

Supplementary Material

43 Years after H.G. Moser's Seminal "Morphological and Functional Aspects of Marine Fish Larvae": The Commonalities of Leptocephali and Larvae of Other Marine Teleosts

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2) Supplementary References

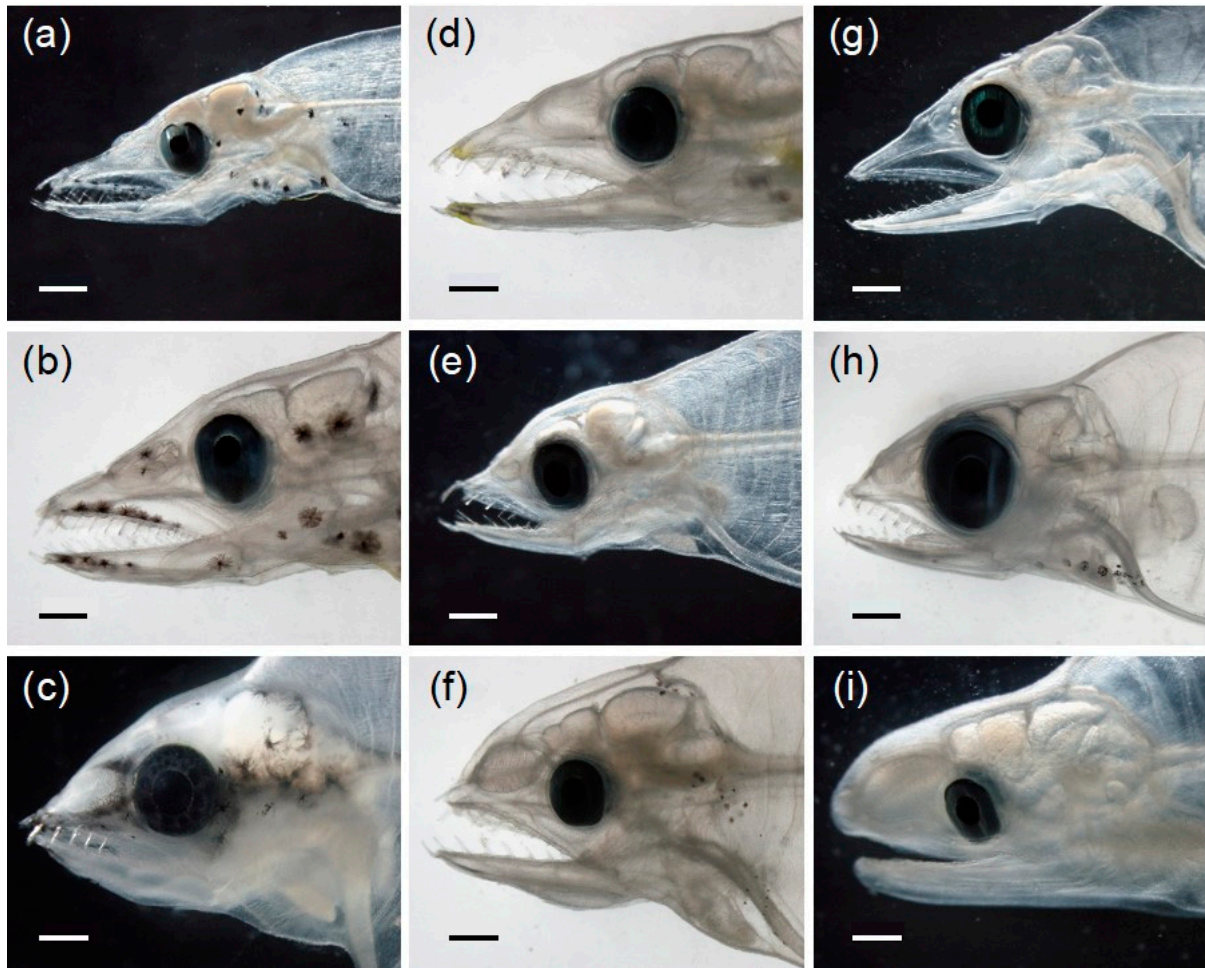


Figure S1. Photographs of leptocephali with different types of head shapes ranging from sharp snouts/pointed jaws to blunt snouts showing (a) 27.7 mm unknown species of the Congridae, (b) 79.4 mm garden eel *Heteroconger hassi*, (c) 40.2 mm Chlopsidae (*Chlopsis* type), (d) 92.6 mm Myrophinae, (e) 23.7 mm *Anguilla marmorata*, (f) 69.9 mm Uropterygiinae (Muraenidae), (g) 134.0 mm *Ariosoma* sp. A4 leptocephalus (exterilium type; Mochioka et al. [1]; Miller et al. [2]), (h) 67.6 mm *Bathycongrus*, and (i) 65.5 mm metamorphic Uropterygiinae, that were all collected during a 2012 survey for Japanese eel eggs and larvae along the West Mariana Ridge [3]. Lengths are total length (TL). Scale bars are 0.5 mm, except for (g) and (h) (1 mm).

