



A new species of anchovy, *Encrasicholina macrocephala* (Clupeiformes: Engraulidae), from the northwestern Indian Ocean

HARUTAKA HATA^{1,3} & HIROYUKI MOTOMURA²

¹Graduate School of Fisheries, Kagoshima University, 4-50-20 Shimoarata, Kagoshima 890-0065, Japan.

E-mail: k2795502@kadai.jp

²The Kagoshima University Museum, 1-21-30 Korimoto, Kagoshima 890-0065, Japan. E-mail: motomura@kaum.kagoshima-u.ac.jp

³Corresponding author

Abstract

A new species of anchovy, *Encrasicholina macrocephala*, is described on the basis of 17 specimens collected from the Red Sea and the Arabian Sea. The species is closely related to *E. devisi* in that both species have three unbranched rays in the dorsal and anal fins, and a long upper jaw (posterior tip extending beyond posterior margin of preopercle). However, the new species is distinguished from *E. devisi* in having lower counts of total pectoral-fin rays (11–14 vs. 13–15) and pseudobranchial filaments (15–18 vs. 18–22), longer head length (29.5–31.7% of standard length vs. 25.4–28.9% in the latter), upper-jaw length (21.3–23.5% vs. 14.6–21.3%), and lower-jaw length (19.5–21.2% vs. 14.2–19.5%), and a shorter distance between the dorsal-fin origin to the pectoral-fin insertion (83.2–95.2% of head length vs. 97.6–126.1%).

Key words: Teleostei, new species, *Encrasicholina devisi*, Red Sea, Arabian Sea

Introduction

Encrasicholina Fowler 1938 is a genus of small-sized anchovies (60–95 mm standard length) inhabiting marine and/or estuarine waters in the Indo-Pacific (Whitehead *et al.* 1988). The genus has five valid species with members characterized by having a short isthmus muscle not reaching anteriorly to the posterior margin of the gill membrane, an exposed urohyal, in having prepelvic scutes, and by lacking postpelvic scutes (Whitehead *et al.* 1988; Wongratana *et al.* 1999).

During a revisionary study of *Encrasicholina*, we found 17 unidentified specimens of an engraulid fish from the Red Sea and off the Sultanate of Oman characterized by having a large head. The specimens are described here as a new species of *Encrasicholina*.

Material and methods

Counts and proportional measurements generally followed Kimura *et al.* (2009) and Hata *et al.* (2012). D–P1, D–P2, and D–A were measured as straight line distances from the dorsal-fin origin to: the pectoral-fin insertion; the pelvic-fin insertion; and the anal-fin origin, respectively. P1–P2 is the straight line distance between insertions of the pectoral and pelvic fins. P2–A is the straight line distance from the pelvic-fin insertion to the anal-fin origin. All measurements were made with digital calipers to the nearest 0.01 mm. Osteological characters were examined from radiographs of the holotype and seven paratypes of the new species and 13 specimens of *Encrasicholina devisi*. Standard and head lengths were abbreviated as SL and HL respectively. Institutional codes followed those listed in Sabaj Pérez (2010). Counts and measurements, expressed as percentages of SL or HL, are given in Tables 1 and 2 respectively. Frequency distribution of counts of the branched pectoral-fin rays and pseudobranchial filaments are given in Table 3.

References

- Hardenberg, J.D.F. (1933a) Notes on some genera of the Engraulidae. *Natuurkundig Tijdschrift voor Nederlandsch Indië*, 93 (2), 230–257.
- Hardenberg, J.D.F. (1933b) New *Stolephorus* species of the Indo-Australian seas. *Natuurkundig Tijdschrift voor Nederlandsch Indië*, 93 (2), 258–263.
- Hardenberg, J.D.F. (1934) Some remarks on the genus *Stolephorus* Lacépède in the Indo-Australian Archipelago. *Treubia Buitenzorgë*, 14 (3), 313–375.
- Hata, H., Motomura, H. & Ishimori, H. (2012) First Japanese record of an engraulid fish, *Encrasicholina devisi* (Clupeiformes), collected from Kagoshima Prefecture, southern Japan and comparisons with congeners. *Japanese Journal of Ichthyology*, 59 (2), 125–134.
- Kimura, S., Hori, K. & Shibukawa, K. (2009) A new anchovy, *Stolephorus teguhi* (Clupeiformes: Engraulidae), from North Sulawesi, Indonesia. *Ichthyological Research*, 56, 292–295.
<http://dx.doi.org/10.1007/s10228-009-0103-4>
- Sabaj Pérez, M.H. (Ed.) (2010) Standard symbolic codes for institutional resource collections in herpetology and ichthyology: an online reference. Version 2.0 (8 November 2010). Electronically accessible. American Society of Ichthyologists and Herpetologists, Washington, DC. Available from: <http://www.asih.org/> (accessed 3 March 2015)
- Strasburg, D.W. (1960) A new Hawaiian engraulid fish. *Pacific Science*, 14 (No. 4), 395–399.
- Whitehead, P.J.P., Nelson, G.J. & Wongratana, T. (1988) FAO species catalogue Vol. 7. Clupeoid Fishes of the World (Suborder Clupeoidei). An Annotated and Illustrated Catalogue of the Herrings, Sardines, Pilchards, Sprats, Shads, Anchovies and Wolf-herrings. Part 2 – Engraulidae. *FAO Fisheries Synopsis*, No. 125, 7 (pt. 2), i–viii + 305–579.
- Wongratana, T. (1983) Diagnoses of 24 new species and proposal of a new name for a species of Indo-Pacific clupeoid fishes. *Japanese Journal of Ichthyology*, 29 (4), 385–407.
- Wongratana, T., Munroe, T.A. & Nizinski, M.S. (1999) Order Clupeiformes. Engraulidae. Anchovies. In: Carpenter, K.E. & Niem, V.H. (Eds.), *FAO Species Identification Guide for Fishery Purposes. The Living Marine Resources of the Western Central Pacific. Vol. 3. Batoid Fishes, Chimaeras and Bony Fishes Part 1 (Elopidae to Linophrynidae)*. FAO, Rome, pp. 1698–1753.