

## THE INDO-PACIFIC PIPEFISH GENUS *UROCAMPUS* (SYNGNATHIDAE)

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*Abstract.*—The genus *Urocampus* Günther is rediagnosed and compared with other genera with confluent superior trunk and tail ridges. Recognized species (*U. nanus* Günther, *U. carinirostris* Castelnau) are redescribed and illustrated and notes are provided on variation, distribution, and pouch larvae. The little known *Urocampus southwelli* Duncker is provisionally referred to the genus *Siokunichthys* Herald.

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This report, a continuation of revisionary studies on pipefishes, treats the genus *Urocampus* Günther which is in part characterized by the presence of confluent superior trunk and tail ridges. This feature is shared with a wide variety of temperate-tropical genera and some of these have been reviewed recently by Dawson (1976, 1977a, 1977b, 1979) and Dawson and Allen (1978). The two recognized species of *Urocampus* (*nanus*, *carinirostris*) are poorly known and existing descriptions are largely inaccurate or incomplete. Present study material is limited but the type material has been examined and males and females of each species have been illustrated.

Measurements are in millimeters (mm); proportional data are referred to standard length (SL) or head length (HL); total length (TL) measurements are given for pouch larvae; color descriptions are from specimens preserved in alcohol; depths are in meters (m); other methods follow Dawson (1977b). Abbreviations for repositories of materials examined follow: AMS—Australian Museum, Sydney; BMNH—British Museum (Natural History); CAS—California Academy of Sciences; CAS-SU—former Stanford University specimens housed as CAS; FMNH—Field Museum of Natural History; GCRL—Gulf Coast Research Laboratory Museum; MNHN—Muséum National d'Histoire Naturelle, Paris; NMV—National Museum of Victoria, Melbourne; QM—Queensland Museum, Brisbane; QVM—Queen Victoria Museum, Launceston, Tasmania; SAM—South Australian Museum, Adelaide; UMMZ—University of Michigan Museum of Zoology; USNM—National Museum of Natural History, Smithsonian Institution; WAM—Western Australian Museum, Perth; YCMP—Yokosuka City Museum.

### *Urocampus* Günther

*Urocampus* Günther, 1870:179 (orig. descr.; type-species *U. nanus* Günther 1870, by monotypy).

*Diagnosis.*—Superior trunk and tail ridges confluent, superior ridges not arched dorsad below dorsal-fin base, inferior trunk and tail ridges discontinuous near anal ring, lateral trunk ridge confluent with inferior tail ridge. Median dorsal snout ridge distinct, entire, usually elevated in adult males, not confluent with supraorbital ridges, usually fails to reach interorbital; supraorbital ridges elevated slightly with interorbital depressed between; supraopercular ridges absent; median dorsal head ridges low; median longitudinal opercular ridge essentially straight, usually crosses half or more of opercle in subadults and adults and margined with fine striae above and below; pectoral-fin base not protruding strongly laterad, without prominent ridges. Principal body ridges distinct, not elevated strongly, the margins entire, indented but not deeply notched between rings; scutella small, without longitudinal keels or other ornamentation; dorsum of body flat to somewhat concave anteriorly, becoming convex toward dorsal-fin insertion, angled clearly upward about dorsal-fin base, becoming gradually flattened caudad; venter of trunk V-shaped, usually with a median keel-like ridge in adults; venter of tail essentially flat; posterior tail rings usually shortened progressively toward caudal-fin base. Without spines or prominent denticulations; subadults and adults usually with simple or branched dermal flaps on head and/or body, flaps essentially round in section. Without odontoid processes (Dawson and Fritzsche, 1975) in jaws. Brood pouch under tail, pouch plates absent, pouch closure the semi-type of Herald (1959). Head length ca. 10–13 in SL; snout length ca. 2.1–3.6 in HL; rings 7–12 + 49–59; dorsal-fin rays 13–17; dorsal-fin origin on 5th–9th tail ring, its base distinctly elevated, the membranes closely bound to fin rays; total subdorsal rings 2.5–4.0; pectoral-fin rays 7–10; anal-fin rays typically 2; caudal fin minute in subadults and adults, typically with 10 rays.

*Comparisons.*—Among some 22 genera of pipefishes with confluent superior trunk and tail ridges, subadults and adults of only *Urocampus* and *Siokunichthys* Herald share the combination of confluent-lateral trunk and inferior tail ridges, presence of pectoral fins and dorsal-fin origin on the 2nd–9th tail ring. *Urocampus* is characterized by the presence of a well-developed anal fin, dermal flaps on most subadults and adults and a small to rudimentary caudal fin. The anal fin and dermal flaps are lacking in *Siokunichthys* and the caudal fin is relatively long and well developed. Furthermore, the head and body ridges are distinct and rather prominent in *Urocampus*, whereas the few persistent ridges in most *Siokunichthys* are low or vestigial and difficult to see even under  $\times 60$  magnification.

*Remarks.*—Since Günther's (1870) original description, the anal fin has been variously reported as present or absent in *Urocampus*. Although sometimes concealed within the anterior portion of the brood pouch in mature males, the anal fin is present in all examined subadults and adults. This fin is not visible in early pouch larvae but it is developed in specimens as small

as 14 mm SL. Dermal flaps occasionally are absent or lost from some specimens but they are present in most subadults and adults and are usually best developed in mature males. The caudal fin is very small and accurate counts of fin rays are difficult. Although atypical counts are not uncommon, the count is 10 in pouch larvae (of *carinirostris*) and most subadults and adults.

