

A new species of *Lugubrilaria* (Gastropoda, Fascioliidae) from southwestern Africa

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Lugubrilaria seccombei spec. nov. is described and distinguished from *L. lugubris* (Adams & Reeve, 1847). The new species ranges from False Bay, South Africa, to southern Namibia.

Key words: Gastropoda, Fascioliidae, shell morphology, taxonomy, South Africa, Namibia.

INTRODUCTION

Several years ago Mr. Alan Seccombe of Hout Bay, South Africa, brought to my attention an “elongate form” of *Fasciolaria lugubris* Adams & Reeve, in Reeve, 1847, found from False Bay to Hout Bay near Cape Town, South Africa [see also Marais & Kilburn (2010), who discussed and figured both forms]. Mr. Seccombe provided for my study many specimens of both typical *F. lugubris* and the elongate form, which I supplemented with a few specimens from other sources. After examining 79 specimens of regular *F. lugubris* and 31 specimens of the elongate form, I

concluded that the latter represents a separate species for which I prepared a description. A revision of the subfamily Fascioliinae (Snyder et al., 2012) introduced several new generic names, including *Lugubrilaria* with type species *F. lugubris* Adams & Reeve. Consequently, I withheld the description of the new species until the new genus was described.

In the interim, Mr. Werner Massier of Swakopmund, Namibia, provided photographs of *Fasciolaria* (now *Africolaria*) *rutila* Watson, 1882, and the new species of *Lugubrilaria* from Namibia (email to WGL 12-28-2010). Those records, which extend the ranges of both species hundreds of kilometers northward along the southwestern coast of Africa, constitute the first records of Fascioliinae in Namibia and the northernmost records of the subfamily in West Africa.

Abbreviations: ANSP, Academy of Natural Sciences, Philadelphia, PA, USA; BMSM, Bailey-Matthews Shell Museum, Sanibel, FL, USA; NMSA, Natal Museum, Pietermaritzburg, South Africa; SL, shell length; UF, Florida Museum of Natural History, Gainesville, FL, USA; WGL, Collection of William G. Lyons, St. Petersburg, FL, USA.

***Lugubrilaria seccombei* spec. nov. (Figs 1, 2)**

Fasciolaria lugubris lugubris Marais & Kilburn, 2010: 110, fig. ("a more elongate deep-water form").

Description. — Shell large for the genus (SL up to 179.3 mm), fusiform, with tall, slender spire, convex whorls, slender siphonal process, and sculpture of spiral cords and threads. Protoconch of about 2 large, brown whorls, first 1½ whorls smooth, final half of second whorl with several low axial riblets. Teleoconch of about 7 low, convex whorls, separated by shallow, nearly straight suture; first whorl with 5 thin spiral cords, increasing by intercalation to 7 or 8 cords separated by thin spiral threads on whorl 2; intercalation on later whorls rapidly produces an arrangement of large (l) and small (s) cords and fine threads (t), each separated from the next by a shallow interspace or groove and arranged in series of l-t-s-t-l; several such series on each spire whorl and up to 25 series on body whorl; base constricted, siphonal process moderately short, straight, with series of cords and threads continuing to blunt tip. Aperture oval-elongate, constricted apically by prominent parietal ridge; outer lip convex, inside marked with low, irregular, often paired lirae that extend outward to form bifid pairs of denticles along lip edge; inner lip adherent throughout, parietal ridge prominent, rounded, extending to edge of shield, flanked abapically by as many as 3 additional parallel ridges of diminishing size; columella arcuate, with 2 or 3 low abapical plicae bounded by prominent keel-like entrance fold; siphonal canal straight, smooth, considerably thickened along inner edge in larger shells. Shell color dull grayish white to tan or light brown, cords usually lighter colored than threads and interspaces, producing appearance of series of paired brown bands separated by lighter-colored cords; aperture white, often stained with light brown or yellowish-brown. Periostracum darkly olivaceous, texture parchment-like, smooth but rather thick, adherent. Operculum oval-elongate, brownish black, tapered bluntly anteriorly, with proximal terminal nucleus, outer surface rather smooth but with numerous growth increments arranged in concentric arcs; underside with thick, smooth callus, broader anteriorly.

Type material. — Holotype, 146.7 mm, Atlantic coast of South Africa, depth 40 m, on reef by diver, 1990, ANSP 425065. Paratypes: Simons Town, False Bay, South Africa, on rocks by diver, 1976, NMSA/1, 161.1 mm; Sunny Cove, Fish Hoek, False Bay, depth 15 m, BMSM 17951/1, 139.3 mm; False Bay, 15 m, diver, ANSP 426035/2, 155.2 & 150.2 mm; False Bay, depth 18-20 m, ANSP 449483/1, 102.4 mm; False Bay, depth 20 m, on sand by diver, 1989, ANSP 426036/1, 147.3 mm; False Bay, 20 m, diver, WGL/3, 179.3, 145.8 & 132.7 mm; False Bay, depth not recorded, MNHN/1, 134.2 mm; False Bay, depth not recorded, UF 447274/1, 146.8 mm; Hout Bay, Atlantic coast, 30 m, WGL/2, 129.5 and 127.8 mm; Hout Bay, depth 30-50 m, ANSP 426039/1, 133.7 mm.

