar. 1944; USNM 280244, 1 paratype of *Parablennius tasmanianus caledoniensis* Bath, Nouméa, W. M. Chapman & H. Cheyne, USNM 313669, 1 male and 1 female, Bourail, Roche Percée, R. Snider, 24 Sep. 1964.

Diagnosis

A species of *Parablennius* usually with 16–17 segmented dorsal fin rays and 18–19 segmented anal fin rays. Eastern Australian populations with the supraorbital tentacle in both sexes consisting of a hand-shaped, basally broad main tentacle with side branches of irregular length, but the lateral branch usually not longer or broader than the others; New Caledonian populations with the supraorbital tentacle in both sexes with a longer, stouter main tentacle and usually less than five side branches; eastern Australian populations with 92–190 pores of the head lateral line system (mean 144.1), New Caledonian populations 108–139 (mean 126.6); the side of the head in males with vertical, narrow bands extending on the upper lip; cheeks, opercle and pectoral fin base with dark blotches; lower side of head in New Caledonian populations with dark angular mark; upper sides of body with dark or blackish brown blotches with clearly confined margins, extending in three longitudinal rows of six groups of blotches each, except for a longitudinal blotch in the middle of the caudal peduncle.

Colour description

a) Eastern Australian populations (Figs. 4–5)

Colour in alcohol. Head and body light brown to brown. Postorbital region with a blotch of eye size in various shapes, situated a little lower than the eye. The blotch is usually medium to dark brown, with a narrow black margin anteriorly, sometimes also posteriorly, occasionally bordered by a white band dorsally. Cheeks often plain brown, with a faint blotch only vaguely visible. A broad brown band extending from anterior lower margin of orbit to lower margin of upper lip. Another, less intense band often reaching from the posterior lower margin of orbit to posterior end of maxilla; if present, it is darkest near the maxilla, and is sometimes Y-shaped. Males often with 3–5 vertical streaks anteriorly on the head, which extend onto the upper lip. The medium streak is split between the eyes, then joins again, extending close to the posterior margin of the orbit. Upper sides of head with diffuse, confluent spots, or plain medium brown. Posterior lower cheeks, operculum and occasionally pectoral fin base with diffuse, dark brown spots of varying size, some as large as the pupil. Lower sides of head light brown, chin usually dark brown, followed by a dark brown band which ascends posteriorly from the lower margin of the lower lip slightly anterior of the corner of the mouth, joining with the band of the other side and forming an angular mark. Another, parallel band crossing the branchiostegal rays, but not joining the band of the other side.

Upper sides of body with a pattern of dark brown or blackish brown blotches, reaching across the upper two-thirds of the body to below the lateral line, in six groups of blotches forming three longitudinal rows, except for a single, elongate blotch on the posterior caudal peduncle. The blotches in the upper longitudinal row are usually most pronounced, extending on the dorsal fin base or forming saddles with the blotches on the other side of the body. The blotches of the second row are often forming characteristic groups with those of the upper row, while the blotches of the third row are situated further posteriorly. The blotches are usually equal in size; occasionally, two blotches may join to form a single, elongate blotch.

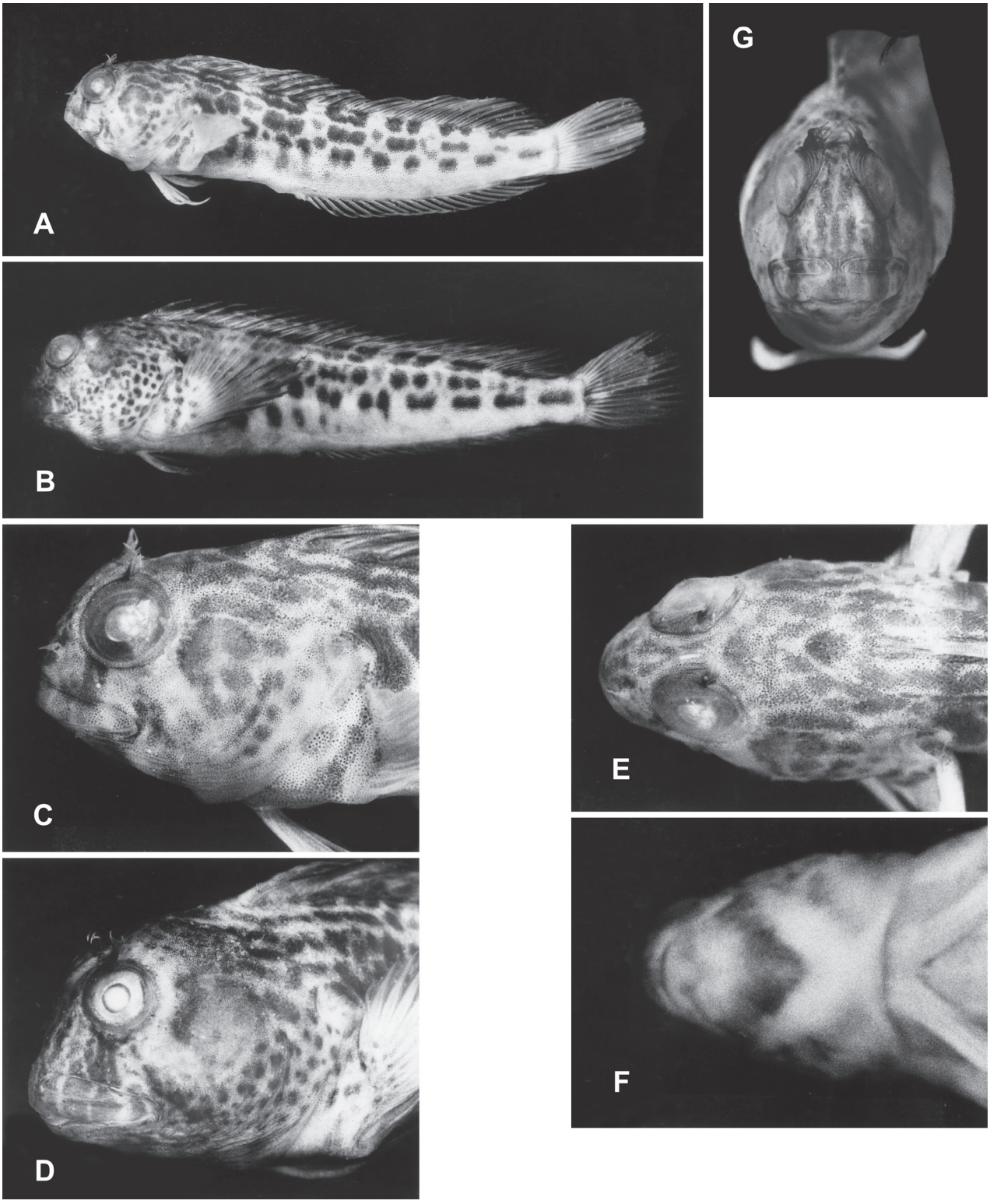

Fig. 4. *Parablennius intermedius* (Ogilby, 1915), Australia. – **A**. AMS I.41874-016, male, 30.5 mm SL, New South Wales, lateral view. **B**. WAM P.27064-011, male, 43.7 mm SL, Queensland, lateral view. **C**. AMS I.41874-016, male, 30.5 mm SL, New South Wales, enlarged lateral view of head. **D**. AMS I.41262-019, male, 52.5 mm SL, New South Wales, enlarged lateral view of head. **E**. AMS I.41874-016, male, 30.5 mm SL, New South Wales, dorsal view of head. **F**. AMS I.41268-015, female, 39.7 mm SL, New South Wales, ventral view of head. **G**. AMS I.41268-015, female, 39.7 mm SL, New South Wales, frontal view of head.