Duncker (1910) described *Urocampus southwelli* from two adult fish (40–45 mm TL) from Ceylon and later (1915) tentatively referred this species to the synonymy of *U. carinirostris* Castelnau. The type material is no longer available, but Duncker's (1910) description and figures show that *southwelli* (without anal fin) is distinct from *carinirostris* and it is here provisionally referred to *Siokunichthys*.

The two recognized species of *Urocampus* appear to frequent shallow coastal marine and estuarine habitats and are commonly associated with algal covered sedimentary bottoms.

### *Urocampus nanus* Günther

Figs. 1–2

*Urocampus nanus* Günther, 1870:179 (orig. descr.; Manchuria).

*Urocampus rikuzenius* Jordan and Snyder, 1901:10, pl. 7 (orig. descr.; Matsushima Bay, Japan).

*Diagnosis*.—Snout long, its length averages 2.2 in HL, trunk rings 10–12 (usually 10–11), dorsal-fin rays usually 16.

*Description*.—Dorsal-fin rays 15–17 ( $\bar{x}$  = 15.9), pectoral-fin rays 7–9 (8.2), rings 10–12 + 53–56 = 63–68 (66.2), total subdorsal rings 3.25–4.0 (3.5), dorsal-fin origin on 7th–9th (7.9) tail ring; see Tables 1–4 for additional counts. Proportional data based on 7 specimens 84.0–127.5 (105.9) mm SL follow: HL in SL 10.5–12.4 (11.5), snout length 2.4–4.0 (3.2), length of dorsal-fin base in HL 1.4–1.8 (1.6), anal ring depth in HL 4.0–6.1 (5.2), trunk depth in HL 2.1–3.3 (2.8), pectoral-fin length in HL 5.7–6.9 (6.4), length of pectoral-fin base in pectoral-fin length 1.5–2.1 (1.8).

Median dorsal snout ridge (Figs. 1–2) low to slightly concave in young and females, somewhat elevated in mature males but protrudes little above horizontal through dorsal margin of eye. Supraorbital ridges continue forward to terminate bilaterally above nares and near posterior end of median dorsal snout ridge; lateral profile of head not clearly depressed behind the eye; pectoral-fin base with two faint ridges.

Dermal flaps often distally bifurcate on dorsum of predorsal rings and profusely branched on median ventral trunk ridge, elsewhere mostly simple. Head with an enlarged barbel-like flap bilaterally near posterior end of mandible and single short flaps bilaterally above middle of opercle; pectoral-fin base with a minute flap; most trunk rings with a long flap near midline of dorsum, a short flap on or just above each lateral ridge and a long flap on