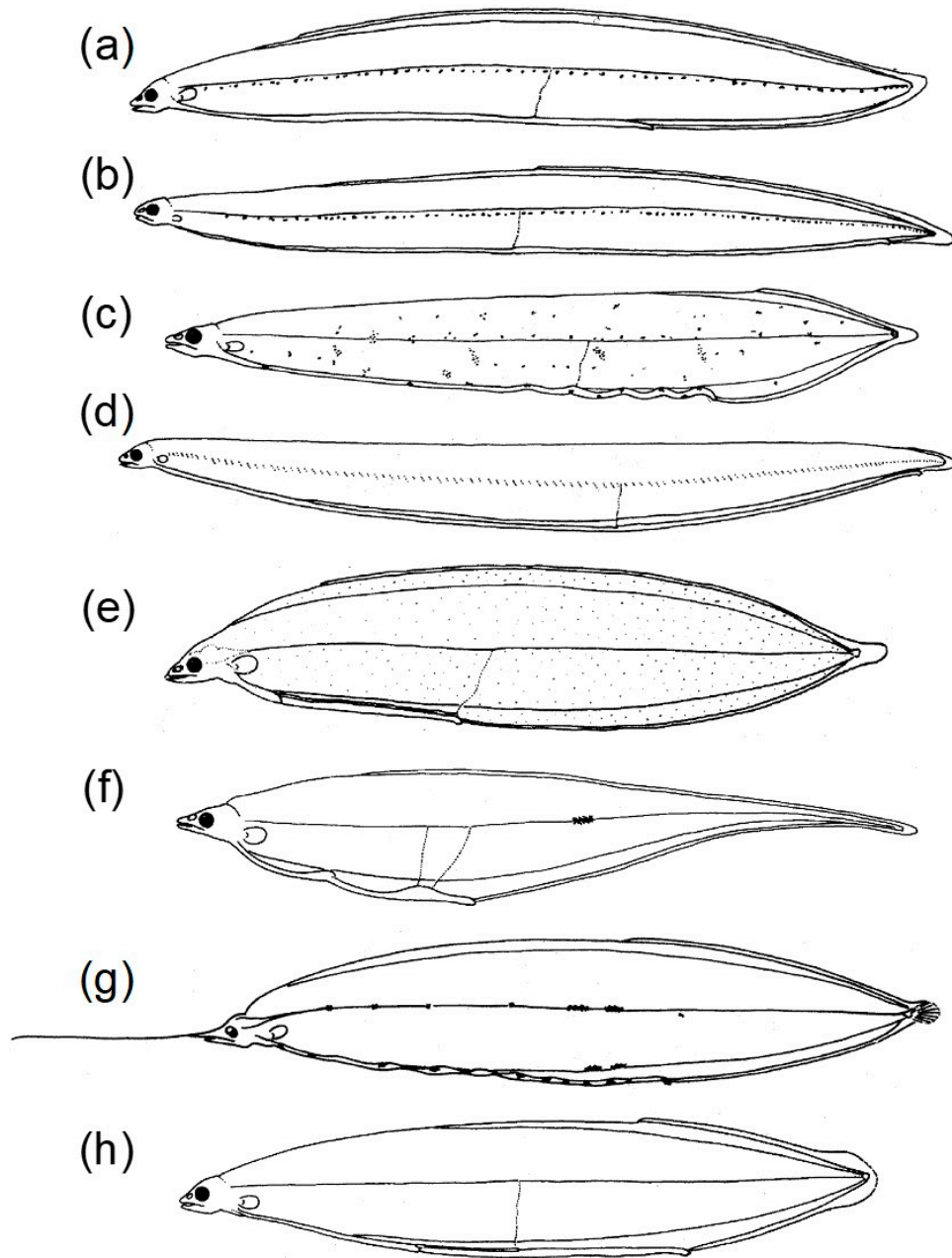


Figure S2. Drawings of 8 species of leptocephali showing congrid patterns (a) 42 mm garden eel, *Heteroconger halis*, (b) 101 mm *Uroconger syringinus*, with one row of lateral pigment, (c) 50 mm, *Pseudophichthys splendens*, with randomly scattered lateral pigment (see smaller size in Figure 5b), (d) 69 mm, *Ariosoma balearicum*, with myoseptal pigment, and (e) 38 mm chlopsid, *Kaupichthys hyoprорoides*, with small spots evenly spread all over the body (also see *Kaupichthys* in Figure S4b,c), (f) 51 mm nettastomatid, *Nettenchelys pygmaea*, with one posterior lateral spot, (g) 67 mm, Ilyophinae with lateral and gut pigment and a rostral filament, and (h) 48 mm *Anguilla rostrata*, with no pigment. Modified from Smith [4].

