Rec. West. Aust. Mus., 1976, 4(4)

CHEILODACTYLUS RUBROLABIATUS, A NEW SPECIES OF MORWONG (PISCES: CHEILODACTYLIDAE) FROM WESTERN AUSTRALIA, WITH A KEY TO THE CHEILODACTYLID FISHES OF AUSTRALIA.

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[Received 10 June 1976. Accepted 20 July 1976. Published 31 December 1976.]

ABSTRACT

Cheilodactylus rubrolabiatus is described from 22 specimens collected off Western Australia between Point Maud and Albany. It is distinguished by a colour pattern consisting of seven oblique dark brown bars and relatively high dorsal fin ray and lateral-line scale counts. In addition a key to the cheilodactylid fishes of Australia and a table giving the allocations of all nominal species of cheilodactylids from Australia and New Zealand are presented.

INTRODUCTION

Our purpose in this paper is to describe a new species of fish that is apparently common in certain areas along the coast of Western Australia. Although we have not attempted a revision of the Australian species of *Cheilodactylus*, a key to the Australian species of Cheilodactylidae is presented — both as an aid in identifying these fishes and as a representation of the affinities of the new species. As a further guide to the taxonomy of these species, we give a list (Table 1) of all nominal species of Australian and New Zealand cheilodactylids, with their allocation to the species we recognise as valid.

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Table 1: Species of Cheilodactylidae described from Australia and New Zealand, with their present allocations

NOMINAL SPECIES	PRESENT ALLOCATION
Sciaenoides abdominalis Richardson, 1843	*Nemadactylus macropterus*
Chilodactylus allporti Günther, (Sept.) 1872	*Cheilodactylus spectabilis*
Chilodactylus annularis Castelnau, 1879	*Cheilodactylus fuscus*
Chilodactylus asper Klunzinger, 1872	*Cheilodactylus spectabilis*
Cheilodactylus aspersus Richardson, 1850*	*? Cheilodactylus monodactylus*
Cheilodactylus carponemus Cuvier, 1829	*Nemadactylus macropterus*
Nemadactylus concinnus Richardson, 1839	*Nemadactylus macropterus*
Psilocranium coxii Macleay, 1884	*Dactylophora nigricans*
Chilodactylus douglasii Hector, 1875	*Nemadactylus douglasii*
Cheilodactylus ephippium McCulloch & Waite, 1916	*Cheilodactylus ephippium*
Chilodactylus fuscus Castelnau, 1879	*Cheilodactylus fuscus*
Cheilodactylus gibbosus Richardson, 1841	*Cheilodactylus gibbosus*
Cichla macropterus Schneider, in Bloch & Schn., 1801	*Nemadactylus macropterus*
Chilodactylus morwong Ramsay & Ogilby, 1887	*Nemadactylus douglasii*
Chilodactylus mullhallii Macleay, 1882	*Dactylophora nigricans*
Chilodactylus nebulosus Klunzinger, 1872	*Dactylophora nigricans*
Chilodactylus nigrescens Saville-Kent, 1897	*nomen nudum*
Cheilodactylus nigricans Richardson, 1850	*Dactylophora nigricans*
Cheilodactylus nigripes Richardson, 1850	*Cheilodactylus nigripes*
Chilodactylus polyacanthus Ramsay & Ogilby, 1886	*nomen nudum*
Cheilodactylus rubrofasciatus Castelnau, 1878	*Cheilodactylus spectabilis*
Dactylophora semimaculata De Vis, 1883	*Dactylophora nigricans*
Chilodactylus spectabilis Hutton, (Feb.) 1872	*Cheilodactylus spectabilis*
Zeodrius vestitus Castelnau, 1879	*Cheilodactylus gibbosus*
Chilodactylus vizonarius Saville-Kent, 1888	*Cheilodactylus nigripes*

*Richardson's description of *C. aspersus* matches no Australian cheilodactylid. If Hureau (1969) is correct in equating *C. aspersus* and *C. monodactylus* (Carmichael, 1818); then the specimens that Richardson received from Lempriere, which were supposed to have all come from Port Arthur in Tasmania, were augmented with specimens collected elsewhere. An obvious example of a similar occurrence is that of *Oplegnathus conwayi* Richardson, 1840 (cf. Barnard, 1927: 506). Another example from the Lempirere collection may be *Atherina presbyteroides* Richardson, 1843 which Whitley (1943) was unable to identify with any species of Australian atherinid.