Other material examined. — In WGL: 1, 97.8 mm, Sunny Cove near Fish Hoek, False Bay, depth 10 m; 1, 155.5 mm, Sunny Cove, depth 10-15 m; 1, 113.2 mm, depth 12-15 m; 6, 144.5, 142.7, 124.5, 121.2, 111.4 & 107.1 mm, False Bay, depth 20 m; 1, 122.2 mm, False Bay, depth 15-25 m; 2, 148.8 & 141.8 mm, False Bay, depth 20-25 m; 2, 116.7 & 107.8 mm, Hout Bay, Atlantic coast, depth 30 m; 1, 133.6 mm, Hout Bay, depth not recorded.

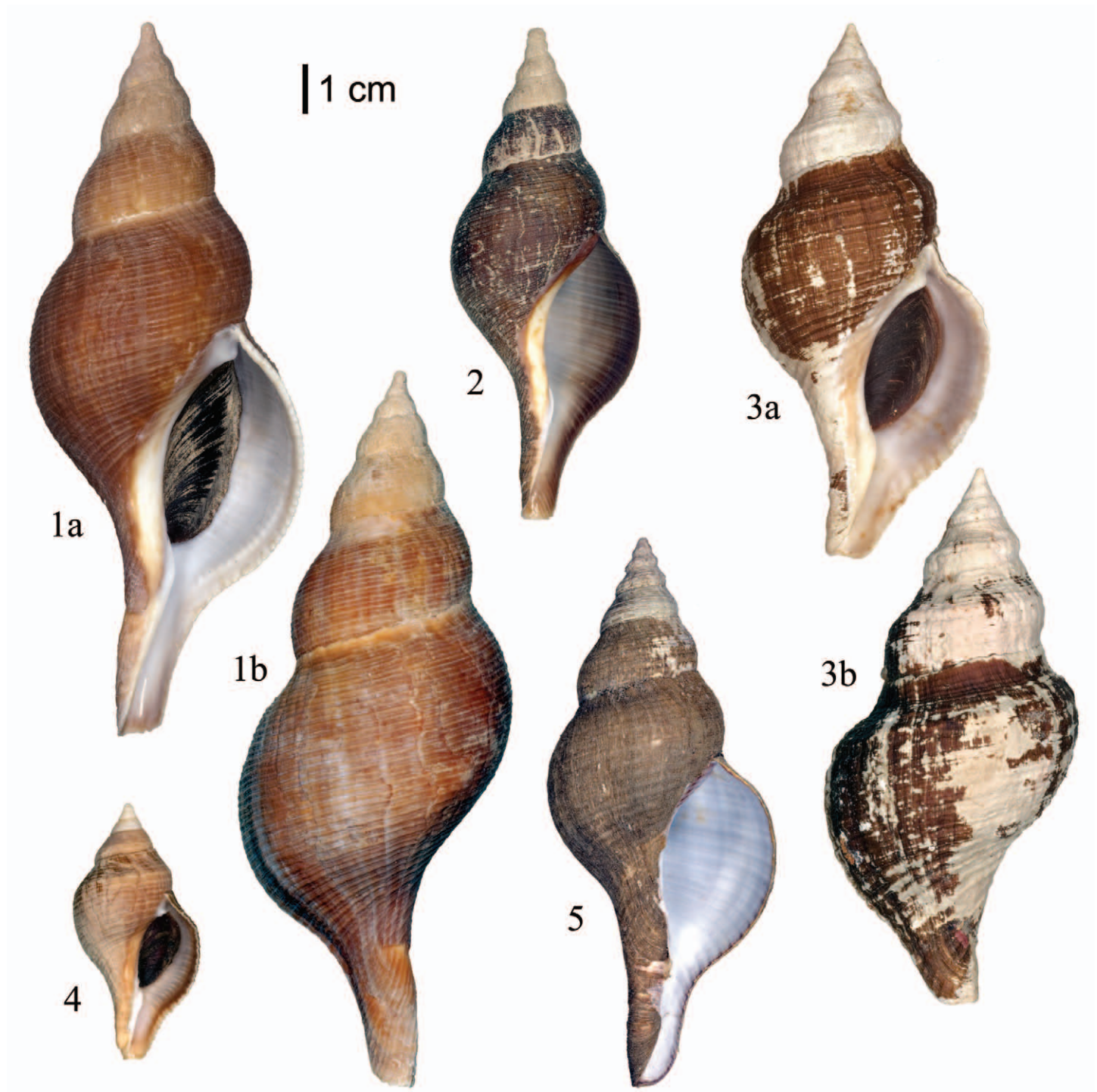
Type locality. — Atlantic coast of South Africa, depth 40 m.

Range. — Western side of False Bay to Hout Bay, Atlantic coast of South Africa and northward to southern Namibia; depth range 10-50 m.

Etymology. — The species name honors Alan Seccombe of Hout Bay, South Africa, who provided most of the specimens examined; the gender is masculine.