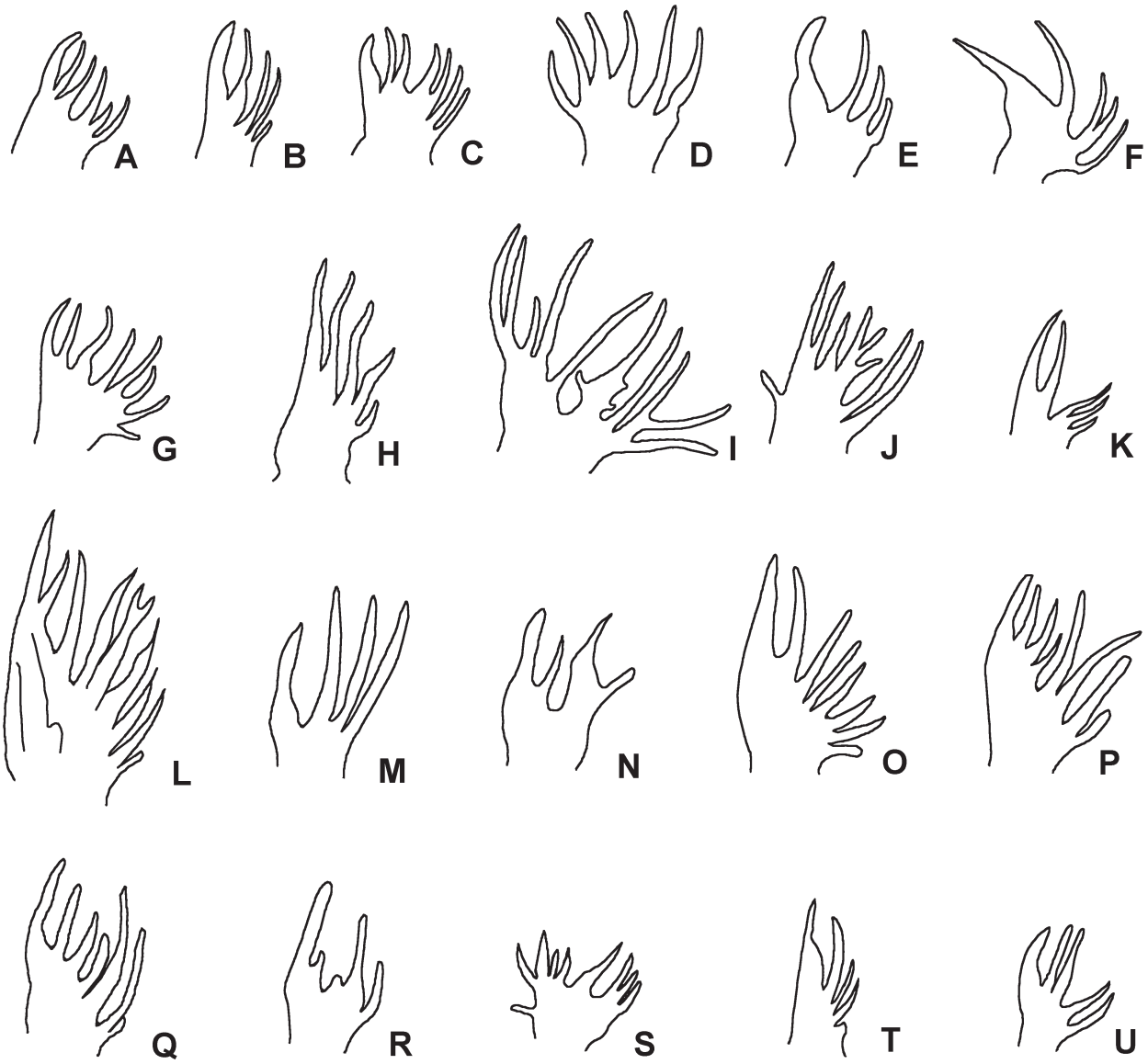

Fig. 5. *Parablennius intermedius* (Ogilby, 1915), Australia, right supraorbital tentacle of males (A–P) and females (Q–U). – **A**. Cape York, Queensland, 40.0 mm SL, 1.4 mm ST. **B**. Cape Ferguson, Queensland, 33.7 mm SL, 1.3 mm ST. **C**. Masthead Island, Queensland, 44.4 mm SL, 1.9 mm ST. **D**. Bagara, Kelly's Beach, Queensland, 43.7 mm SL, 1.7 mm ST. **E–F**. Minnie Waters, New South Wales, 41.4 mm SL, 1.8 mm ST (E), 36.8 mm SL, 2.1 mm TL (F). **G–H**. Seal Rocks, New South Wales, 47.7 mm SL, 2.2 mm ST (G), 51.0 mm SL, 2.8 mm ST (H). **I**. off Balmoral Beach, New South Wales, 64.0 mm SL, 4.5 mm ST. **J**. Bottle and Glass Rocks, New South Wales, 59.9 mm SL, 2.5 mm ST. **K**. Long Reef, Dee Why, New South Wales, 36.5 mm SL, 1.6 mm ST. **L**. Sydney Harbour, Gore Cove, New South Wales, 41.6 mm SL, 2.8 mm TL. **M**. Spooky Point, Angourie, New South Wales, 49.5 mm SL, 2.4 mm ST. **N**. Lennox Head Beach, New South Wales, 50.7 mm SL, 1.4 mm ST. **O–P**. Hastings Point, Cudgera Creek, New South Wales, 42.0 mm SL, 2.3 mm ST (O), 36.2 mm SL, 2.3 mm ST (P). **Q–R**. Hastings Point, Cudgera Creek, New South Wales, 37.7 mm SL, 1.1 mm ST (Q), 37.2 mm SL, 1.2 mm ST (R). **S**. Masthead Island, Queensland, 38.2 mm SL, 1.9 mm ST. **T**. Bagara, Kelly's Beach, Queensland, 28.2 mm SL, 1.5 mm ST. **U**. Cape York, Queensland, 27.6 mm SL, 0.9 mm ST.

The dorsal fin colouration of the male may be variable; that of large adults is usually more pronounced than in smaller specimens. A distal, triangular blotch on the first dorsal fin membrane. Second membrane rarely with a similar blotch. Spinous portion of dorsal fin bordered by a brownish to blackish brown distal band, and one or two bands of brownish spots of variable intensity below. Soft dorsal portion with oblique rows of grey spots. Triangular blotch on first dorsal fin membrane usually missing in female. The female's dorsal fin often only with 2–3 rows of indistinct spots. Median and distal portions of dorsal fin with three slightly oblique rows of brown spots, which

may occasionally join bands; this pattern is most pronounced on the soft portion of the dorsal fin.

Anal fin light yellow to brown with a narrow, dark brown to blackish distal margin. Tips of fin rays whitish. Pectoral and caudal fin rays brownish, membranes white. Pelvic fins whitish, brownish or light grey.

Body colouration usually less pronounced in females than in males. Head streaks and spots on preoperculum and pectoral fin base may be missing or vague in females, but spots on opercle usually present.

Besides the above described most common colour patterns, several variations have been observed. Specimens from Masthead Island/Queensland, Australia are usually missing spots on the head and the opercle. Specimens from Minnie Waters/New South Wales have only 7–9 large blotches on the opercle, each larger than the pupil. Specimens from Port Jackson area may have diffusely spotted lower cheeks, opercle, opercular membranes and pectoral fin base, with the spot diameter slightly less than the pupil; these spots are extending to the body, increasing in diameter posteriorly, almost arranged in longitudinal rows on the posterior body. Another specimen is entirely lacking spots on head and opercle, except a fine, dense spotting on the pectoral fin base. Similar diffuse, dense spots are situated on the anterior and medium thirds of the body, increasing in diameter posteriorly, but not larger than the pupil.