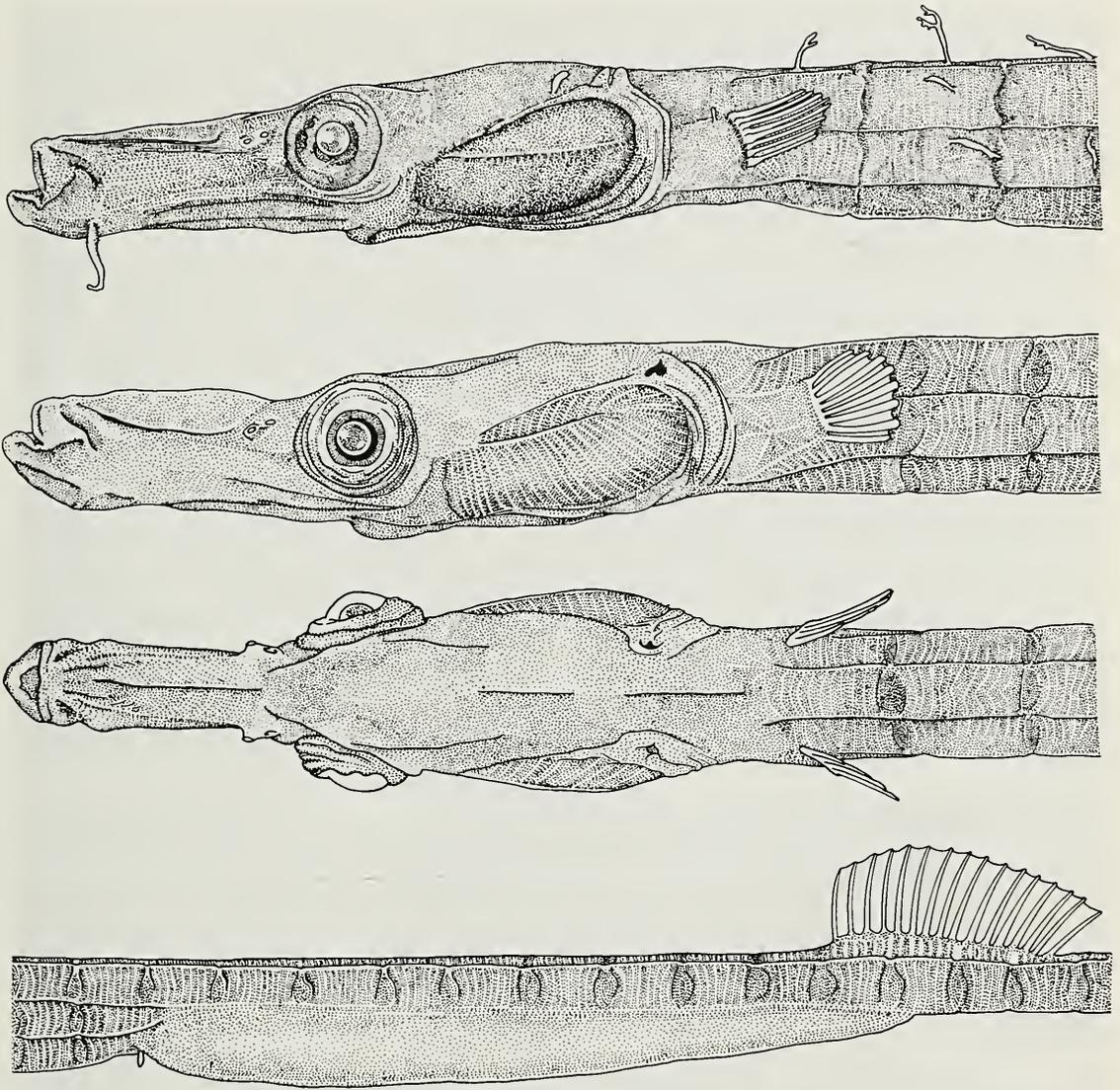


Fig. 1. *Urocampus nanus*: Lateral and dorsal aspects of head and anterior trunk rings, together with section of body illustrating ridge configuration, dorsal and anal fins, and brood pouch. **Top:** YCMP 3522 (84.0 mm SL, juvenile or female). **Remainder:** GCRL 15701 (99.5 mm SL, brooding male).

the median ventral ridge; predorsal tail rings with single median or paired bilateral flaps on the dorsum and single minute flaps just above each inferior ridge; short single or paired bilateral flaps present on dorsum to about the 9th postdorsal ring, the tail elsewhere devoid of flaps (description from YCMP 3522).

*Coloration.*—Ground color tan to dark brown, the dorsum of body often lighter than sides and venter; head and body occasionally plain but most often irregularly marked with pale mottled areas and scattered pale spots (Fig. 2); median ventral trunk ridge and associated dermal flaps mainly dark