Remarks. — The material for *L. seccombei* spec. nov. consists of 31 specimens in 22 original lots (collecting events), some combined here as taken at identical localities and depths although on different dates and sometimes from different sources. The specimens were collected by divers between 1976 and 2009; 26 were live-collected and still retain opercula. Depths of collection, recorded for 25 specimens,

Figs 1-5. Fascioliariidae species. 1-2, *Lugubrilaria seccombei*, spec. nov. 1, holotype, 146.7 mm SL, Atlantic coast of South Africa, depth 40 m, ANSP 425065; 2, 102.4 mm SL, immature, False Bay, 18-20 m, ANSP 449483. 3-4, *Lugubrilaria lugubris* (Adams & Reeve, 1847). 3, 110.0 mm SL, False Bay, 10-15 m, ANSP 449482; 4, 53.3 mm SL, immature, Cape Hangklip, South Africa, ANSP 449484. 5, *Fusinus cinnamomeus* (Reeve, 1847), 117.8 mm, Hout Bay, South Africa, 20 m, ANSP 449481.



indicate a range of 10-50 m. The specimens were compared with 48 lots (79 specimens) of *L. lugubris* taken between Sal-danha Bay on the Atlantic coast and Cape Agulhas in the southern Indian Ocean; 76 of the latter specimens were live-collected, and depths of collection were available for all but 21 specimens (11 lots). Of lots with recorded depths, 21 were marked “low tide”; “tide pools”; or “intertidal”, but 11 lots were collected by divers at depths ranging from 5 to 20 m, nearly all between 8 and 15 m. The similarity of shell ornamentation but partial separation by depth of the two taxa prompted some South African collectors to refer to specimens of *L. seccombeii* as a smoother, elongate, deeper-water form of *L. lugubris*. However, no “intergrades” between shells of the two taxa were encountered, even among specimens from identical localities and depths, supporting recognition of the taxa as separate species.

Lugubrilaria seccombeii spec. nov. shares with *L. lugubris* the interior lirae that extend outward to form crenulations, usually paired, along the outer lip; the occasional occurrence of additional lesser ridges parallel to the parietal ridge; and the series of large and small spiral cords and threads that create the appearance of brown paired bands on the external shell surface when the periostracum is removed; periostraca and opercula of the two species are also very similar. However, the species differ markedly in other characters. Shells of *L. seccombeii* attain much greater size (largest 179.3 mm SL, versus 110.0 mm SL for the largest *L. lugubris* examined); in fact, the smallest immature shell of *L. seccombeii* was 97.8 mm SL, only 12.2 mm smaller than the largest *L. lugubris*. Protoconchs of both species consist of about two whorls, but the protoconch of *L. seccombeii* (Fig. 2) is about four times larger by volume than that of *L. lugubris* (Fig. 4). The spire of *L. seccombeii* is relatively taller and more slender than that of *L. lugubris* (Figs 3, 4), and the shell surface of *L. seccombeii* is relatively smooth, lacking the low axial ribs and having a less prominent peripheral cord and peripheral flexure (angulation) than those that characterize adult *L. lugubris*. Internally, the entrance fold at the end of the columella is sharper and more keel-like on *L. seccombeii* than on *L. lugubris*.

A few specimens of *L. seccombeii* spec. nov. in this study were previously misidentified as *Fasciolaria rutila* Watson,

1882 (now *Africolaria rutila* – see Snyder et al., 2012).

Although the shells appear superficially similar, shells of *A. rutila* lack crenulations on the edge and corresponding lirae on the inner side of the outer lip; spiral sculpture of the shell surface of *A. rutila* consists of closely packed, evenly sized threads, unlike the variously sized cords and threads of *L. seccombeii*; the suture of *A. rutila* is more compressed, with correspondingly rounder whorls than *L. seccombeii*; and *A. rutila* lives in depths of 150-500 m (Marais & Kilburn, 2010), whereas the depth range of *L. seccombeii* (10-50 m) is much shallower.

Another species that could be mistaken for *L. seccombeii* is *Fusinus cinnamomeus* (Reeve, 1847) (Fig. 5), which also lives in shallow subtidal depths from the Cape of Good Hope northward to southern Namibia (see *Remarks for Lugubrilaria* in Snyder et al., 2012). *Fusinus cinnamomeus* attains a size of at least 135 mm SL (WGL) and, like *L. seccombeii*, has an elongate shell with a tall spire, conspicuous suture, and dark, dense periostracum. However, the prominent columellar folds on *L. seccombeii* easily distinguish that species from *F. cinnamomeus*, which lacks such folds.

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Alan Seccombe provided most specimens of *Lugubrilaria seccombeii*, *L. lugubris*, and *Fusinus cinnamomeus* that were examined for this study. Werner Massier provided information and photographs of *Lugubrilaria* and *Fusinus* species in Namibia. Paul Callomon (ANSP) photographed the specimens and assembled the plate. Martin A. Snyder and Geerat J. Vermeij read an early draft of the manuscript, and Philippe Bouchet (MNHN) and Richard E. Petit provided thoughtful and helpful reviews of a later draft. All are gratefully thanked.

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