METHODS

Measurements were made with dial calipers to the nearest 0.1 mm. Standard length (SL) is measured from the premaxillary symphysis to the

end of the hypural bones. Snout length does not include the upper jaw; eye diameter is the horizontal diameter of the dermal orbit; interorbital width is the least width of the bony interorbital region; anal fin length is measured from the origin of the fin to the tip of the longest ray; dorsal and anal fin spines are measured from their base, rather than the point where they emerge from the scaly sheath; caudal peduncle length is the distance from the base of the last anal fin ray to the lower end of the caudal fin base.

Lateral-line scale counts do not include any scales posterior to the base of the caudal fin; gill-raker counts are given as upper + lower limb rakers; the last ray of the dorsal and anal fins is usually double (split to its base), but counted as a single ray.

Type-specimens have been deposited at the following institutions: Australian Museum, Sydney (AM); British Museum (Natural History), London (BMNH); C.S.I.R.O. Division of Fisheries and Oceanography, Cronulla, N.S.W. (CSIRO); Rhodes University, Grahamstown, South Africa (RUSI); United States National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM); Western Australian Museum, Perth (WAM).

Cheilodactylus rubrolabiatus n. sp.

(Figs 1 and 2; Table 2)

Holotype

WAM P 25225-001, 182 mm SL, collected with spear near boat launching ramp at Woodman's Point, Western Australia (32°08.5′ S, 115°45.6′ E) in two metres by G.R. Allen on 28 March 1975.

Paratypes

AM I.18854-001, 102 mm SL, collected at east end of Nancy Cove, Rottnest Island, Western Australia on 18 January 1953; BMNH 1975.9.23.10, 200 mm SL, collected with rotenone at Cape Vlaming, Rottnest Island, Western Australia (32°01.5′ S, 115°26.7′ E) by zoology class, University of Western Australia on 9 March 1963; CSIRO C 2694-2700, 7 specimens, 85-105 mm SL, collected at east end of Nancy Cove, Rottnest Island on 18 January 1953; CSIRO C 2712, 202 mm SL, collected at Strickland Bay, Rottnest Island on 21 January 1954; RUSI 835, 127 MM SL, same data as BMNH 1975.9.23.10; USNM 214831, 157 mm SL, collected at Jervoise Groyne, near Woodman's Point, Western Australia by M. Graham and J. Lucas on 2 March 1963; WAM P 4879, 233 mm SL, collected at Cape

Vlaming, Rottnest Island, Western Australia by Fisheries Department on 9 March 1960; WAM P 5562, 201 mm SL, same data as BMNH 1975.9.23.10; WAM P 5925, 127 mm SL, collected with spear at Triggs Island, near Perth, Western Australia by D. Parker on 7 January 1964; WAM P 10529, 41.0 mm SL, collected about 3.2 km south of Maud's Landing, Western Australia (23°07.5′ S, 113°46′ E) by N.E. Milward on 6 October 1957; WAM P 22244, 64.5 mm SL, collected at Rottnest Island, Western Australia by E. Hodgekin on 26 February 1972; WAM P 22580, 112 mm SL, collected at Rockingham (approximately 40 km south of Perth), Western Australia by M. Beynan on 10 March 1973; WAM P 25255-003, 2 specimens, 93 & 95 mm SL, collected with rotenone at Cape Clairault, Western Australia (33°41.5′ S, 115°00′ E) in 1-2 metres by G.R. Allen and J. Scott on 25 April 1975; WAM P 25473-001, 34.8 mm SL, collected with rotenone at whaling station near Albany, Western Australia (35°06′ S, 117°57′ E) in 1-2 metres by G.R. Allen and R.R. Allen on 13 August 1975.

Diagnosis

Dorsal fin rays usually XVII,30-34; anal fin rays III,8; height of anal fin greater than length of its base; anterior dorsal spines at least twice length of last dorsal spine; lateral-line scales 60-64; juveniles and adults without bony knobs in front of eyes and at front of snout; body generally pale with seven oblique dark bars or blotchy bands; lips of adults bright red in life.

Description

(Counts and proportions of the paratypes, when different from the holotype, are given in parentheses; number of paratypes with a particular count is shown in square brackets.)

