

A new Recent species of *Parvamussium* (*Bivalvia*, *Propeamussiidae*) from Easter Island (Pacific, Chile)

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Parvamussium rainesi spec. nov. is described from Easter Island. It is compared with some congeneric species from the Indo-Pacific.

Key words: *Bivalvia*, *Propeamussiidae*, *Parvamussium*, new species, Easter Island.

County, Los Angeles, U.S.A. (formerly LACM); SBMNH, Santa Barbara Museum of Natural History, Santa Barbara, California, U.S.A.; ZMA, Zoological Museum Amsterdam, Amsterdam [now part of NCB Naturalis].

The type material of *Parvamussium rainesi* spec. nov. is preserved in NCB Naturalis (holotype and paratypes) and NHMLAC (paratypes) with voucher specimens in the private collection of Mr Bret K. Raines.

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INTRODUCTION

Early this year Mr Bret K. Raines and Dr Markus Huber published a monograph on the bivalves from Easter Island and Salas y Gómez, in which a new parvamussiid species for Easter Island was recorded and determined as "*Parvamussium scitulum* (E.A. Smith, 1885)". Recently Mr Bret K. Raines was so kind to send me some specimens and in my opinion this material was erroneously determined. In fact, it is a new *Parvamussium* species, which is described herein.

Acronyms and abbreviations: BKR, collection Mr Bret K. Raines, Alamogordo, New Mexico, U.S.A.; IEU, Institute of Evolutionary Biology and Environmental Studies, University of Zurich, Zurich, Switzerland; NCB Naturalis, Naturalis Biodiversity Center, Leiden, The Netherlands; NHMLAC, Natural History Museum of Los Angeles