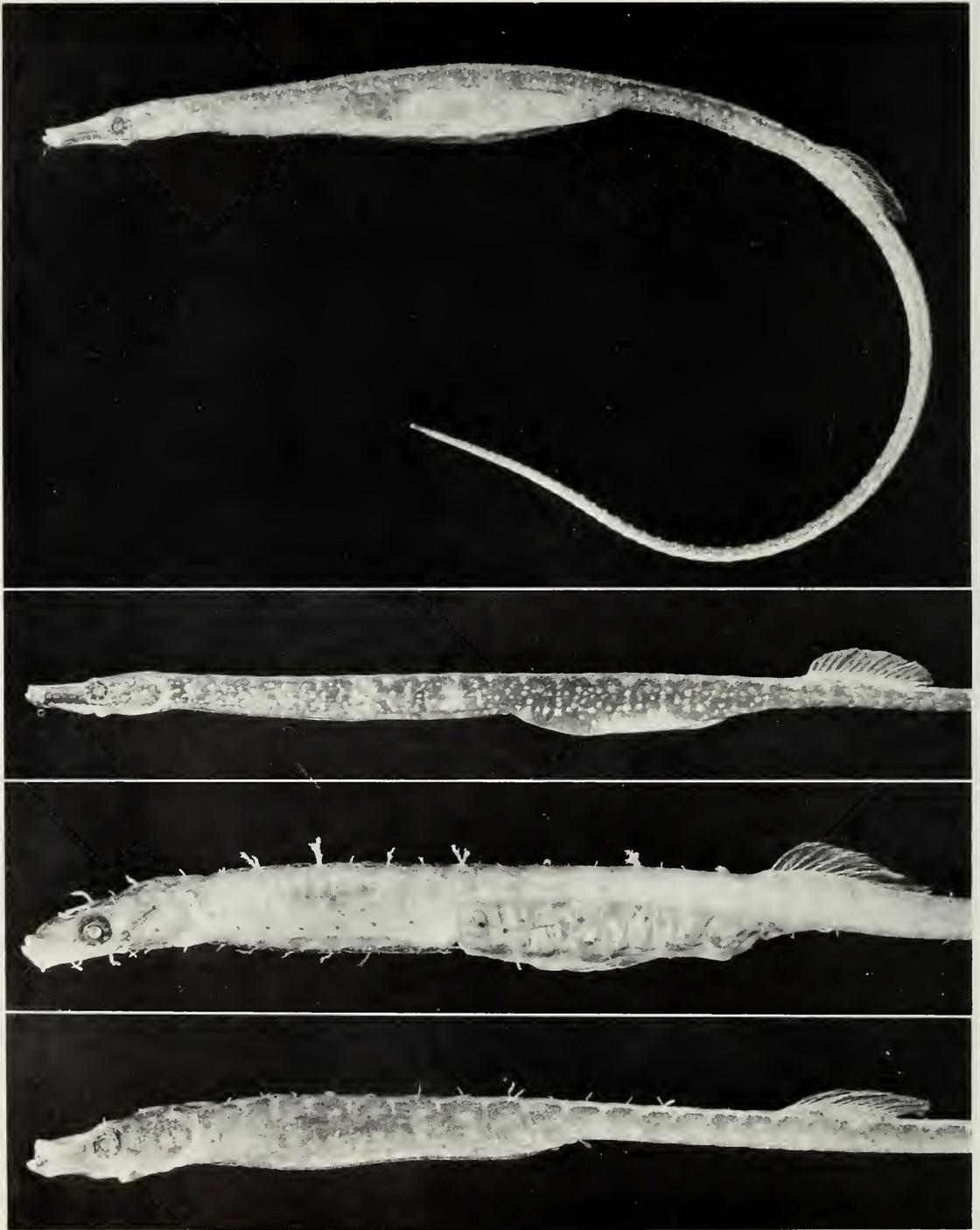


Fig. 2. **Upper pair.**—*Urocampus nanus*. **Top:** YCMP 1223 (127.5 mm SL, female). **Bottom:** GCRL 15701 (105.5 mm SL, brooding male). **Lower pair.**—*Urocampus carinirostris* GCRL 15507 (top, 72.0 mm SL, brooding male; bottom, 67.5 mm SL, female).

brown; large, more or less regularly spaced, pale spots on superior and inferior ridges of postdorsal tail rings impart a grossly banded appearance to some specimens. Dorsal and pectoral fins hyaline or the fin rays are finely peppered with brown microchromatophores, caudal fin mainly brownish.

Table 1.—Frequency distributions of trunk and tail rings in species of *Urocampus*.

Species locale	Trunk rings						Tail rings										
	7	8	9	10	11	12	49	50	51	52	53	54	55	56	57	58	59
<i>U. nanus</i>				6	9	1					1		5	9	1		
<i>U. carinirostris</i>																	
New Guinea		1	1				1		1								
Australia																	
Queensland		9	3				3	7	2								
New South Wales	3	33	31	1				11	14	19	13	7	4				
Victoria		8	10	2							1	2	4	7	3	3	
S. Australia			1							1							
Tasmania			1														1
W. Australia		3	5				1	1	4	1		1					

*Comparisons.*—*Urocampus nanus* has somewhat higher counts of trunk rings and dorsal-fin rays than its only known congener (usually 10–11 and 16 against 8–9 and 14 in *carinirostris*). The snout length in HL ratio is lower in *U. nanus* (averages 2.2 against 3.1 in *carinirostris*), and the snout depth in snout length and pectoral-fin length in HL ratios are both higher than those of *U. carinirostris* (respectively average 3.2 and 6.4 against 1.5 and 4.9). The median dorsal snout ridge of *U. nanus* is usually not clearly paralleled posteriad by anterior continuations of the supraorbital ridges (parallel for some distance in most *carinirostris*) and the median dorsal snout ridge of mature males is lower than that of comparable *U. carinirostris* (Figs. 1–3). The enlarged barbel-like mandibular flaps present in many *U. nanus* are

Table 2.—Frequency distributions of total rings and dorsal-fin rays in species of *Urocampus*.

Species locale	Total rings											Dorsal-fin rays				
	58	59	60	61	62	63	64	65	66	67	68	13	14	15	16	17
<i>U. nanus</i>						1	3	4	6	2			2	13	2	
<i>U. carinirostris</i>																
New Guinea	1			1									2			
Australia																
Queensland	10	2											13			
New South Wales		3	12	22	18	7	4	2				1	74	4		
Victoria						4	6	6	2	2			14	2		
S. Australia				1										1		
Tasmania											1		1			
W. Australia	2	1	4		1							1	6	1		

Table 3.—Frequency distributions of pectoral-fin rays and subdorsal rings in species of *Urocampus*.

Species locale	Pectoral-fin rays				Subdorsal rings						
	7	8	9	10	2.50	2.75	3.00	3.25	3.50	3.75	4.00
<i>U. nanus</i>	1	21	9					6	3	7	1
<i>U. carinirostris</i>											
New Guinea			4			1		1			
Australia											
Queensland	1	9	9					2	6	4	
New South Wales	6	74	39	2		3	11	27	24	15	1
Victoria	1	15	7				4	1	5	8	2
S. Australia		2							1		
Tasmania		2						1			
W. Australia	2	3			1			4	2	1	

replaced by small and rather inconspicuous flaps in *U. carinirostris* and, when well developed, dermal flaps are generally more abundant and most profusely branched in the latter species.

*Types*.—Duncker (1915) indicated that the type material of *U. nanus* consisted of two uncataloged females in the BMNH collections but Günther's (1870) description was based on a single 96 mm female specimen. Duncker evidently examined two fish (96–111 mm SL) now cataloged as BMNH 1863.1.22.2 and labeled "Manchuria, Adams." The larger specimen is from an unknown locality and was added to the jar containing the holotype after 1870 (A. C. Wheeler, pers. comm.). Günther (1870) counted 11 + 50 rings

Table 4.—Frequencies of dorsal-fin origin on 5th through 9th tail rings in species of *Urocampus*.