Dorsal fin XVII (XVI[2] or XVII[20]), 31 (30[4], 31[7], 32[8], 33[2], 34[1]); anal fin III,8; pectoral fin ii,6,vi; lateral-line scales 60 (60[2], 61[3], 62[6], 63[7], 64[4]); principal caudal fin rays 9 + 8, branched rays 7 + 6; 6 rows of large scales between middle of spinous dorsal fin and lateral line; 13 rows below lateral line to origin of anal fin; gill-rakers 8 + 15 (8[10], 9[12] + 15[10], 16[10], 17[2]); branchiostegal rays 6; vertebrae 34: 14 precaudal + 20 caudal.

Body compressed; upper profile of head and body moderately arched; greatest body depth 2.9 (2.7 to 3.2), head 3.1 (3.1 to 3.3) in standard length; snout 3.1 (2.9 to 3.7), eye diameter 4.4 (3.5 to 4.6), interorbital width 4.9 (4.7 to 5.5), least depth of caudal peduncle 2.8 (2.9 to 3.7), length of caudal peduncle 1.1 (1.0 to 1.2), all in head length.

Origin of dorsal fin above dorsal end of operculum; dorsal spines increasing in length from first to fourth spines; fourth and fifth spines

subequal, remaining spines gradually decreasing in length posteriorly; fifth spine 2.4 (2.0 to 2.8), last spine 3.7 (4.0 to 4.7) in head length; anterior third of soft dorsal fin rays subequal to longest dorsal spine, remaining rays gradually decreasing in length posteriorly; anal fin origin less than pupil width from anus; longest anal spine about 1/3 length of longest anal ray; anal fin length 1.2 (1.2 to 1.4), longest soft ray 1.4 (1.4 to 1.7), last ray 3.7 (3.7 to 4.8), all in head length; six ventral rays of pectoral fin unbranched, thickened, semi-detached; rays four to six, counting from bottom, prolonged slightly past margin of fin; fifth ray longest, 1.0 (1.0 to 1.1) in head length; upper margin of pectoral fin 1.5 (1.5 to 1.8) in head length; pelvic fins relatively short, 1.5 (1.4 to 1.7) in head length; caudal fin emarginate to forked, its length 1.2 (1.1 to 1.4) in head length.

Scales cycloid; scales on head very small, the largest about 1/7 or 1/8 size of largest body scales; cheek scales partially embedded; scales on top of head extending to about level of anterior nostrils; snout, preorbital, lips, chin, branchiostegal membrane, fleshy opercular flap, and dermal ring around eye lacking scales; ventral surface of thorax covered with minute, embedded scales; scaly sheath about equal to pupil diameter in width at base of dorsal and anal fins; sheath comprising two rows of fairly large scales along base of spiny dorsal fin and about three to five rows of smaller, more irregularly arranged scales at base of soft dorsal fin.

A pair of large nostril openings on each side of snout, just in front of eye: anterior nostril opening about twice as long as posterior one, with low fleshy rim and elevated dermal flap anteriorly and posteriorly; anterior flap fringed with about six to eight cirri, posterior flap fringed with about 12 to 15 cirri; pores of lateralis system on head tiny and inconspicuous; no spines on head bones; rear margin of opercle ending in two, widely spaced, blunt points; margin of preopercle entire.

Mouth relatively small; maxilla not quite reaching a vertical at front edge of orbit; lips thick and fleshy; upper jaw slightly protrusile; both jaws with numerous, cardiform teeth in several rows; teeth are embedded in thick fibrous tissue, with only their tips exposed (except for those teeth on outer margin of jaws); height of longest teeth about equal to greatest diameter of posterior nares; vomer and palatines toothless; tongue wide, squarely cut across the front; gill-rakers rather short, about half pupil diameter.

Gas bladder well developed, firmly attached to dorsal surface of body cavity.

Colour of holotype when fresh: head and body generally a very pale tan with seven oblique brown bars on body, the first extending from dorsal