SYSTEMATIC PART

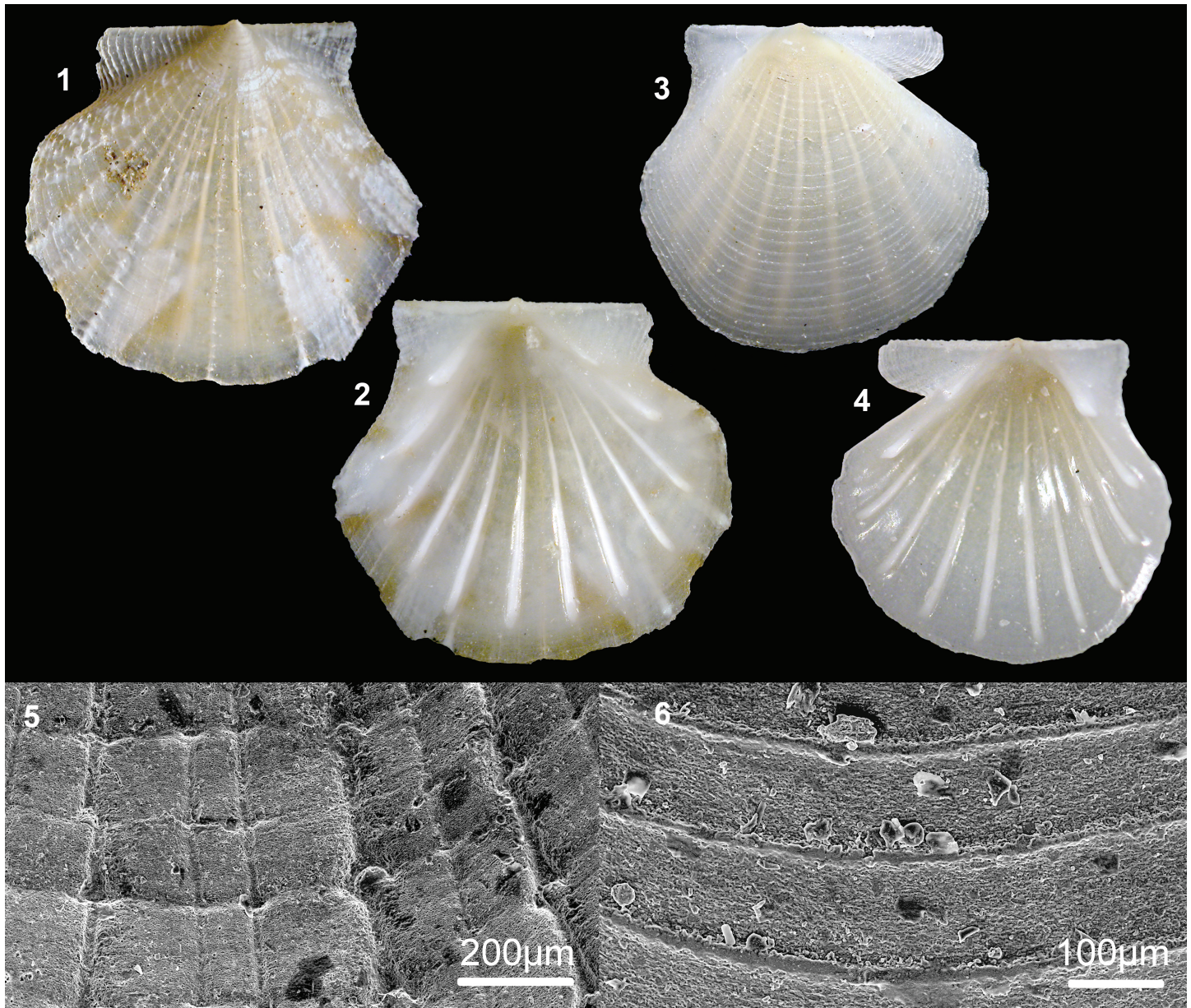
Propeamussiidae Abbott, 1954

Propeamussiidae Abbott, 1954: 361, 369.

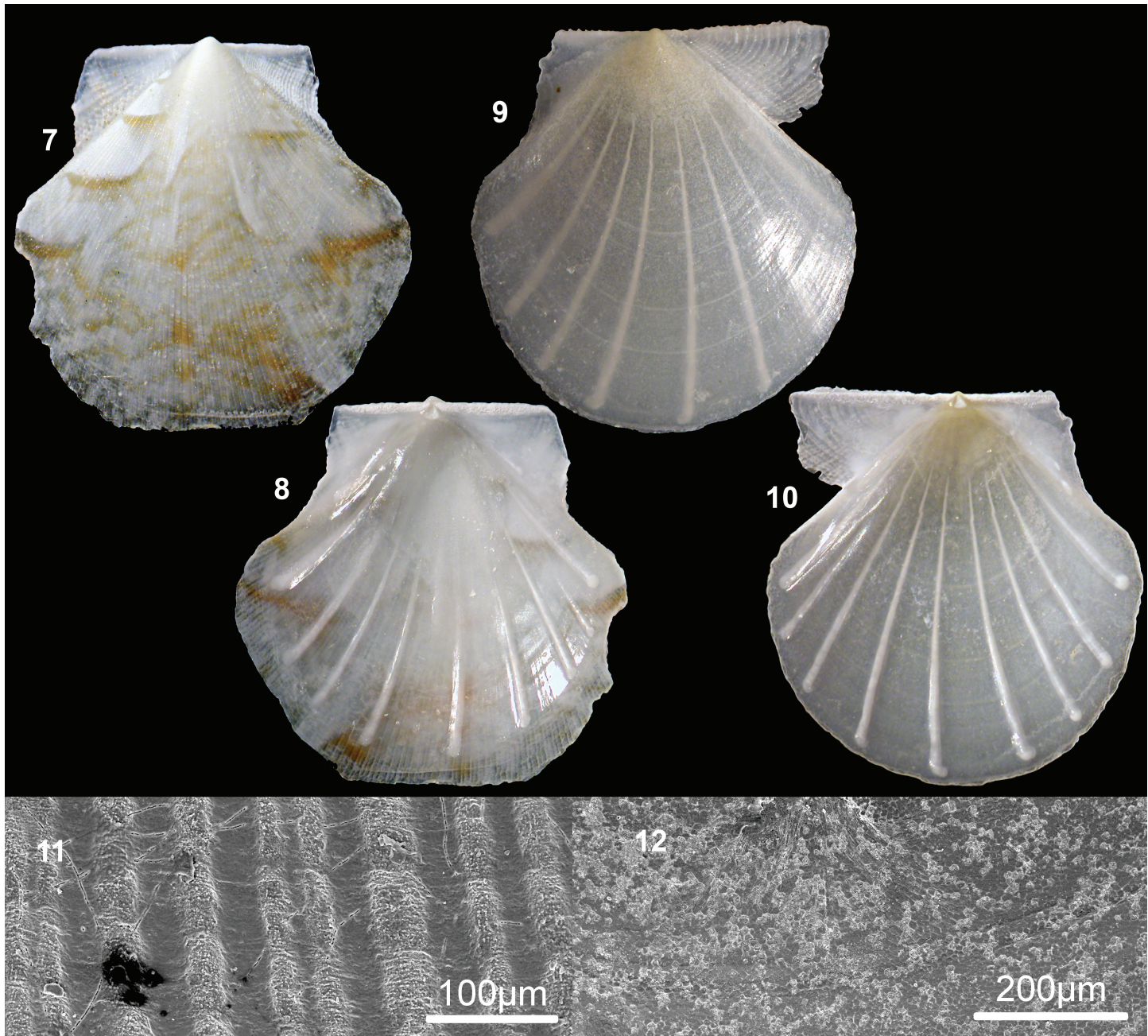
Remarks. — For an emended description of this family see Mikkelsen & Bieler (2008: 148).