Colour in life (based on a specimen from Shellharbour, New South Wales, photo by S. SCHULTZ, January 2004, published online by The Australian Museum, Sydney, version 15 Oct. 2006, http://www.amonline.net.au/fishes/fishfacts/fish/pintermed3.htm). Head and body ground colouration creamy white, blotches on head orange and brown, stem of supraorbital tentacle orange; eye alternatingly marked with dark red and pink; blotches on sides of body black, bordered with cream, with brown areas in between; dorsal and caudal fins basally cream, distally reddish, with brown and blackish bands and blotches; lower sides of body and lower pectoral fin with silvery bluish spots.

b) New Caledonian populations (Figs. 6–7)

Colour in alcohol. Head and body light to medium brown. Postorbital region in most specimens with a blotch of eye size, situated a little lower than the eye. The lower half of the blotch is a little lighter than the upper half. Postorbital blotch dorsally with a dark-edged border. Postorbital area also with a small, blackish spot. Two parallel dark bands extending from anterior lower margin of orbit to middle of lateral half of upper lip. Another band reaching from the posterior-ventral margin of orbit to posterior end of maxilla. Head anteriorly usually with 3–5 narrow vertical bands consisting of streaks and spots, which extend onto the upper lip. Upper sides of head with dark spots of half pupil size in irregular or longitudinal arrangement. Predorsal area usually with large irregular, black blotch. Opercle and preopercle with irregularly arranged, elongate spots. Lower sides of head light, with a median broad, dark, angular mark and two, slightly narrower dark bands reaching from the corner of the mouth obliquely backwards across the branchiostegal membranes, but rarely joining to an angular mark. Prepectoral area with a broad, vertical, dark band.

Upper half of body with a pattern of dark brown or blackish brown blotches, reaching across the upper two-thirds of the body to below the lateral line, in six groups of blotches forming three longitudinal rows, except for a single, elongate blotch posteriorly on the caudal peduncle; upper longitudinal row consists of six pairs of blotches, which are often interconnected and extend as saddles across the dorsum to the other side of the body. The blotches of the second row often form characteristic groups with those of the upper row, and the blotches of the third row are situated further posteriorly, and extend ventrally as a streak. The blotches are usually equal in size; occasionally, two blotches may join to a single, elongate blotch.

Colouration of the membranes between the unsegmented dorsal fin rays in males with a distal brown band, and an elongate ventral band of dark, oval blotches on the fin rays. Soft dorsal fin distally with a brown streak on the membranes. A distal, triangular blotch on the first interradial dorsal fin membrane of males; blotch is lacking in females; females usually with three oblique, descending rows of spots. Anal fin distally with a dark band in both sexes. Pectoral, pelvic and caudal fins light yellowish brown; the lowermost 3–4 pectoral fin rays and the second and third rays of the pelvic fin slightly darker.

Distribution

This species is known from eastern Australia (Queensland, Cape York area southward; northern and central New South Wales, and Jervis Bay area/Australian Capital Territory), and New Caledonia (southwestern Grande Terre) (Fig. 3); it is found on or adjacent to rocky reefs and in tidal rockpools. Possibly also Solomon Islands (New Georgia); see discussion.

Remarks

The eastern Australian populations of this species were treated as a subspecies of *Parablennius tasmanianus* by BATH & HUTCHINS (1986). They are now raised to species level as *Parablennius intermedius*. *Parablennius tasmanianus caledoniensis* Bath, 1989 (**n. syn.**) is now found to be a junior synonym of *P. intermedius* (see discussion under 5).

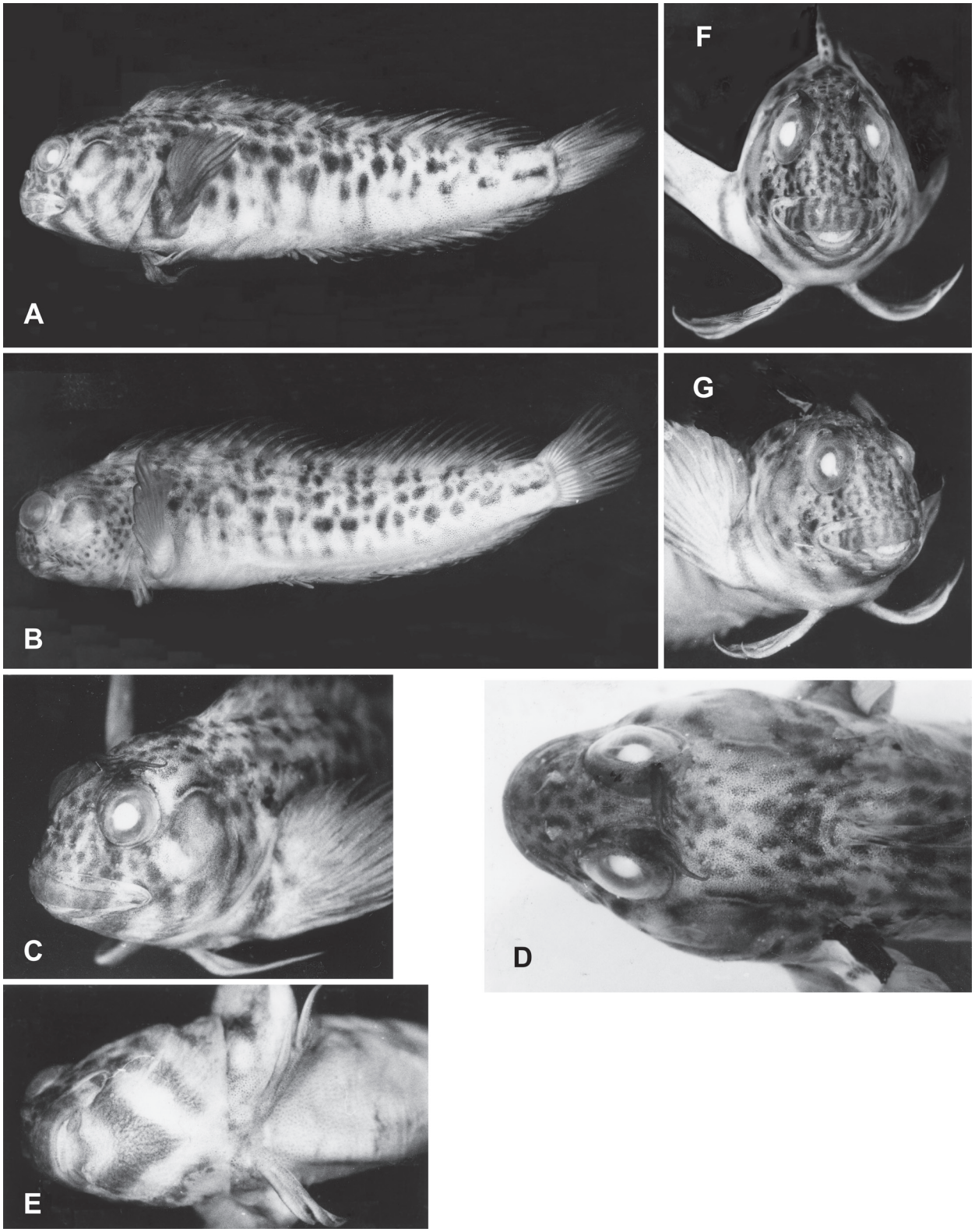

Fig. 6. *Parablennius intermedius* (Ogilby, 1915), New Caledonia. – **A**. SMNS 22624, male, 36.7 mm SL, lateral view. **B**. SMNS 23045, male, 36.2 mm SL, lateral view. **C**. SMNS 22624, male, 36.7 mm SL, enlarged lateral view of head. **D**. SMNS 22624, male, 36.7 mm SL, dorsal view of head. **E**. SMNS 22624, male, 36.7 mm SL, ventral view of head. **F–G**. SMNS 22624, female, 36.2 mm SL, frontal (F) and left frontal (G) views of head.