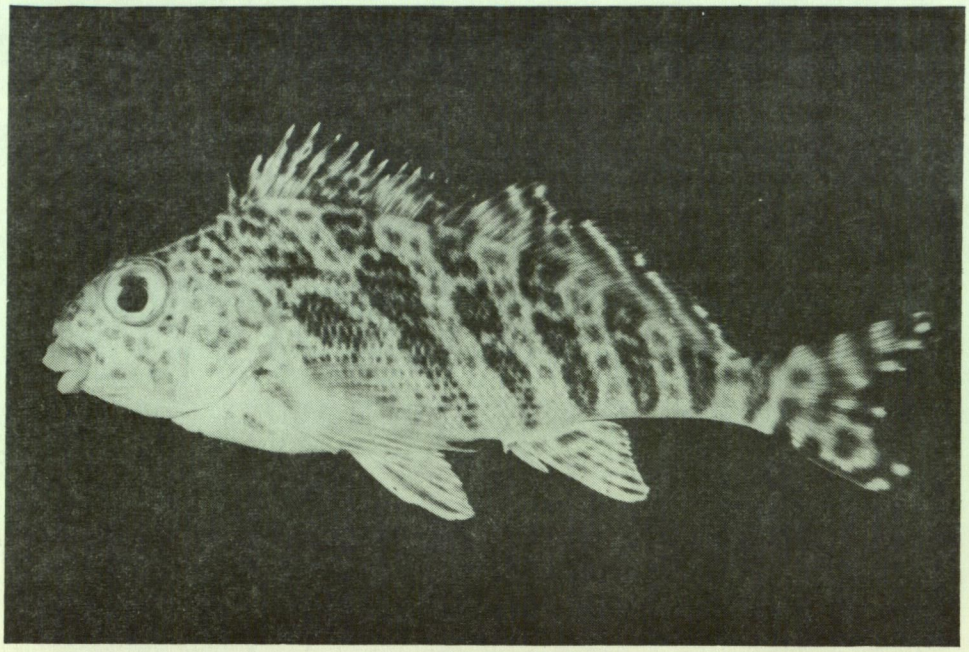

Fig. 1: *Cheilodactylus rubrolabiatus*, paratype, 93.0 mm SL; Cape Clairault, Western Australia.

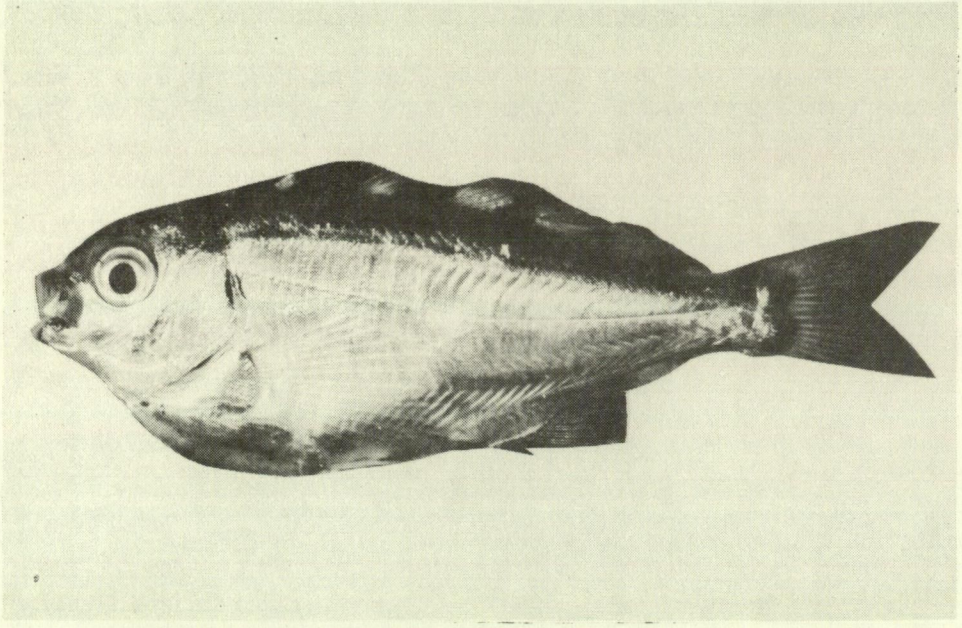

Fig. 2: *Cheilodactylus rubrolabiatus*, paratype, 34.8 mm SL; Albany, Western Australia. (Note: The fins appear much darker than normal because the specimen was originally photographed on a dark background.)

fin origin to pelvic fins, and the last across base of caudal fin; pale interspaces with faint network of blotches and spots giving overall pale golden-brown appearance; head with numerous brown spots, more or less arranged in oblique bands, the first across side of snout to angle of preopercle, the second through eye, and the third on nape; short brown band extending from corner of mouth to anterior part of lower edge of preopercle; lips pink; several brown spots on pectoral fin base and side of thorax; fins pale, covered with brown spots, those of pectoral fins confined to dorsal half of fin. The oblique bands of adults are prominently dark brown, and the lips usually bright red.