Parvamussium Sacco, 1897

Parvamussium Sacco, 1897a: 102. Proposed as a subgenus of *Amusium* Herrmannsen, 1846 (unjustified emendation of *Amusium* Röding, 1798); no diagnosis given, but type species designated; Sacco, 1897b: 48 (diagnosis). Type species (by original designation): *Pecten (Pleuronectes) duodecimlamellatus* Bronn, 1832; Upper Miocene, northern Italy.



Figs 1-6. *Paroamussium rainesi* spec. nov., Chile, Easter Island, off the western coastline near Tahai, 27°07'20"S, 109°26'30"W, 50-80 m, dead, dredged, xii.2000. 1-2, 5, holotype (lv), ZMA Moll. 365560, height 5.2 mm, width 5.7 mm; 1, exterior; 2, interior; 5, close up radial and commarginal sculpture central area. 3-4, 6, paratype (rv), ZMA Moll. 365561, height 4.6 mm, width 4.9 mm; 3, exterior; 4, interior; 6, close up commarginal lamellae central area.



Figs 7-12. *Parvamussium scitulum* (Smith, 1885), Indonesia, E of Komodo Island, Slawi Bay, 8°36.8'S, 119°30.7'E, 65 m, dead, van Veen grab, 17.09.1984 (Snellius-II stn 4.075). 7-8, 11, lv, ZMA Moll. 144629, height 6.0 mm, width 6.1 mm; 7, exterior; 8, interior; 11, radial sculpture central area. 9-10, 12, rv, ZMA Moll. 144629, height 5.2 mm, width 5.0 mm; 9, exterior; 10, interior; 12, smooth central area.

Remarks. — For synonymy, diagnosis, distribution and discussion, see Dijkstra (1995: 25).

Parvamussium rainesi spec. nov. (Figs 1-6)

Parvamussium scitulum (E.A. Smith); Raines & Huber, 2012: 33, fig. 16A-E. Not *Amussium scitulum* E.A. Smith (1885: 312, pl. 23 figs 4, 4a-b).

Material examined. — Chile: **Easter Island**, off the western coastline near Tahai, 27°07'20"S, 109°26'30"W, 50-80 m, dead, dredged, leg. B.K. Raines, xii.2000 (lv, holotype, ZMA Moll. 365560; rv, figured paratype, ZMA Moll. 365561; 28 v, paratypes ZMA Moll. 365562; 10 v, paratypes, LACM 3229); off the southwestern coast near Orongo, 27°11'58"S, 109°29'28"W, 100-150 m, dead, dredged in fine sand, leg. B.K. Raines, xi.2002 (20 v, paratypes, LACM 3228).

Other material examined. — Mataverí Bay, 27°08'44"S, 109°26'46"W, 80-120 m, dead, dredged in sand and rubble, leg. B.K. Raines, xi.2002 (10 v, collection Mr B.K. Raines).