Species locale	Tail rings																
	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
<i>U. nanus</i>										4	2	3	3	2	2		1
<i>U. carinirostris</i>																	
New Guinea												1					1
Australia																	
Queensland						1	2	1		4	3	1					
New South Wales		2	9	5	13	7	11	6	13	6	7		2				
Victoria				1	2		1	1	3	3	4	1	2	2			
S. Australia					1												
Tasmania											1						
W. Australia	1		1		2	1	1	1	1		1						

and 15 dorsal-fin rays in the holotype, indicated a total of 3 subdorsal rings and stated that there was no anal fin. I count 10 trunk rings in the holotype (the anus and 2-rayed anal fin share the 11th), 53 tail rings, 16 dorsal-fin rays and 3.5 subdorsal rings. Although not mentioned in the original description, the holotype has long mandibular flaps, long flaps near the dorsal midline of most trunk rings, some flaps on the median ventral trunk ridge and there are paired bilateral flaps on the dorsum of the 1st, 4th and 7th tail rings as well as a single flap on the left side of the dorsum of the 6th.

Jordan and Snyder (1901) reported 59 tail rings and 5 subdorsal rings in the holotype of *U. rikuzenius*, whereas I find 56 tail rings and 3.75 subdorsal rings in this specimen (CAS-SU 6520).

*Remarks.*—Jordan *et al.* (1913) implied that *U. rikuzenius* was conspecific with *U. nanus* and Duncker (1915) tentatively referred *rikuzenius* to the synonymy of the latter species. These early statements have been largely ignored or overlooked and most recent authors have incorrectly employed the specific name *rikuzenius*.

Among the study material, dermal flaps are abundant and well developed on the holotype and an 84 mm juvenile or female, in some specimens only the mandibular flaps persist, and flaps are absent from two mature males (95.5–105.5 mm SL). Well-developed flaps were noted in smaller fish (45.5–75.2 mm SL) by Takai and Mizokami (1961).

The brood pouch extends below 9–11 rings in three males examined (95.5–105.5 mm SL). The largest specimen has eggs in about four crowded transverse rows and in 1–2 layers; there are about 17 eggs in the outer left row through 6 of the 9 pouch rings. Takai and Mizokami (1961) reported two layers of two rows of pouch eggs in a 62.4 mm male, noted that the ovoid pouch eggs were about 0.5 × 0.7 mm in diameter, and counted 69 ovarian eggs in each of two females (45.5–75.2 mm SL).

Examined materials include few data on depth of collections or habitat but *U. nanus* is evidently most common in protected shallow inshore environments. The species was reported as a year-round resident of the *Zostera* zone in the Amakusa Islands by Kikuchi (1968, 1970) and additional notes on habits and behavior were provided by Takai and Mizokami (1961). The holotype was reportedly collected in “Manchuria” and, without additional evidence, this was interpreted to be “in Yellow Sea off coast of northeast China” by Lindberg and Legeza (1965).

Although the type locality is uncertain and the geographic range is presently undefined, *U. nanus* has been reported from Pusan and Masan, Korea (Mori, 1952) and from Sado Island and Matsushima to Kôchi Prefecture, Japan (Kamohara, 1964). The southernmost record is evidently represented by 4 specimens (FMNH 83875) reportedly collected in the Haneji River, Okinawa (ca. 26°35'N, 128°05'E).

*Material examined.*—17 specimens, 84–133 mm SL, including holotype.

*Holotype*.—BMNH 1863.1.22.2 (96.0 mm SL, female), Manchuria, A. Adams.

*Other material*.—KOREA, Fusan: UMMZ 205279 (1, 101.5). JAPAN, Kyoto Pref.: GCRL 15701 (2, 99.5–105.5). Kanegawa Pref.: UMMZ 205271 (3, 111.5–133), UMMZ 205274 (1, 130), YCMP 1223 (1, 127.5), YCMP 3522 (1, 84). Kagoshima Pref.: CAS-SU 6520 (117.5, holotype of *U. rikuzenius*). Okinawa: FMNH 83875 (4, 99–112). Loc. uncertain: USNM 70773 (1, 103). LOC. UNKNOWN: BMNH 1863.1.22.2 (1, 111).

*Urocampus carinirostris* Castelnau

Figs. 2–4

*Urocampus carinirostris* Castelnau, 1872:200 [orig. descr.; Melbourne (Australia)].

*Urocampus coelorhynchus* Günther, 1873:103 [orig. descr.; Sydney (Australia)].

*Urocampus Güntheri* Duncker, 1909:242, figs. 1–2 (orig. descr.; Sharks Bay, W. Austr.).

*Urocampus carinorostris*. Coleman, 1933:87 (Misspelling).

*Urocampus guentheri*. Whitley, 1948:14 (emended spelling).

*Stigmatophora boops* (not of Castelnau). Bertin and Estéve, 1950:50 (misidentification).

*Diagnosis*.—Snout short, its length averages 3.1 in HL; trunk rings 7–10, usually (94%) 8–9; dorsal-fin rays usually (92%) 14.

*Description*.—Dorsal-fin rays 13–15 ( $\bar{x}$  = 14.0), pectoral-fin rays 7–10 (8.3), rings 7–10 + 49–59 = 58–68 (62.0), total subdorsal rings 2.5–4.0 (3.4), dorsal-fin origin on 5th–8th (6.6) tail ring; see Tables 1–4 for additional counts. Proportional data based on 32 specimens 56.0–95.0 (66.5) mm SL follow: HL in SL 9.7–13.1 (10.8), snout length in HL 2.8–3.6 (3.1), snout depth in snout length 1.3–1.8 (1.5), length of dorsal-fin base in HL 1.2–1.7 (1.6), anal ring depth in HL 2.3–4.6 (3.5), trunk depth in HL (3 fish) 1.9–2.4, pectoral-fin length in HL 3.9–6.4 (4.9), length of pectoral-fin base in pectoral-fin length 1.4–2.2 (1.7).