The smallest paratype (Fig. 2) was primarily silvery in life, grading to blackish above the lateral line; a series of seven black blotches on dorsal fin and dorsal surface of caudal peduncle.

Colour in 70% ethanol: pattern of holotype and larger paratypes generally similar to fresh colours described above except the pale interspaces on the body are dusky grey-brown, the lips are tan, and the pectoral fins are mostly grey, with a whitish distal margin; pelvic and anal fins mostly dark grey.

The 41.0 mm paratype is primarily tan in preservative, with pale fins; oblique dark bands clearly visible on dorsal fin, but just barely discernible on body; three brown bars across caudal fin. The remaining paratypes clearly exhibit the trend of the bars on the body becoming more distinct and their continuations onto the dorsal fin breaking up into spots, as the fish grows.

Remarks

In general appearance, *C. rubrolabiatus* most closely resembles *C. spectabilis* Hutton of New Zealand, New South Wales, Victoria and Tasmania. The latter species has a similar number of dark bars on the body, but they are more uniform (those of *C. rubrolabiatus* are somewhat blotchy) and the posterior bars are vertical rather than oblique. Also the dorsal and caudal fins of *C. spectabilis* are nearly uniform in colour; whereas those of *C. rubrolabiatus* are pale with dark spots and bands. These two species also differ in meristic characters as indicated in the key below.

In addition to the characters noted in the key below, *C. rubrolabiatus* differs from *C. fuscus* in having 20 (rather than 21) caudal vertebrae. Of the non-Australian species of *Cheilodactylus*, only *C. fasciatus* Lacepède (1803) of South Africa and *C. zonatus* Cuvier in Cuvier and Valenciennes (1830) of China and Japan are at all similar to *C. rubrolabiatus*. The South

Table 2: Measurements (in thousandths of standard length) of selected type-specimens of *Cheilodactylus rubrolabiatus*

DIMENSION	WAM P25225-001*	WAM P22244	CSIRO C2698	CSIRO C2695	CSIRO C2694	WAM P5925	USNM 214831	BMNH 1975.9.23.10	WAM P4879
Standard length (mm)	182	64.5	85	94	110.	126.5	156.5	200	233
Greatest body depth	349	322	328	316	309	356	371	340	322
Greatest body width	148	118	139	133	136	154	147	136	139
Head length	291	341	319	313	314	310	313	323	296
Snout length	93	93	101	100	101	103	101	104	86
Upper jaw length	73	78	80	74	84	85	86	82	73
Eye diameter	66	96	87	84	76	77	75	73	64
Interorbital width	59	62	65	62	59	61	65	60	63
Caudal peduncle (least depth)	105	93	92	89	86	99	102	100	101
Caudal peduncle (length)	258	276	282	277	282	292	307	265	275
Spinous dorsal fin base	313	326	312	319	309	320	326	320	309
Soft dorsal fin base	429	357	394	394	391	395	377	410	403
Anal fin base	121	124	125	126	115	126	132	120	120
Length of anal fin	247	248	236	238	227	267	256	250	242
Length of caudal fin	241	248	253	245	236	273	266	258	249
Length of pelvic fin	201	202	200	181	182	206	204	205	208
Longest pectoral fin ray	297	298	282	287	291	308	294	307	300
Longest dorsal fin spine	121	124	127	137	151	147	153	130	131
Last dorsal fin spine	78	**	72	70	73	77	78	78	64
Longest anal fin ray	209	209	212	202	182	213	214	213	197

*Holotype

**Damaged

African species has smaller, more numerous scales, fewer dorsal fin rays, more dorsal spines, and a different pattern of dark bars on the body, (Smith, 1961). *C. zonatus* has fewer lateral-line scales, prominent white spots on the caudal fin and peduncle, black blotch on the upper rear edge of the operculum, and the dark bars on the body are narrower than in *C. rubrolabiatus*, (Lindberg and Krasyukova, 1969).

C. rubrolabiatus is known from the subtropical coral reefs near Pt Maud (approximately 23° S) southwards to the Albany area. It is common in the Houtman Abrolhos (about 65 km offshore between 28° - 29° S), in the Perth area, and at Geographe Bay (33.5° S). South of the Abrolhos it frequents rocky reefs at depths ranging from surge pools to at least 10 metres. North of the Abrolhos, it is also found in coral reef areas.