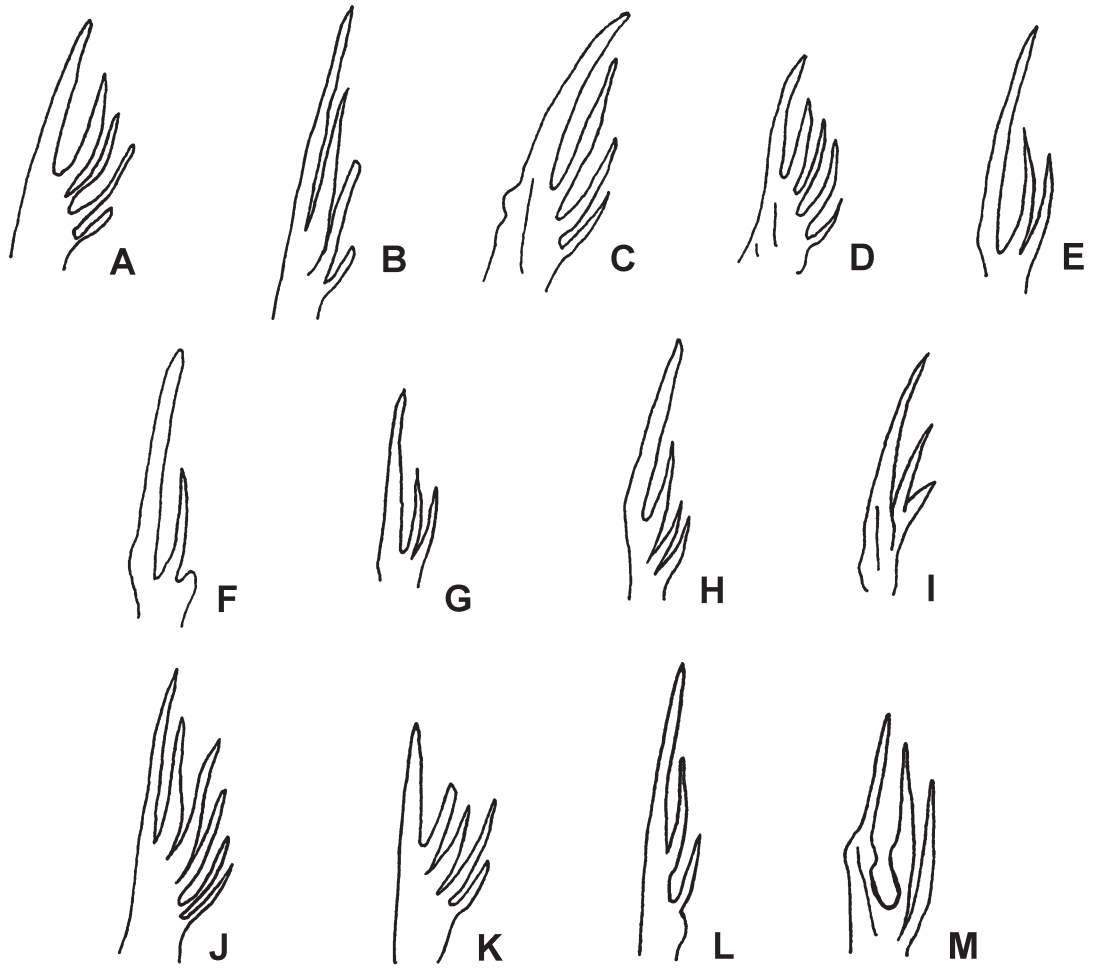

Fig. 7. *Parablennius intermedius* (Ogilby, 1915), New Caledonia, Province Sud, Grande Terre, right supraorbital tentacle of males (A–I) and females (J–M). – **A–B**. Nouméa, Ducos Peninsula, 31.6 mm SL, 1.7 mm TL (A), 36.2 mm SL, 2.0 mm ST (B). **C–D**. Baie de Gouaro, 36.7 mm SL, 2.8 mm ST (C), 34.0 mm SL, 2.0 mm ST (D). **E–H**. Île Nou, 36.2 mm SL, 2.1 mm ST (E), 31.7 mm SL, 2.1 mm ST (F), 31.1 mm SL, 2.1 mm ST (G), 30.7 mm SL, 2.4 mm ST (H). **I**. Nouméa Harbour, 31.6 mm SL, 1.7 mm ST. **J–L**. Nouméa, 33.5 mm SL, 1.7 mm ST (J), 30.6 mm SL, 1.4 mm ST (K), 31.2 mm SL, 2.1 mm ST (L). **M**. Baie de Gouaro, 30.7 mm SL, 1.7 mm ST.

3.3 *Parablennius postoculomaculatus* Bath & Huchins, 1986 (Figs. 8–9)

Parablennius tasmanianus postoculomaculatus Bath & Hutchins, 1986: Bath & Hutchins 1986: 187–192, figs. 24–28, 29a–r (Australia, Houtman Abrolhos, Beacon Island/ Western Australia; holotype: SMF 17092). – Bath 1996: 92 (name in checklist of tribe Parablenniini).

Parablennius postoculomaculatus: Bath 1990: 66 (in key; Western Australia). – Hutchins 1994: 25, 26, 55 (Western Australia, distribution in Leeuwin Province). – Yearsley et al. 1997: Code 37 408068 (Australia; CAAB Code). – Hutchins 2001: 41 (Western Australia; in checklist).

Material

Total: 50 specimens.

Australia, Western Australia: AMS I.19240-001, 1 female, Carnac Island; AMS I.19602-027, 2 males and 2 females, Geographe Bay, 33°20'S 115°34'E, 21 Oct. 1972; SB uncat., 1 male and 1 female, paratypes of *Parablennius tasmanianus postoculomaculatus* Bath & Hutchins, same data as the holotype; SMF 17092, holotype of *Parablennius tasmanianus postoculomaculatus* Bath & Hutchins, male, Houtman Abrolhos, Beacon Island, 31 Aug. 1977; SMF 17093–17094, 1 male and 1 female, paratypes of *Parablennius tasmanianus postoculomaculatus* Bath & Hutchins, same data as the holotype; SMNS 14892, 1 female, Torbay, Cosy Corner, 26 km west of Albany, 33°55'36"S 122°35'07"E, R. Fricke, 10 Oct. 1992; SMNS 14898, 4 females, Peaceful Bay, 20 km southeast of Walpole, 35°02'49"S 116°50'46"E, 0–0.8 m depth, R. Fricke, 11 Oct. 1992; SMNS 14918, 6 males, 2 females and 1 juvenile, Rottnest Island, Parker Point, southeastern side of island, 35 km west of Perth, 32°01'36"S 115°31'40"E, R. Fricke, 19 Oct. 1992; WAM P.25833-002, 2 males, South Muiron Island, 21°45'S 114°10'E, 15 June 1977; WAM P.25850-008, 7 males and 3 females, paratypes of *Para-*

