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D 15-17 + adipose fin A 9-10 P₁ 11 P₂ 9 C 19 V 42-43

Distribution Distributed along the east coast of Australia, from off Raine Is., QLD (18°03'S) to off Jervis Bay, NSW (35°08'S). Adults are found on the outer continental shelf and slope on soft bottom habitats, and have been collected at depths from 120 m to 350 m. The benthic adults are characterised by a tapering body that is white ventrally with pink blotches dorsally and laterally and yellow bands on the dorsal, anal, pelvic and caudal fins. An adipose fin is also present. The eye is large. The snout is pointed and the large mouth has several rows of small sharp teeth. Maximum recorded size from the AMS collection is 25 cm SL.

Diagnostic characters

- 19-23+20-23 = 42-43 myomeres
- Dorsal-fin count 15-17
- Anal-fin count 9-10
- 1 melanophore ventrally on tail until ca 12 mm (2, both posterior to the anal-fin base in *H. japonica*)
- 0 or 1 expanded melanophore on caudal-fin base until ca 12 mm, located between upper and lower lobes of the caudal fin
- Dense saddle shaped patch of pigment covering 25-75% of hindgut
- Preanal length is long 55-63%

Description of larvae

Morphology Body elongate in preflexion larvae (BD 9-11%), becomes slightly deeper in flexion (BD 11-12%) and postflexion larvae (BD 11-17%). Head is small to moderate (HL 17-22% in preflexion and 20-30% in flexion and postflexion larvae). Small canine teeth on the upper and lower jaw in the smallest specimens examined (4.3 mm). The nasal pit begins to roof over by 7.9 mm and both nostrils are developed by 9.8 mm. The preanal length is long, 55-63% (PAL in *H. purpurissatus* is 48-54%), principally because the head is moderate in size. The gut remains straight and has a striated, relatively swollen hindgut. The liver is conspicuous and lies just anterior to the hindgut, largely ventral to the gut. The gas bladder is more conspicuous after flexion. Unusually, the anal fin is the first to form, followed by formation of 6-13 "stalks" in the dorsal finfold (9.1-10.5 mm, Fig. C). The "stalks" disappear before the dorsal fin forms, accounting for its relatively late appearance. The adipose fin begins to differentiate from the finfold after the dorsal fin (13.9 mm, Fig. D). It is opposite the anal fin and reduces in size with growth. Unusually, the pelvic bud forms as a thickening mid-

laterally on the gut, that then moves anteriorly and ventrally before rays form.

Size at

Hatching	<4.3 mm
Notochord flexion	7.2-9.7 mm
Settlement	>13.9 mm
Formation of fins:	
Caudal	6.6-9.1 mm; Dorsal 12.6->13.9 mm; Anal 9.1->13.9 mm; Pectoral 9.1-12.6 mm; Pelvic 9.1->13.9 mm

Pigmentation Larvae are lightly pigmented. *External:* One to 13 small melanophores develop on the operculum from 9.8 mm. Generally, the number of opercular melanophores increases with size and varies between left and right sides. No melanophores near the base of the pectoral fin. A distinct saddle-like patch of dense pigment situated on the hindgut. Gut pigment is largely external and covers 25-50% of the hindgut in preflexion larvae. Some of the pigment has expanded and become partially internal in flexion larvae. The pigment is primarily internal and may cover up to 75% of the hindgut in postflexion larvae. A large, distinct melanophore, ventrally on the tail (at the 14th or 15th postanal myomere, at the posterior end of the anal-fin base) is external prior to flexion, and becomes more internal with growth. In the very similar *Hime japonica* there are 2 melanophores ventrally on the tail, both posterior to the anal-fin base (M. Okiyama, pers. com.). Up to 4 additional, and partially internal ventral melanophores develop from 12.6 mm. An expanded melanophore is present at the base of the caudal fin, at the junction of the hypural plates in very late preflexion larvae (7.2 mm). An additional 1-3 smaller melanophores may develop at the base of the caudal-fin rays in late postflexion larvae (from 12.6 mm). *Internal:* 1-2 hindbrain melanophores develop from 12.6 mm.

Figure - Larvae of *Hime curtirostris*. **A** Preflexion (I.33992-027). **B** Flexion (I.33969-032). **C** Postflexion (I.26690-014). **D** Postflexion, note 13 "stalks" in the dorsal finfold (I.42963-002). Specimens A, B & D from off Sydney, and C from off Coffs Harbour, NSW. Illustrated by J.M. Leis and inked by S. Bullock