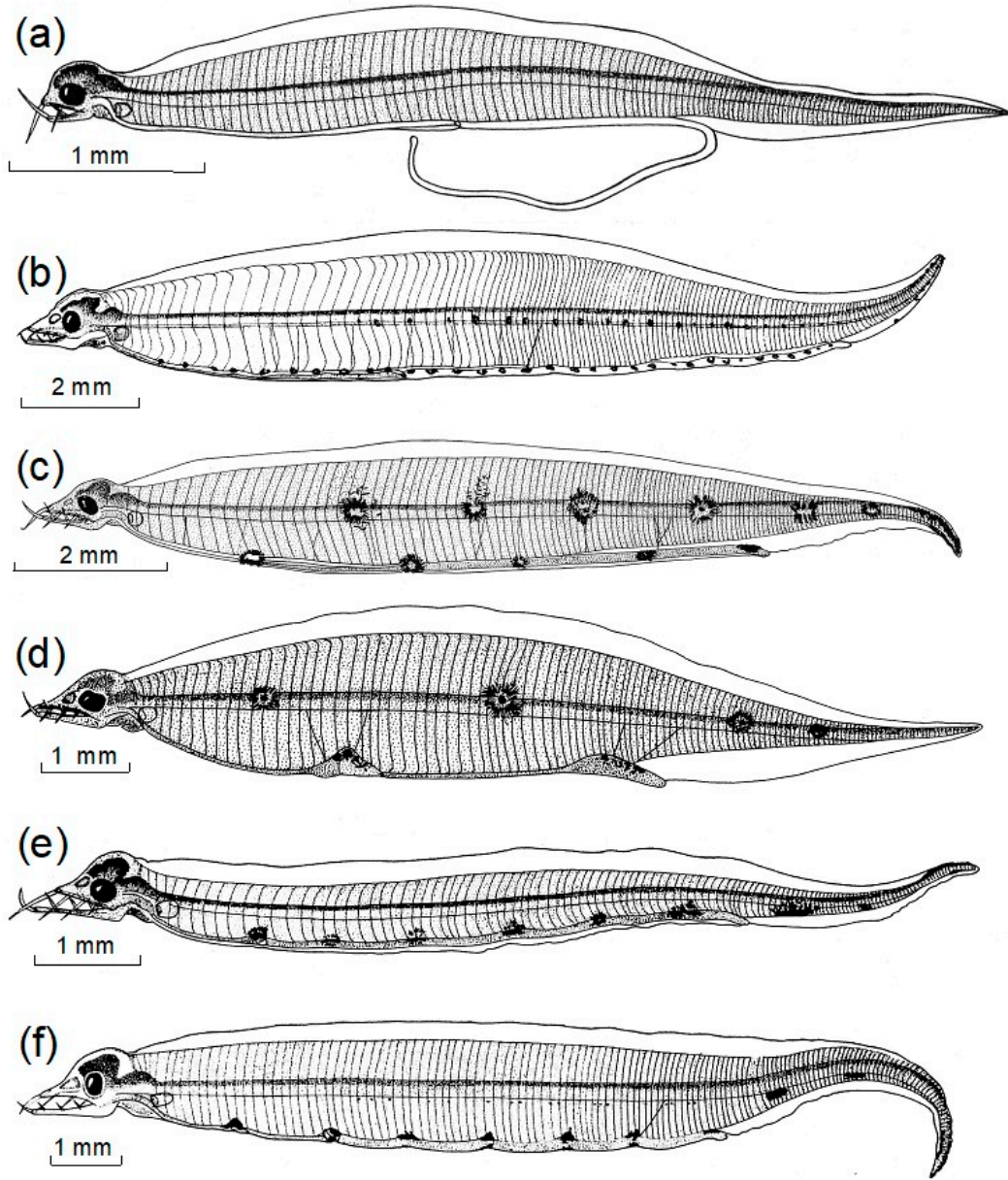


Figure S3. Drawings of 5 species of small leptocephali showing congrid (a) 5.4 mm *Ariosoma mellissi* exterilium type Bathymryinae, (b) 16.2 mm *Rhynchoconger* sp. with gut pigment and one partial row of lateral pigment spots, and (c) 12 mm *Xenomystax congroides* with gut spots and very large lateral stellate melanophores, and (d) a 11 mm nettastomid, *Saurenychelys stylura*, also with large stellate melanophores, and ophichthids with gut pigments and lateral tail spots (e) 9 mm *Leptocephalus mononucleus*, and (f) 14 mm *Echelus pachyrhynchus*. Modified from Blache [5] and Miller and Robinet [6].