Median dorsal snout ridge (Figs. 2–3) more or less linear to slightly concave in females, not elevated to or above horizontal through dorsal margin of eye; ridge clearly convex and usually elevated to or above dorsal margin of eye in mature males. Supraorbital ridges continued anteriad on each side of median snout ridge to near vertical from nares; lateral profile of head depressed behind the eye but somewhat elevated over posterior part of head.

Dermal flaps simple or irregularly branched distally. In well-preserved males, head flaps may include long branched flaps over eye and on suborbital and short simple or branched flaps below angle of gape, on ventral

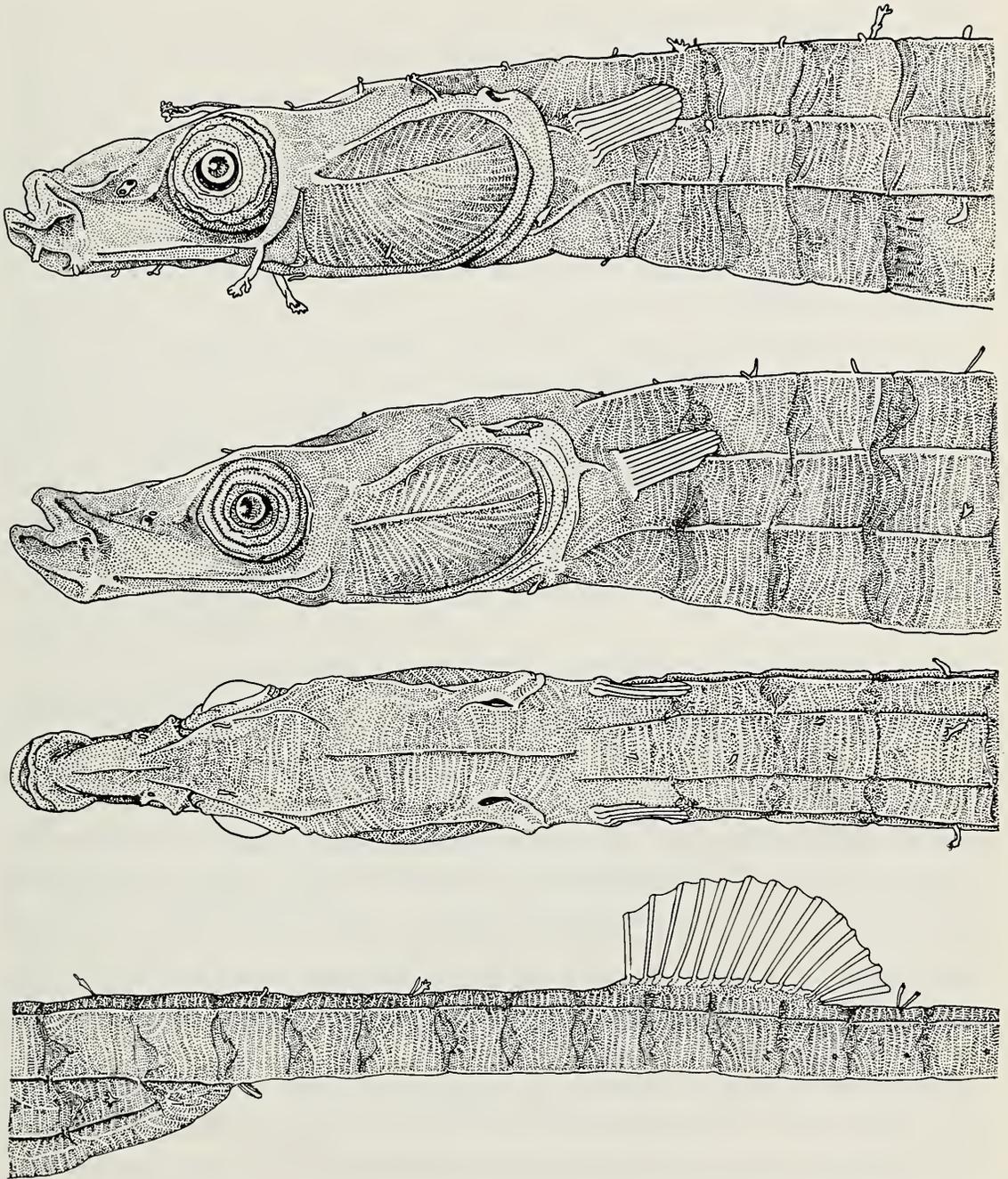


Fig. 3. *Urocampus carinirostris*: Lateral and dorsal aspects of head and anterior trunk rings, together with section of body illustrating ridge configuration and dorsal and anal fins. **Top:** 64.5 mm SL, male. **Remainder:** 66.5 mm SL, female (GCRL 14799).

midline of snout, on median dorsal snout ridge, on lower half of opercle and opercular membrane, as well as on the posterior part of the supraorbital ridge and on the frontal ridge. In females, head flaps are usually reduced to short simple flaps on the supraorbital and frontal ridges. In males, each trunk ring may have a pair of long bilateral flaps on the dorsum, a long flap