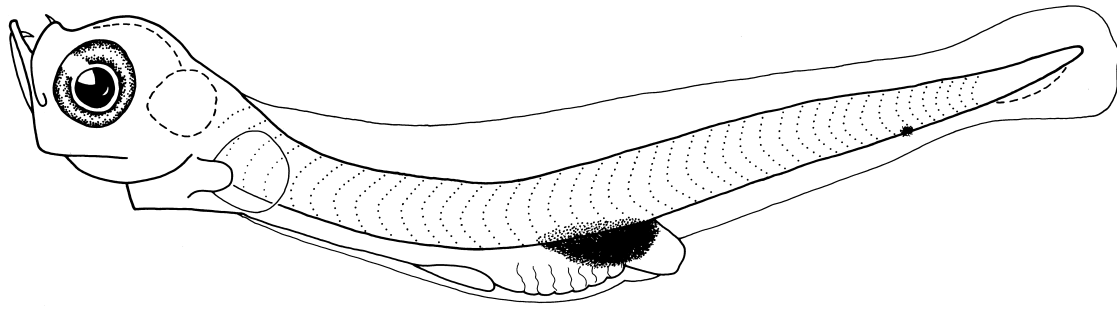
Material Examined The description is based on detailed examination of 17 larvae (4.3-13.9 mm), and more superficial examination of more than 200 others from off Coffs Harbour, NSW (30°25'S) to off Port Hacking, (34°06'S) NSW. AMS I.33992-027, I.40937-007, I.40940-013, I.33935-016, I.33969-033, I.40940-013, I.33969-032, I.33989-009 I.33994-014, I.33994-015, I.33901-084, I.26690-014, I.42963-001, I.42963-002.

Identification justification Aulopids of 2 species of 1 genus occur in NSW waters (Hoese et al. in press), *Hime purpurissatus* and *Hime curtirostris*. The species are separated by vertebral and fin-ray counts. *H. curtirostris* has 42-43 vertebrae, D 15-17,

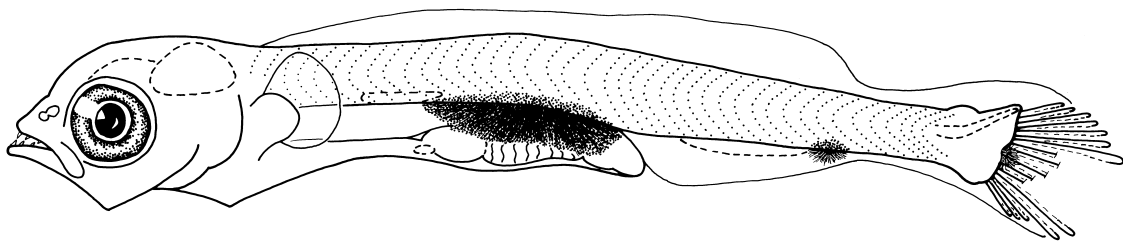
and A 9-10, where as *H. purpurissatus* has 48 vertebrae, D 19-22, and A 12-14.

References

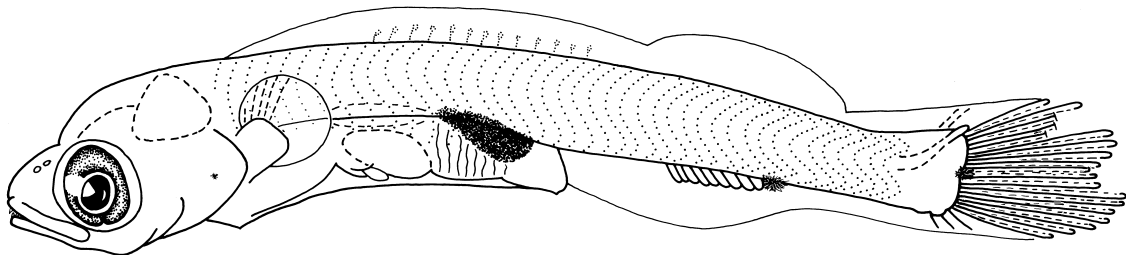
- Parin, N.V. and Kotlyar, A.N. (1989). A new Aulopid species, *Hime microps*, from the eastern South Pacific, with comments on the geographic variations of *H. japonica*, Japanese Journal of Ichthyology, Vol.35, No.4, 407-413
- Hoese, D.F., D. J. Bray, G. R. Allen, C. J. Allen, N. J. Cross & J. R. Paxton (in press). Pisces (part 2), Mugilidae to Molidae. Zoological Catalogue of Australia vol 7 (part 2) Canberra : Australian Government Publishing Service



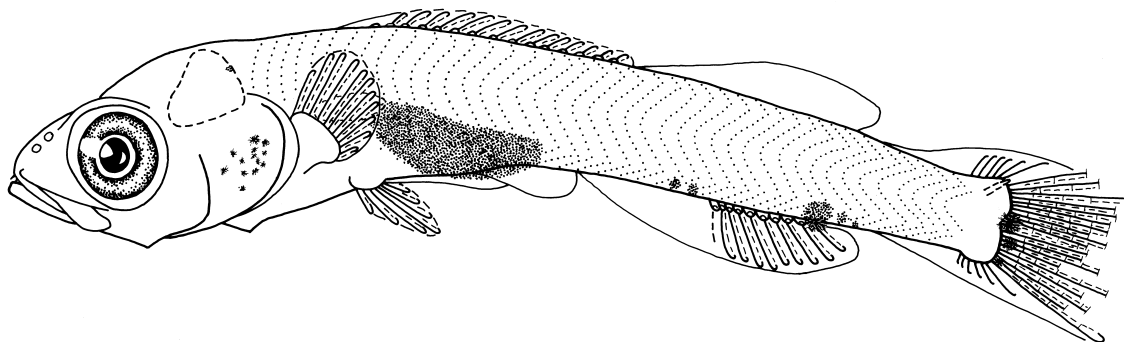
A 4.3 mm



B 7.9 mm



C 10.5 mm



D 13.9 mm