The young of *C. rubrolabiatus* appear to initially colonise inshore areas as post-larvae in the distinctive 'paper-fish' stage (Fig. 2). At this stage, they somewhat resemble a nomeid fish: the body is very compressed and silvery, except for some dark markings above the lateral line and at the base of the caudal fin. These post-larvae appear to be more pelagic than the normally benthic adults and older juvenile fish. Similar 'paper-fish' stages have been described and illustrated for *Nemadactylus macropterus* (Vooren, 1973 and Whitley, 1957); for *C. fuscus* and *N. douglasi* (Whitley, 1957); for *Palunolepis grandis* and *P. brachydactylus* (Smith, 1961); and for *C. variegatus* (Nielson, 1963). This distinctive post-larval stage may be characteristic of all cheilodactylids, and thus a useful character to distinguish them from other 'cirrhitiform' fishes.

Juveniles (more than 80 mm SL) look essentially like adults, and both are normally benthic fish, commonly seen 'perched' on rock or coral in the same fashion as the tropical hawkfishes (Cirrhitidae). They feed on benthic invertebrates and algae.

The species is well known to local anglers and spearfishermen, who refer to it as the 'red-lip morwong' or simply 'red-lips'; hence the Latin name *Cheilodactylus rubrolabiatus.*

Although this paper does not purport to be a revisionary work, a definition of the genus *Cheilodactylus* seems called for.

Cheilodactylus Lacepède, 1803

Cheilodactylus Lacepède, 1803:5 (Type-species: *Cheilodactylus fasciatus* Lacepède, 1803, by monotypy).

Clodactylus Rafinesque, 1815:88 (Unjustified substitute for *Cheilodactylus* Lacepède, 1803, and therefore taking the same type-species).

Pteronemus Hoeven, 1833:247 (Type-species: *Pteronemus cynaedus* Hoeven, [= *C. fasciatus* Lacepède] by subsequent designation of Whitley, 1957).

Trichopterus Gray, 1854:162 (Type-species: *Trichopterus indicus* Gray, by monotypy; preoccupied by *Trichopterus* Agassiz, 1845, a fish).

Chilodactylus Günther, 1860:78 (Unjustified emendation of *Cheilodactylus* Lacepède, 1803; and therefore taking the same type-species).

Acantholatris Gill, 1862:119 (Type-species: *Chaetodon monodactylus* Carmichael, 1818, by original designation).

Chirodactylus Gill, 1862:119 (Type-species: *Cheilodactylus antonii* Cuvier and Valenciennes, 1833, by original designation).

Goniistius Gill, 1862:120 (Type-species: *Cheilodactylus zonatus* Cuvier, 1830, by original designation).

Zeodrius Castelnau, 1879:377 (Type-species: *Zeodrius vestitus* Castelnau, 1879 [= *Cheilodactylus gibbosus* Richardson, 1841], by subsequent designation of Jordan, 1919).

Morwong Whitley, 1957:65 (Type-species: *Chilodactylus fuscus* Castelnau, 1879, by original designation).

Diagnosis

Body compressed, oblong, with moderate-sized, cycloid scales. Mouth small, terminal; upper jaw slightly protrusile; lips thick and fleshy in adults; no supramaxilla. Teeth cardiform, in several rows on jaws; none on vomer or palatines. Gill membranes united, free from isthmus. Preopercle entire; opercle ending in two, widely spaced, blunt points. One dorsal fin with 16-19 spines and 23-37 rays. Anal fin with three spines and 8-12 rays; anterior rays much longer than posterior rays. Dorsal and anal fins with scaly sheath along the base. Caudal fin moderately forked, with 13 branched rays. Pectoral fin with 13-15 rays, the lower 4-7 unbranched, thickened, slightly prolonged. Branchiostegal rays six. Gas bladder present. Vertebrae 34 or 35, including hypural centrum.

The currently accepted generic classification of the family Cheilodactylidae (as gleaned from the works of Penrith, 1967; Smith, 1961; Whitley, 1957; and Norman, 1937) is most unsatisfactory. It seems that the genera *Goniistius*, *Acantholatris*, *Chirodactylus*, *Zeodrius*, and *Morwong* were erected solely because their type-species differed in some way from *Cheilodactylus fasciatus*. No attempt was made to assess these differences or demonstrate their greater significance as compared with the intra-generic

differences. In fact, the differences between these various type-species and *C. fasciatus* are no greater than those between *C. fasciatus* and any other species of *Cheilodactylus*. In erecting his genera, Gill (1862) was also led astray by Günther's (1860) erroneous datum of five hundred branchiostegal rays in *C. fasciatus*.