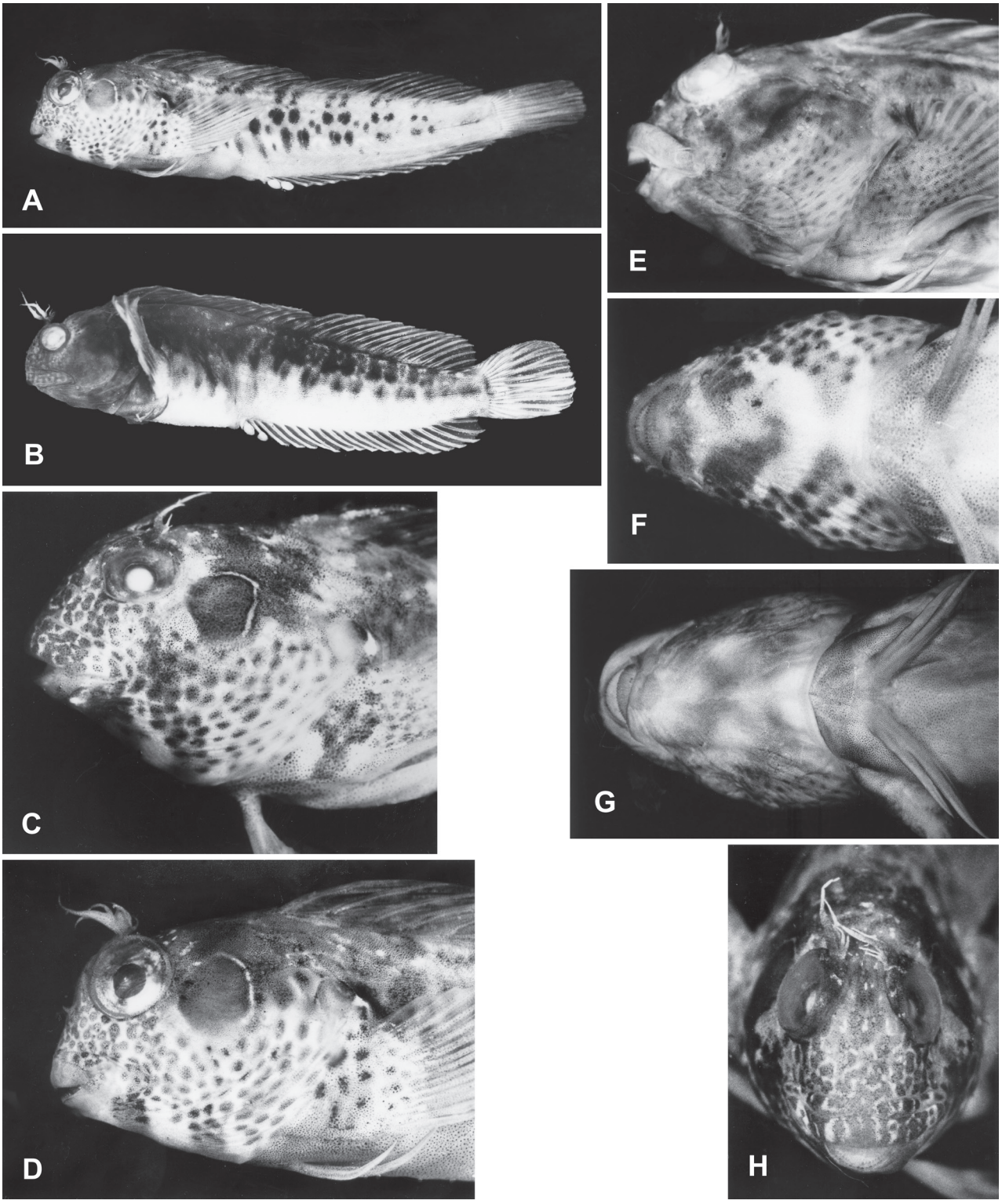

Fig. 8. *Parablennius postoculomaculatus* Bath & Hutchins, 1986, Western Australia. – **A**. SMF 17092, male, 40.7 mm SL, holotype, lateral view. **B**. WAM P.27968-009, male, 44.3 mm SL, lateral view. **C**. SMNS 14918, male, 40.8 mm SL, enlarged lateral view of head. **D**. SMF 17092, male, 40.7 mm SL, holotype, enlarged lateral view of head. **E**. SMNS 14898, female, 66.3 mm SL, enlarged lateral view of head. **F**. SMNS 14918, male, 40.8 mm SL, ventral view of head. **G**. SMNS 14898, female, 66.3 mm SL, ventral view of head. **H**. SMNS 14918, male, 40.8 mm SL, frontal view of head.