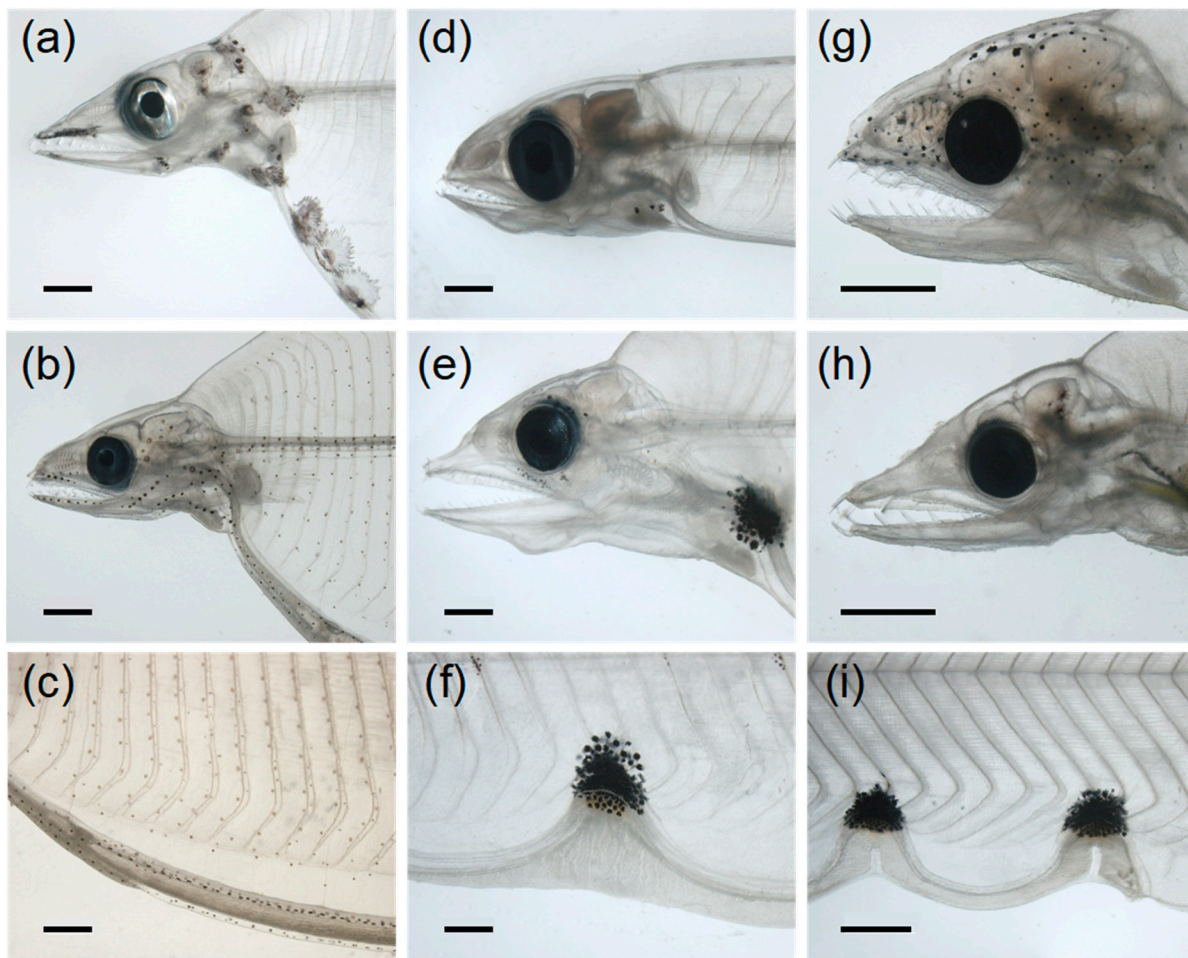


Figure S4. Photographs of freshly caught leptocephali showing (a) head pigment of a 60.3 mm *Gnathopphis*-type (sp. G; Figure 2 [no. 5]) that also has large stellate melanophores on the anterior gut region, (b,c) *Kaupichthys* (Chlopididae) anterior head (51.5 mm) and gut (61.1 mm) regions, showing the unusual small spots all over the body of 2 larvae of that genus, (d) 105 mm *Conger*, with only 3 spots over the heart region, (e,f) head and liver region of a large 132.3 mm Ophichthinae with apparent chromatophore patches that might be expandable (see Figure 3c), (g) 56.9 mm Muraenidae with many spots on the head, (h) 62.3 mm Ophichthinae with some internal head spots and yellow esophagus pigment, and (i) the last gut loops with large chromatophores in a different ophichthid leptocephalus. Lengths are TL. Scale bars are 1 mm, except in (i) (2 mm).