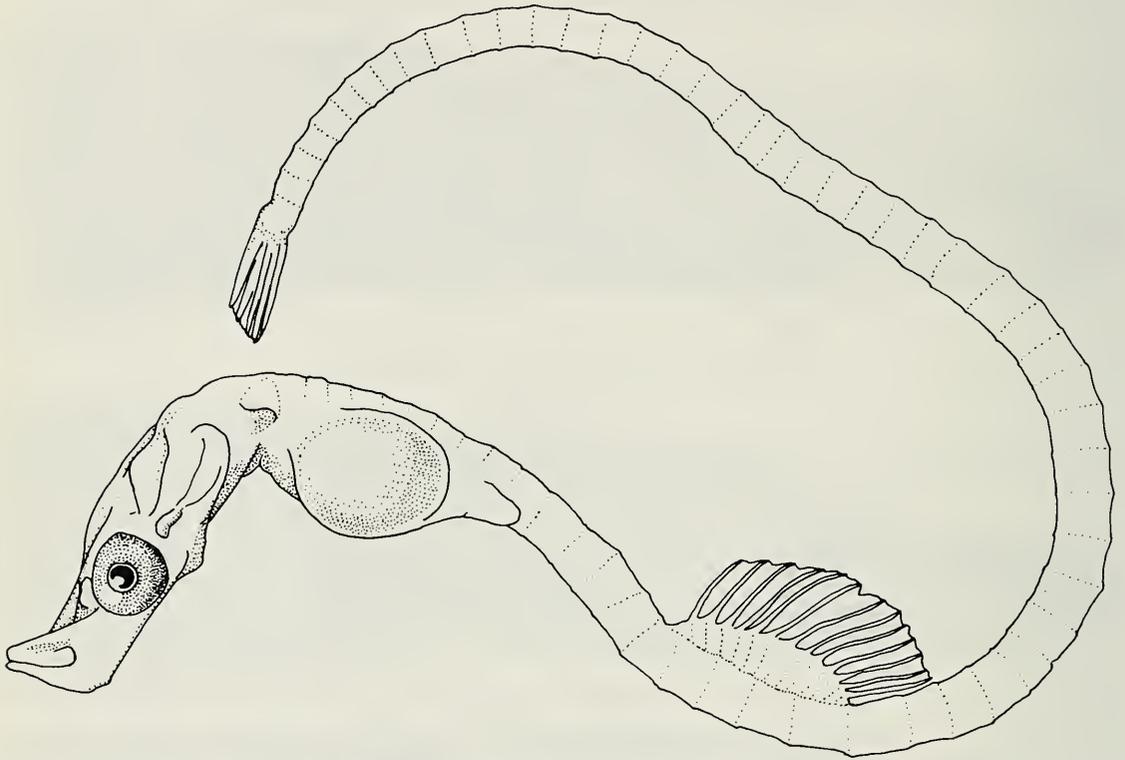


Fig. 4. Partially straightened brood-pouch larva of *Urocampus carinirostris* (ca. 11.5 mm TL).

on each lateral ridge and one on the median ventral ridge; tail flaps are usually confined to the anterior 20–25 rings and each ring may bear paired flaps on the dorsum and single long flaps on the inferior ridges which, on anterior 5–8 rings, may be accompanied by a row of 4–7 minute simple flaps. Flaps are usually absent from the median ventral trunk ridge in females and those on the dorsum and sides of body are typically shorter and less obvious than those of males.

*Coloration*.—Ground color tan to dark brown; head mainly mottled with pale, often with a dark brown stripe on ventral midline; sides and dorsum of body plain or mottled, occasionally with indications of narrow pale bars (ca. 1–2 rings wide) crossing dorsum of trunk and anterior part of tail; venter often with dark brown stripe on midline of trunk but elsewhere plain or mottled. Dorsal-fin rays usually with 2–5 brown spots, the membrane hyaline; pectoral fin shaded lightly with brown; caudal fin brownish, often margined with pale.

*Comparisons*.—See under *U. nanus*.

*Types*.—Castelnau (1872) failed to designate type material but his description indicates that both males and females were examined, that the largest specimen was “three and a-half inches” (TL) and that the species was rather common. Examination of pipefishes in the Paris collection shows that the 10 fish in MNHN A.1435, listed as “paratypes” of *Stigmatophora boops*

Castelnau by Bertin and Estéve (1950), are actually *Urocampus carinirostris*. These specimens, including males and females (52–72 mm SL) labeled “Australia, Yarra River, Castelnau,” are here considered to be the presumptive syntypes of *U. carinirostris*. Both *carinirostris* and *boops* were treated by Castelnau (1872) and subsequent errors in labeling or cataloging appear certain. The holotype of *U. Güntheri* Duncker, deposited in the Hamburg Museum, has been destroyed.

*Remarks.*—McCulloch (1909) incorrectly reported the presence of 4 lateral ridges on the body (trunk) of *U. carinirostris* and implied that a pair of these were confluent with the inferior tail margin. Evidently misled by McCulloch’s description, Munro (1958) reported a “double” lateral trunk ridge in this species and Scott (1961) employed this nonexistent “double” ridge as a differentiating character in his key to the Tasmanian Syngnathidae.

Examined Australian collections include brooding males taken in Western Australia (Feb., Oct.), Victoria (Nov.), New South Wales (Feb., Apr., Sept., Oct., Dec.) and Queensland (July). Scott (1971) noted brooding males collected in Tasmania during April.