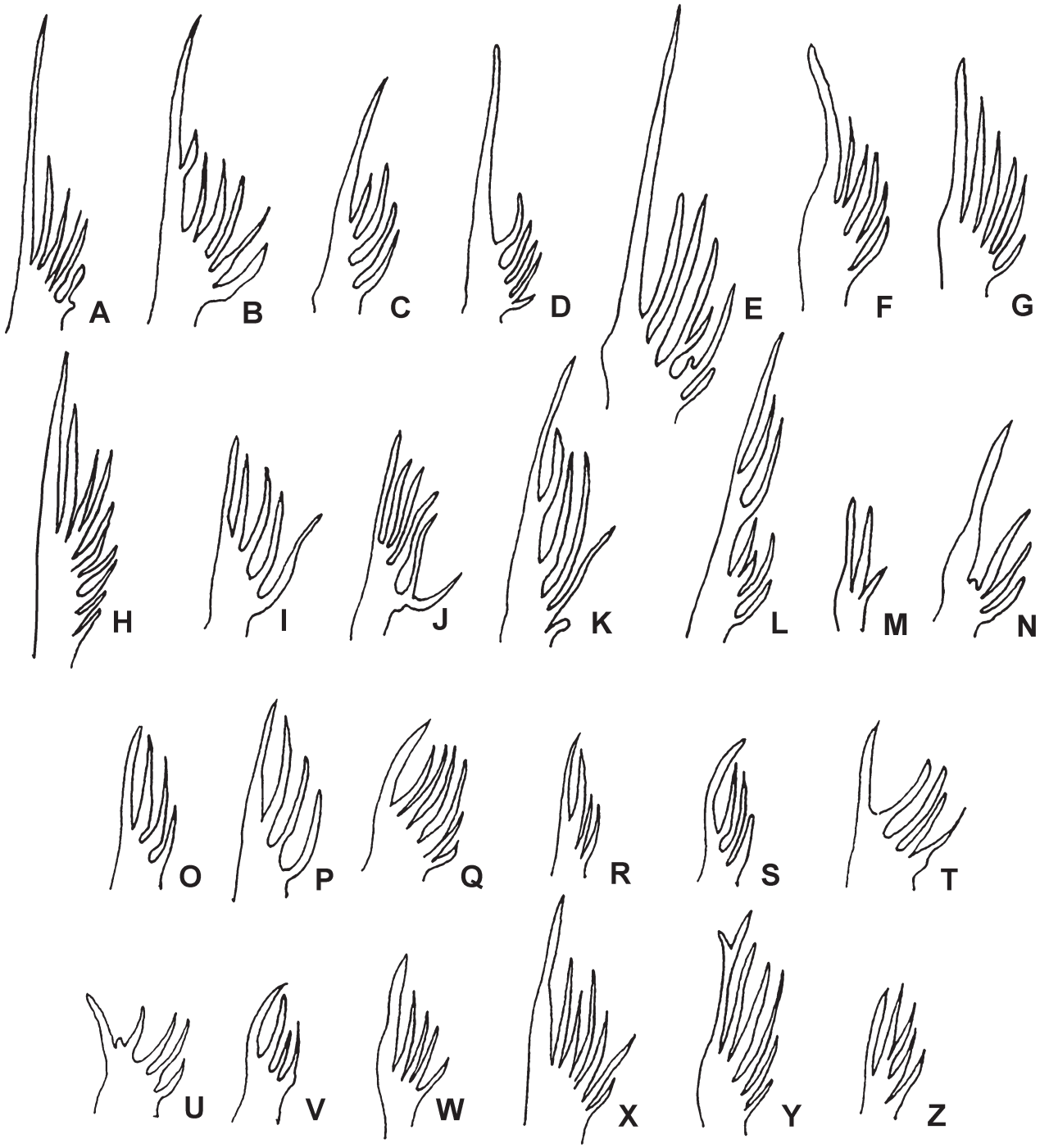

Fig. 9. *Parablennius postoculomaculatus* Bath & Hutchins, 1986, Western Australia, right supraorbital tentacle of males (A–N) and females (O–Z). – **A**. South Muiron Island, 31.5 mm SL, 3.2 mm ST. **B–C**. Point Quobba, 44.3 mm SL, 4.5 mm ST (B), 34.6 mm SL, 2.1 mm ST (C). **D–E**. Beacon Island, Houtman Abrolhos, 39.8 mm SL, 5.3 mm ST (D), 45.0 mm SL, 7.4 mm ST (E). **F–H**. Parke Point, Rottnest Island, 40.8 mm SL, 2.4 mm ST (F), 43.5 mm SL, 2.3 mm ST (G), 65.3 mm SL, 6.2 mm ST (H). **I–J**. Geographe Bay, 48.1 mm SL, 3.3 mm ST (I), 40.6 mm SL, 3.5 mm ST (J). **K–L**. Quarry Bay, 64.5 mm SL, 4.0 mm ST (K), 41.4 mm SL, 6.3 mm ST (L). **M**. Cosy Corner, Torbay, 30.3 mm SL, 1.4 mm ST. **N**. Two Peoples Bay, 37.8 mm SL, 2.8 mm ST. **O**. Point Quobba, 33.5 mm SL, 1.5 mm ST. **P–R**. Beacon Island, Houtman Abrolhos, 46.6 mm SL, 2.2 mm ST (P), 45.4 mm SL, 1.9 mm ST (Q), 38.4 mm SL, 2.0 mm ST (R). **S**. Carnac Island, 42.0 mm SL, 1.9 mm ST. **T–U**. Geographe Bay, 62.0 mm SL, 2.4 mm ST (T), 47.8 mm SL, 1.3 mm ST (U). **V**. Bunkers Bay, 41.5 mm SL, 1.8 mm ST. **W–Z**. Peaceful Bay, 64.3 mm SL, 3.7 mm ST (W), 66.3 mm SL, 4.8 mm ST (X), 48.5 mm SL, 3.6 mm ST (Y), 74.5 mm SL, 3.0 mm ST (Z).

blennius tasmanianus postoculomaculatus Bath & Hutchins, same data as the holotype; WAM P.26545-008, 3 males, Quarry Bay, Augusta, 34°19'S 115°09'E, 2 Feb. 1979; WAM P.2601-004, 2 males, Two Peoples Bay, 13 Apr. 1980; WAM P.27880-011, 1 female, Bunkers Bay, 8 Dec. 1982; WAM P.27949-018, 1 female juvenile, Jurien Bay, 30°08'S 115°00'E, 9 Apr. 1983; WAM P.27967-031, 3 males and 1 female, Point Quobba, Fitzroy Reefs, 25 Apr. 1983; WAM P.27968-009, 2 males and 1 female, 2 km north of Point Quobba, 25 Apr. 1983.

Diagnosis

A species of *Parablennius* with 16 (rarely 15 or 17) segmented dorsal fin rays and 18 (rarely 16–17) segmented anal fin rays; supraorbital tentacle in both sexes consisting of a long, stout main tentacle, with three to (rarely) nine side branches; with 120–266 pores of the head lateral line system (mean 207.4); postorbital region with a round to oval, light brown blotch, bordered by a usually segmented white, dark-edged streak; lower half of cheek, sides of the upper lip, suborbital area, branchiostegal membranes, pectoral fin base and basal one-third of pectoral fin with numerous medium to blackish brown blotches; elongate rows of dark blotches in 6–7 groups along the upper two-thirds of the body.

Colour description

Colour in alcohol. Head and body light brown to brown. Postorbital region with a light brown round or slightly oval blotch, situated a little lower than the eye, bordered by a usually segmented white, dark-edged streak. Lower half of cheek, sides of the upper lip, suborbital area, branchiostegal membranes, pectoral fin base and basal one-third of pectoral fin with numerous medium to blackish brown blotches; this pattern of blotches may extend ventrally to the lateral margin of the angular mark on the lower side of the head, and to the ventral base of the branchiostegal rays. Part of tip of chin brownish. Lower sides of head with a light to dark brown band, extending from the corner of the mouth obliquely down, in males joining the band of the other side to form an angular mark, which is lighter in the midline than laterally. Another parallel streak behind reaching from the antero-ventral margin of the opercle to the anterior corner of the opercular membrane, not connected with the streak of the other side of the head.

Median one-third of body with concise, upper one-third with vague brown blotches, arranged in 6–7 groups along the sides of the body. The upper row connected with the blotches of the other side of the body forming faint saddles, barely reaching the basal part of the dorsal fin, in more irregular arrangement than the blotches below. The blotches in the median and lower rows are mostly round to oval. Caudal peduncle occasionally with a slightly larger, dark blotch. Lower sides of body at the anal fin base in some specimens with 6–7 light grey blotches. Some specimens may have additional small silvery white spots on the upper one-third of the body, and larger such spots on the lower two-thirds. Body colouration less intensive in females and adult males.

Dorsal, anal and pectoral fins in males light grey, in females whitish or yellowish white. First interradial membrane of the unsegmented dorsal fin in males with a small, triangular, faintly dusky blotch. Remaining parts of the dorsal fin either with diffuse melanophores which are more densely set distally, or with brownish or blackish blotches in oblique rows.

Colour in life. Head and body greenish grey or light orange. Colour pattern similar to colour in alcohol as described above, but with a few bright red spots in between. Dorsal, anal and caudal fins greenish yellow to orange.

Distribution

This species is endemic to Western Australia, occurring from South Muiron Island south to Albany area (Fig. 3); it lives in shallow water on or adjacent to rocky reefs or in tidal rockpools.

Remarks

The species was originally described as a subspecies of *Parablennius tasmanianus*. It is now raised to species level (see discussion under 5).

4 Key to Australian and New Caledonian species of *Parablennius* (excluding Norfolk Island)

1 Segmented dorsal fin rays 15–17. . . . . **2**
– Segmented dorsal fin rays 18–19. – Southern New South Wales west to Southern Australia, south to Tasmania. . . . . ***P. tasmanianus***
2 Head lateral line pores 120–266, mean 207.4. Males with intense spotting on lower side of head. – Western Australia. . . . . ***P. postoculomaculatus***
– Head lateral line pores 92–190, mean 144.1 (eastern Australian populations) or 126.6 (New Caledonian populations). Males without spotting or with few spots on lower side of head. . . . . ***P. intermedius***

5 Discussion

The additional, fresh material previously classified as *Parablennius tasmanianus intermedius* from eastern Australia and *Parablennius tasmanianus caledoniensis* from New Caledonia enabled the author to review the identity of the populations. The main characters distinguishing the species of this complex are the numbers of fin rays, the shape of the supraorbital tentacle, the head lateral line system, and the head and body colouration.

Australian and New Caledonian *Parablennius* species show a high variability in many characters. Especially the

supraorbital tentacle cannot be considered a good character to distinguish species, as it is much too variable (Figs. 2, 5, 7, 9), though eastern Australian populations now classified as *P. intermedius* tend to have a hand-shaped tentacle (Fig. 5), while other species/populations have a more slender tentacle. *Parablennius tasmanianus* has a long and stout main tentacle with a relatively narrow base (Fig. 2) and several lateral branches which may be divided, increasing in number with body length; males have 4–30 branches, females 5–9. The supraorbital tentacle of *P. postoculomaculatus* is similar to *P. tasmanianus*, but with a lateral tentacle which is often as long as the main tentacle, especially in females. In males, the lateral tentacle has 2–14 side branches; 3–4 (–7) in females.