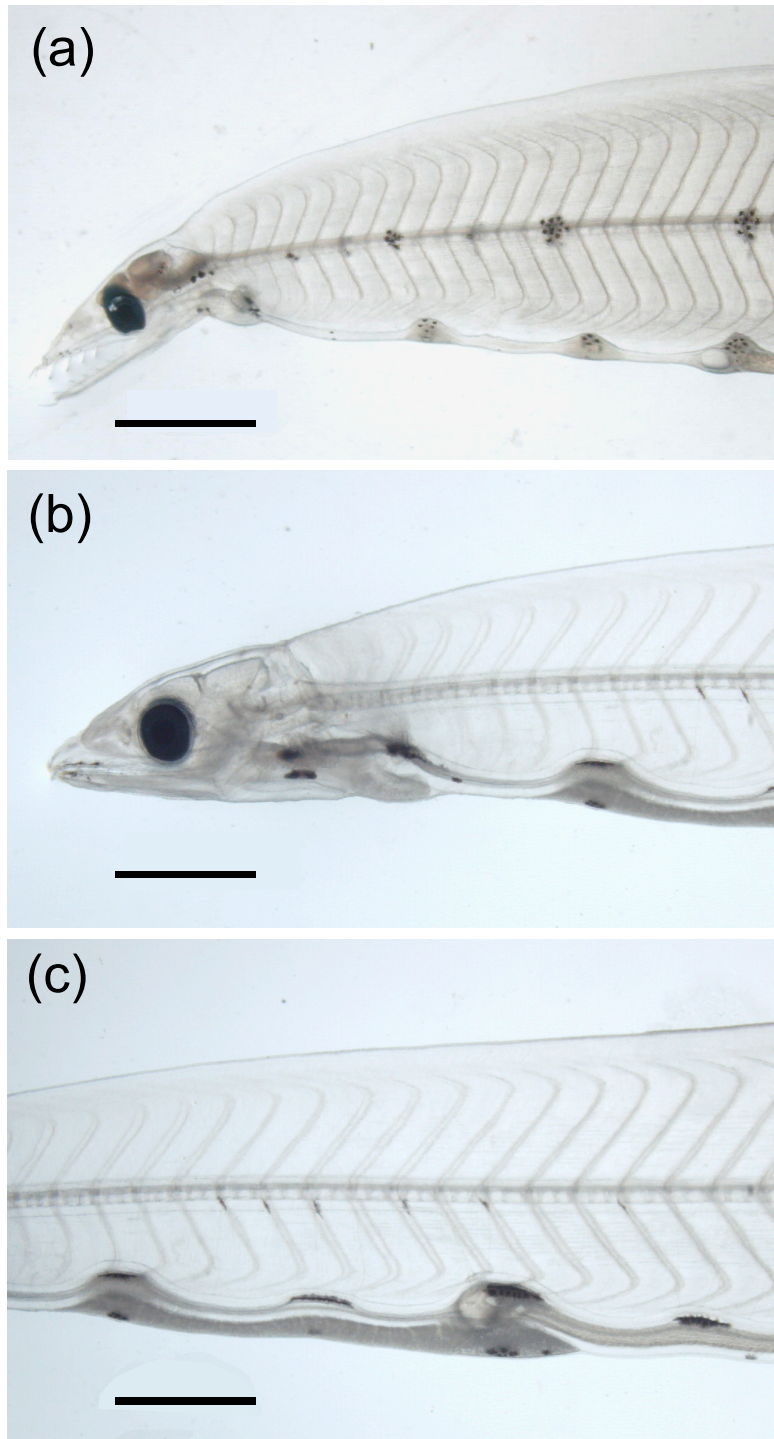


Figure S5. Photographs of anterior and liver swelling areas of freshly caught ophichthid leptocephali with low gut loops showing (a) 50 mm *Myrophinae* with lateral midline pigment patches, and (b,c) 140.1 mm *Ophichthinae* with myoseptal lateral pigment. Lengths are TL. Scale bars are 2 mm.

Supplementary References

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