The brood pouch extends below 8–11 (usually 9–10) anterior tail rings in 34 examined males 45–95 mm SL. The free margins of the pouch membranes are usually edged with narrow, laterally directed, folds and the margins meet or, more commonly, fail to meet on the ventral midline of the egg-filled pouch. Pouch eggs are usually deposited in a single layer of 1–4 transverse rows and are often absent from the posteriormost pouch rings. The smallest examined brooding male (48 mm SL) contained only 2 eggs in the 8-ring pouch, a 57.5 mm fish had 2 rows of 19 eggs through 8 of 10 pouch rings, and there were 4 rows of 17 eggs through 9 of 10 rings in a 76 mm specimen. Rather large (ca. 10–14 mm TL) larvae (Fig. 4) are often found coiled within the open membranous compartments lining the sides and dorsum of the brood pouch. The anal fin and pectoral-fin rays are not evident at  $\times 60$  magnification in 11–12 mm pouch larvae but they are distinct in a 14 mm specimen and the dorsal and caudal fins are well developed in 10 mm larvae. The 14 mm larva had the head and body peppered with brown microchromatophores and about 6 narrow brown bands encircled the tail behind the dorsal fin.

There were 7–9 trunk rings in 57 adult males and the count was 8 in 82%, whereas the range was 8–10 in 50 adult females and the modal value was 9 (88%). Other meristic data (Table 1) suggest clinal variation wherein tail ring frequencies are highest in samples from Tasmania and Victoria and lowest in material from New Guinea, Queensland and Western Australia. Additional study is required for confirmation of this apparent trend in *U. carinirostris* but similar geographic variation is indicated (author’s unpublished data) for other Australian pipefishes.

Although dredge collections among *Zostera* sp. were noted by Scott

(1965), the majority of examined material was seined in depths to ca. 3 m and all collections appear to be from the lower reaches of rivers, estuaries or other protected inshore habitats. A number of samples indicate that collections were from areas of algae or *Zostera*. This is a small pipefish which probably seldom attains 100 mm SL. The species is presently known only from Australia and New Guinea. Examined Australian specimens were collected along southern coasts from Narang, Queensland (ca. 24°53'S, 151°48'E) to Crawley Bay, Swan River, Western Australia (ca. 32°01'S, 115°48'E).

*Material examined.*—151 specimens (excluding pouch larvae), 35.5–95.0 mm SL, including 10 presumptive syntypes.

*Presumptive syntypes.*—MNHN A.1435 (10, 52.0–72.0 mm SL), Yarra River, Victoria, Australia, F. de Castelnau.

*Other material.*—NEW GUINEA, Tobriand Is.: AMS I.107095-010 (1, 59.5), USNM 215314 (1, 67). AUSTRALIA, Queensland: QM I.8729 (1, 51), QM I.8733 (1, 64.5), QM I.13379 (4, 59.5–65.5), QM I.-6705 (7, 51–63.5). New South Wales: AMS I.16475-017 (1, 63.5), AMS I.19488-001 (1, 71), BMNH 1873.4.3.74-5 (2, 84–95, syntypes of *Urocampus coelorhynchus*), BMNH 1873.4.3.210 (1, 88), BMNH 1890.2.26.199 (1, 58), GCRL 14799 (5, 62.5–71), GCRL 15506 (1, 71.5), GCRL 15507 (7, 64–72), GCRL 16268 (1, ca. 55.5), GCRL 16357 (4, ca. 51–69), GCRL 16367 (2, 54.5–57), GCRL 16371 (2, ca. 35.5–47.5), GCRL 16373 (2, 36–63.5), GCRL 16378 (8, 38–76), GCRL 16448 (35, 47–58.5), USNM 215308 (7, 55–64), USNM 215309 (1, 67), USNM 215310 (20, 37–68). Victoria: NMV A.551 (8, 50.5–91), NMV A.555 (1, 79), QM I.16657 (2, 56.5–65). South Australia: CAS 36433 (1, 68.5), SAM F.3441 (1, 65.5). Tasmania: GCRL 14766 (1, 93), QVM 1968.5.33 (1, 84). Western Australia: AMS IA.7445-8 (4, 49.5–65.5), AMS I.15724-007 (1, 64), NMV A.696 (2, 63.5–73.5), WAM P.25701-001 (1, 55), WAM P.26473-001 (1, 50), WAM P.26475-001 (1, 50).

### Acknowledgments

For permission to examine materials in their care and for other courtesies and assistance, I thank G. R. Allen and J. B. Hutchins (WAM), R. M. Bailey and Ellie Koon (UMMZ), M. L. Bauchot (MNHN), W. N. Eschmeyer and Pearl Sonoda (CAS), C. J. M. Glover (SAM), M. F. Gomon (NMV), R. H. Green and E. O. G. Scott (QVM), R. K. Johnson (FMNH), E. A. Lachner and Susan Karnella (USNM), R. J. McKay (QM), J. R. Paxton and D. F. Hoese (AMS), and A. C. Wheeler (BMNH). Special acknowledgment is due K. Meguro (The Crown Prince's Household, Japan) and M. Hayashi (YCMP) for their cooperation in arranging the loan of important material. Valuable gifts of specimens were received from I. Nakamura (Fish. Res. Sta., Kyoto Univ.), J. R. Paxton and D. F. Hoese (AMS),

E. O. G. Scott (QVM) and from Alison and Rudie Kuitert (Sydney, Austr.). Dr. T. Abe (Univ. Tokyo) provided locality data for the Haneji River. Drawings are by Mrs. Nancy Gordon.

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