In *Parablennius intermedius*, the supraorbital tentacle is highly variable. The eastern Australian populations have usually a broad base; the main tentacle is often not longer than the side branches, which usually grow out of the base, and may be of equal length. Some side branches may be divided. Males usually possess more numerous side branches than females. Specimens of the New Caledonian populations usually have a long main tentacle; the branches either originate from the main tentacle or from the base. The 13 examined specimens had 2–6 side branches.

The number of branched rays in the dorsal fin is (16–)18–19 in *Parablennius tasmanianus*, (15–)16–17(–18) in *P. intermedius* and (15–)16(–17) in *P. postoculomaculatus*. *Parablennius tasmanianus* has (18–)19–20 branched anal fin rays, *P. intermedius* (17–)18–19, and *P. postoculomaculatus* (16–)18 (Tab. 1).

The pores in the head lateral line system are compared in Tab. 2. Eastern Australian populations of *P. intermedius* have 92–190 pores (mean 144.1), New Caledonian populations 108–139 (mean 126.6). However, as the specimens examined from eastern Australia had 20.3–65.2 mm SL (mean 39.7), but the New Caledonian specimens were much smaller, 30.6–35.7 mm SL (mean 33.3), and the number of head lateral line pores increases with body length, the difference in the mean pore number between the two population groups is not considered to be of taxonomical relevance. However, there is a significant difference between the mean head lateral line pore numbers of *P. intermedius* and the other species in the complex. *Parablennius tasmanianus* has a mean of 178.4, and *P. postoculomaculatus* 207.4.

The head and body colouration is redescribed above from fresh specimens preserved in ethanol. The three species are relatively variably coloured regarding age, sex, and geography. Most specimens of *P. tasmanianus* have a vague brown blotch behind the eye, bordered by a light streak above and a dark streak anteriorly. The sides of the head often bear two oblique dark bands; the lower side of head usually has no angular dark mark (which is incomplete if at all present). Cheeks, opercle, pectoral fin base of side of body rarely with spots, and if present, only in single individuals.

Parablennius intermedius likewise has a dark blotch behind the eye that is bordered with black anteriorly and posteriorly, occasionally also with white dorsally. This species typically has a pattern of streaks and blotches on the head. The frontal side usually bears five narrow vertical streaks, with two additional irregular lateral bands. The dorsal side of head with 4–5 rows of spots or short bands. The lower side of the head has a narrow angular mark, with a second, broader, interrupted mark behind. Cheeks with diffuse dark spots, which are usually more pronounced in eastern Australian specimens than in New Caledonian specimens.

Typical specimens of *Parablennius postoculomaculatus* have an eye-sized, round to oval, brownish ocellus behind the eye. The cheeks and sides of head bear numerous brown blotches; it is unique for this species that they are reaching to the lower side of the head and to the ventral base of the branchiostegal rays. Lower side of head with an angular dark mark, and another, interrupted mark behind.

The most reliable characters to distinguish species in this complex include dorsal fin rays, mean number of head

Tab. 1. Dorsal and anal fin rays of Australian and New Caledonian species of *Parablennius*.

Species	Area	Dorsal fin									Anal fin				
		XII, 15	XII, 16	XIII, 16	XI, 17	XII, 17	XI, 18	XII, 18	XIII, 18	XII, 19	II, 16	II, 17	II, 18	II, 19	II, 20
P. intermedius	New South Wales and Queensland/Australia	1	39	1	1	47	–	1	–	–	–	4	67	19	–
	New Caledonia/France	–	6	1	–	6	–	–	–	–	–	2	7	4	–
P. postoculomaculatus	Western Australia	2	25	–	–	4	–	–	–	–	1	1	29	–	–
P. tasmanianus	New South Wales/Australia	–	4	–	–	23	–	5	–	–	–	–	9	20	3
	Victoria/Australia	–	–	–	–	2	–	21	1	5	–	–	1	5	23
	South Australia	–	–	–	–	1	–	5	–	3	–	–	–	4	5
	King Island and Flinders Island/Australia	–	–	–	–	2	1	7	–	2	–	–	–	2	10
	Tasmania/Australia	–	1	–	–	1	–	10	–	6	–	–	–	4	14

Tab. 2. Head lateral line pores of Australian and New Caledonian species of *Parablennius*.

Species, Area	Number of specimens	SL	Mean SL	Head lateral line pores	Mean head lateral line pores
P. intermedius, New South Wales and Queensland/Australia	61	20.3–65.2	39.7	92–190	144.1
P. intermedius, New Caledonia/France	11	30.6–36.7	33.3	108–139	126.6
P. intermedius, combined	72	20.3–65.2	38.7	92–190	141.4
P. postoculomaculatus, Western Australia	18	30.3–74.5	48.8	120–266	207.4
P. tasmanianus, New South Wales and South Australia to Tasmania/Australia	22	25.0–86.4	50.4	102–304	178.4

lateral line pores, and the head colouration. Using the characters described above, it is concluded that *Parablennius tasmanianus*, *P. intermedius* and *P. postoculomaculatus* are sufficiently distinguished to be raised to species level. The population previously classified as *P. tasmanianus caledoniensis*, which has a smaller adult size than other populations in the complex, was found to perfectly agree in its fresh colour pattern with eastern Australian *Parablennius intermedius*. The mean number of head lateral line pores is even a little lower than in eastern Australian populations, but agrees with the number in small specimens of *P. intermedius*. It is therefore concluded that *Parablennius tasmanianus caledoniensis* is a junior synonym of *P. intermedius*.

The identification of specimens in the Australian/New Caledonian *Parablennius* complex is not easy. Usually, a series of 10–20 specimens is needed to know the mean number of head lateral line pores. A single specimen of *Parablennius* from the Solomon Islands is known to the author, but could not yet be identified to the species level; it is, however, assumed that *Parablennius intermedius* may range east to the Solomon Islands.

Specimens of the species of *Parablennius* are known to occur on rocky substrates, usually preferring hard rock including plutonic rocks, volcanic rocks and metamorphic rocks, but rarely living on sediment rock and never found on coralline rock. Such hard rock substrates are uncommon in many areas of the Southwest Pacific tropics. In Grande Terre/New Caledonia, for example, there is very little metamorphic rock habitat in the littoral area, but coralline rocks or fringing reefs are much more common, and much more frequently sampled for fish specimens. Furthermore, as *Parablennius* is most common in and probably adapted to water temperatures of warm temperate habitats, it relies on cool upwelling conditions if it occurs in the tropics. Such rock habitats in upwelling areas are rarely sampled thoroughly. A higher sampling effort in such habitats would probably provide additional material of *Parablennius* to clarify the range of the species into the tropical Southwest Pacific.

6 References

Bath, H. (1977): Revision der Blenniini (Pisces: Blenniidae). – Senckenbergiana biologica **57** (4/6) (1976): 167–234.

Bath, H. (1982): Beitrag zur Revalidation von *Parablennius ruber* (Valenciennes 1836) mit kritischen Bemerkungen zur Gültigkeit der Gattung *Pictiblennius* Whitley 1930. – Senckenbergiana biologica **62** (4/6) (1981): 211–224.

Bath, H. (1989): Eine weitere Unterart von *Parablennius tasmanianus* (Richardson 1849) (Pisces: Blenniidae). – Senckenbergiana biologica **69** (4/6) (1988): 293–300.

Bath, H. (1990): Taxonomie und Verbreitung von *Parablennius* Ribeiro 1915 an der W-Küste Afrikas und den Kapverdischen Inseln mit Revalidation von *P. verryckeni* (Poll 1959) und Beschreibung drei neuer Arten (Pisces: Blenniidae). – Senckenbergiana biologica **70** (1/3): 15–69.