KEY TO THE AUSTRALIAN SPECIES OF THE FAMILY CHEILODACTYLIDAE

1a. Anal fin III,14-19; anterior rays not much longer than posterior ones; anal fin base longer than length of longest ray
... ... 2

1b. Anal fin III,8-10; anterior rays much longer than posteriors; height of anal fin greater than length of its base
... ... 4

2a. Anal fin III,17-19; dorsal fin XVI-XVII,30-31; lateral-line scales 64-68; head and body blue dorsally, paler ventrally, with bright yellow lines around eyes and across snout (Western Australia, South Australia, Victoria and Tasmania)
... ... *Nemadactylus valenciennesi*

2b. Anal fin III,14-17; dorsal fin XVII-XIX, 25-30; lateral-line scales 53-60
... ... 3

3a. Anal fin III,14-15; broad black bar across nape from dorsal fin origin to upper edge of operculum; young (<60 mm SL) without black blotch near middle of lateral line (Western Australia, South Australia, Victoria, Tasmania & New South Wales)
... ... *Nemadactylus macropterus*

3b. Anal fin III,16-17; no black bar across nape; young (<60 mm SL) with small black blotch on flanks near middle of lateral line

(Queensland, New South Wales, Victoria, and Tasmania)

... ... *Nemadactylus douglasii*

4a. Dorsal fin spines XVII-XVIII, those near front of fin at least twice length of last spine; cheeks scaly

... ... 5

4b. Dorsal fin XV-XVI,24-26; anterior spines not elevated; cheeks naked; lateral-line scales 45-55 (Western Australia, South Australia, Victoria, Tasmania & New South Wales)

... ... *Dactylophora nigricans*

5a. Dorsal fin XVIII,24-28; lateral-line scales 65-70; head and body pale, with broad dark vertical band from spinous dorsal to pelvic fins; fainter dark bands usually present from soft dorsal to anal fins and on front of head (Western Australia, South Australia, Victoria, and Tasmania)

... ... *Cheilodactylus nigripes*

5b. Dorsal fin XVI-XVIII,26-35; lateral-line scales 48-64

... ... 6

6a. Spinous dorsal fin much elevated anteriorly (4th spine 4 to 5 times length of last spine); body pale with broad oblique dark bands: the longest runs from middle dorsal spines, along base of fin to peduncle and lower lobe of caudal fin; a second band goes from dorsal fin origin to belly; a V-shaped band runs from lower edge of orbit to pectoral fin base, thence up to join its fellow on nape; two dark bands cross interorbital, and a third crosses snout; soft dorsal fin and upper lobe of caudal fin yellow (Western Australia, New South Wales and Queensland)

... ... *Cheilodactylus gibbosus*

6b. Spinous dorsal fin not much elevated anteriorly (4th spine only about twice length of last

spine); colour not as above
... ... 7

7a. Dorsal fin rays 26-27; lateral-line scales 48-54; head and body pale, with 6 to 8 vertical dark brown bars, the last encircling caudal peduncle, the first across interorbital area (New South Wales, Victoria, and Tasmania)
... ... *Cheilodactylus spectabilis*

7b. Dorsal fin rays 30-34; lateral-line scales 60-64
... ... 8

8a. Body generally reddish-brown, paler ventrally; adults with two prominent bony knobs in front of eyes and another at front of snout; anal fin rays 9 (8 in only 1 of 10 specimens counted) (South Australia, Victoria, New South Wales, and Queensland)
... ... *Cheilodactylus fuscus*

8b. Body pale with seven oblique dark bars or blotchy bands: first across nape and last at base of caudal fin; anal fin rays 8 (Western Australia)
... ... *Cheilodactylus rubrolabiatus* n. sp.

ACKNOWLEDGEMENTS

We thank Ian S.R. Munro, C.S.I.R.O. Division of Fisheries and Oceanography, for access to specimens in the Fish Collection under his care. Mr Munro's index of Australian fish literature greatly facilitated the preparation of this paper. We are also indebted to Mr Munro for his criticisms of the first draft of the manuscript. J. Braun provided logistic support with his boat and diving equipment. J.K. Scott and G. Allen's father, R.R. Allen, assisted with collecting.

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