Bath, H. (1996): Beitrag zur Osteologie der Arten der Tribus Parablenniini. Die Beziehungen der Knochen des Schädeldaches zum Seitenorgan-System und zu den Weichteilbildungen der Kopfoberseite sowie die systematische Bedeutung der Befunde nebst Bemerkungen zu *Lupinoblennius dispar* Herre, 1942 (Pisces: Blennidae). – Senckenbergiana biologica **76** (1/2): 65–92.

Bath, H. & Hutchins, [J.] B. (1986): Die Blenniini des australischen Raumes und Neuseelands mit Beschreibung einer neuen Art und einer neuen Unterart. – Senckenbergiana biologica **66** (4/6): 167–213.

Coleman, L. A. & Connell, S. D. (2001): Weak effects of epibiota on the abundances of fishes associated with pier pilings in Sydney Harbour. – Environmental Biology of Fishes **61**: 231–239.

Fowler, H. W. (1907–1908): A collection of fishes from Victoria, Australia. – Proceedings of the Academy of Natural Sciences of Philadelphia **59**: 419–444. [Mailing date for pp. 419–432: 4 Dec. 1907, for pp. 433–444: 17 Jan. 1908].

Fricke, R. & Kulbicki, M. (2006): Checklist of the shore fishes of New Caledonia. – In: Payri, C. E. & Richer de Forges, B. (eds.): Compendium of marine species from New Caledonia. – Documents scientifiques et techniques, Institut de Recherche pour le Développement Nouméa **II7**, pp. 313–357, pls. 15/1 and 15/2.

Grant, E. M. (1987): Fishes of Australia, 480 pp.; Brisbane (E. M. Grant Printery Ltd.).

Griffiths, S. P. (2003): Spatial and temporal dynamics of temperate Australian rockpool ichthyofaunas. – Marine and Freshwater Research **54**: 163–176.

Günther, A. (1861): Catalogue of the acanthopterygian fishes in the collection of the British Museum **3**: XXVI + 586 pp.; London (British Museum).

GÜNTHER, A. (1880): Report on the shore fishes procured during the voyage of H.M.S. Challenger in the years 1873–1876. – Report on the scientific results of the voyage of H.M.S. Challenger during the years 1873–76 under the command of Captain GEORGE S. NARES, R.N., F.R.S. and Captain FRANK TOURLE THOMSON, R.N., Zoology **1**: 1–82, pls. 1–32.

HUTCHINS, [J.] B. (1994): A survey of the nearshore fish fauna of Western Australia's west and south coasts. The Leeuwin Province. – Records of the Western Australian Museum, Supplement **46**: 1–66.

HUTCHINS, J. B. (2001): Checklist of the fishes of Western Australia. – Records of the Western Australian Museum, Supplement **63**: 9–50.

HUTCHINS, [J.] B. & SWAINSTON, R. (1986): Sea fishes of southern Australia, 180 pp.; Daglish, Western Australia (Swainston Publishing).

JOHNSON, J. W. (1999): Annotated checklist of the fishes of Moreton Bay, Queensland, Australia. – Memoirs of the Queensland Museum **43** (2): 709–762.

KNER, R. (1864): Specielles Verzeichniss der während der Reise der kaiserlichen Fregatte „Novara" gesammelten Fische. II. Abtheilung. – Sitzungsberichte der kaiserlichen Akademie der Wissenschaften zu Wien **51**: 499–504.

KUITER, R. H. (1996): Guide to sea fishes of Australia, 434 pp.; Sydney (New Holland Publishers).

LAST, P. R., SCOTT, E. O. G. & TALBOT, F. H. (1983): Fishes of Tasmania, 563 pp.; Hobart (Tasmanian Fisheries Development Authority).

LEVITON, A. E. & GIBBS, R. H., Jr. (1988): Standards in ichthyology and herpetology. Standard symbolic codes for institution resource collections in herpetology and ichthyology. Supplement no. 1: Additions and corrections. – Copeia **1988**: 280–282.

LEVITON, A. E., GIBBS, R. H., Jr., HEAL, E. & DAWSON, C. E. (1985): Standards in herpetology and ichthyology: part I. Standard symbolic codes for institutional resource collections in herpetology and ichthyology. – Copeia **1985**: 802–832.

MACLEAY, W. (1881): Descriptive catalogue of the fishes of Australia. Part III. – Proceedings of the Linnean Society of New South Wales **6** (1): 1–138.

MCCULLOCH, A. R. (1929): A check-list of the fishes recorded from Australia. – Memoirs of the Australian Museum Sydney **5** (3): 329–436.

MCCULLOCH, A. R. & WHITLEY, G. P. (1925): A list of the fishes recorded from Queensland waters. – Memoirs of the Queensland Museum **8** (2): 125–182.

NEIRA, F. J., MISKIEWICZ, A. G. & TRNSKI, T. (eds.) (1998): Larvae of temperate Australian fishes. Laboratory guide for larval fish identification, XIX + 474 pp.; Nedlands, Western Australia (University of Western Australia Press).

OGILBY, J. D. (1915): On some new or little-known Australian fishes. – Memoirs of the Queensland Museum **3**: 117–129, pls. 29–30.

RICHARDSON, J. (1839): Account of an interesting collection of fish formed at Port Arthur in Van Diemen's Land, by T. J. LEMPRIERE, Esq. – Proceedings of the Zoological Society of London **7**: 95–100.

RICHARDSON, J. (1842): Description of Australian fish. – Transactions of the Zoological Society of London **3** (1): 69–131, pls. 4–6.

SCOTT, T. D., GLOVER, C. J. M. & SOUTHCOTT, R. V. (1974): The marine and freshwater fishes of South Australia. 2nd edition, 393 pp.; Adelaide (D. J. Woolman).

SILBERSCHNEIDER, V. & BOOTH, D. J. (2001): Resource use by *Enneapterygius rufopileus* and other rockpool fishes. – Environmental Biology of Fishes **61**: 195–204.

SPRINGER, V. G. (2001): Blenniidae. Blennies (combtooth and sabertooth blennies). – In: CARPENTER, K. E. & NIEM, V. H. (eds.): FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Volume **6**. Bony fishes, part 4 (Labridae to Latimeriidae), estuarine crocodiles, sea turtles and marine mammals, pp. 3538–3546; Rome (FAO).

TURNER, M. L. & NORMAN, M. D. (1998): Fishes of Wilsons Promontory and Corner Inlet, Victoria: composition and biogeographic affinities. – Memoirs of the Museum of Victoria **57** (1): 143–165.

WAITE, E. R. (1921): Catalogue of the fishes of South Australia. – Records of the South Australian Museum **2** (1): 1–208, pl. 1.

WHITLEY, G. P. (1929): R. M. JOHNSTON's memoranda relating to the fishes of Tasmania. – Papers and Proceedings of the Royal Society of Tasmania **1928**: 44–68, pls. 2–4.

WHITLEY, G. P. (1930): Ichthyological miscellanea. – Memoirs of the Queensland Museum **10** (1): 8–31, pl. 1.

WHITLEY, G. P. (1931): New names for Australian fishes. – Australian Zoologist **6** (4): 310–334, pls. 25–27.

YEARSLEY, G. K., LAST, P. R. & MORRIS, G. B. (1997): Codes for Australian Aquatic Biota (CAAB): an upgraded and expanded species coding system for Australian fisheries databases. – CSIRO Marine Laboratories, Report **224**, 4 unnumbered pp. + pp. 1–16 + 6 unnumbered pp. + pp. 1–15 + 85 unnumbered pp.

Author's address:

Dr. HANS BATH, Luisenstrasse 45, 66953 Pirmasens, Germany

Manuscript received: 5.IV.2007, accepted: 21.V.2007.