136 Description. — Shell up to c. 6 mm high, fragile, semi-transparent, almost circular, inequivalve, nearly equilateral, left valve very weakly inflated, right valve strongly inflated, auricles unequal in size and shape, umbonal angle c. 90°, internal riblets 10 plus 1-2 rudimentary or lacking, left valve brightly mottled, right valve whitish, dull or transparent glossy. Prodissoconch c. 200 µm long, smooth.

Left valve sculptured with numerous unevenly spaced radial riblets, increasing in number towards ventral margin, and delicate commarginal lamellae, intercostal and on the radial riblets, more closely spaced near the ventral margin than elsewhere. Both auricles with commarginal lamellae, more prominent and more widely spaced on the anterior than on the posterior auricle. Hinge line straight.

Right valve with widely spaced commarginal lirae, somewhat more narrowly spaced in late growth stage than earlier. Anterior auricle with delicate, closely spaced commarginal lirae, posterior auricle with delicate closely spaced commarginal lamellae.

Dimensions of type material: Holotype (NCB Naturalis) 5.2 mm in height, figured paratype (NCB Naturalis) 4.6 mm

in height, paratypes NCB Naturalis 2 to 5.9 mm in height, paratypes NHMLAC 2 to 5.8 mm in height.

Distribution. — Easter Island, 50-150 m, fine sand or sand and rubble. So far only single valves have been sampled. It is most likely that the present species is living somewhat deeper.

Comparison. — In a recent publication on the Mollusca from Easter Island and Salas y Gómez, Raines & Huber (2012: 33) incorrectly determined the present species as *Parvamussium scitulum* (E.A. Smith, 1885). It is an undescribed species. *Parvamussium scitulum* is recorded from the (sub)tropical Indo-West Pacific, living at 50-300 m (Dijkstra & Maestrati, 2008: 94). The true *P. scitulum* (Poppe, 2011: 42, pl. 1016 figs 5-8) differs morphologically from the present species in its larger size, reaching up to c. 10 mm in height (*P. rainesi* spec. nov. reaches up to c. 6 mm), in having very delicate, closely spaced radial lirae on the left valve (*P. rainesi* has widely spaced scaly radial riblets), and in having a smooth or very weakly and closely spaced, commarginally sculptured disc of the right valve (*P. rainesi* has prominent, widely spaced commarginal lirae). Similar species are compared in Table 1.

Parvamussium rainesi is somewhat similar in shape and sculpture to *P. cristatellum* (Dautzenberg & Bavay, 1912) (Poppe, 2011: 40, pl. 1015 figs 2-3), recorded from the tropical Indo-West Pacific, living in 194-510 m (Dijkstra & Maestrati 2008: 87), but differs in having better developed, prominent, radial and more closely spaced commarginal sculpture on the left valve (*P. rainesi* has fewer, less prominent radial riblets and more widely spaced, more delicate commarginal lamellae, which are lacking in some specimens). Moreover, the commarginal sculpture of the right valve of *P. cristatellum* is more closely spaced than in *P. rainesi*.

Parvamussium rainesi is morphologically closest to *P. squalidulum* Dijkstra, 1995, recorded from the southwestern Pacific, living in 260-523 m (Dijkstra, 1995: 32, figs 47-50; Dijkstra & Maestrati 2008: 94), but *P. squalidulum* differs mainly in reaching a much larger size, up to c. 14 mm in height (*P. rainesi* up to c. 6 mm), in having somewhat coarser and more strongly developed radial and commarginal

	<i>P. rainesi</i>	<i>P. scitulum</i>	<i>P. cristatellum</i>	<i>P. squalidulum</i>
height	up to c. 6 mm	up to c. 10 mm	up to c. 10 mm	up to c. 14 mm
shape	circular	subcircular	subcircular	subcircular
convexity lv	very weakly inflated	very weakly inflated	weakly inflated	very weakly inflated
convexity rv	strongly inflated	moderately inflated	moderately inflated	moderately inflated
radial sculpture lv	c. 3 per mm in central part	c. 6 per mm in central part	c. 1-2 per mm in central part	c. 3 per mm in central part
commarginal sculpture lv	weak, widely spaced	absent or weak narrow spaced	weak narrowly to widely spaced	weak, widely spaced
commarginal sculpture rv	prominent, widely spaced	absent or weak, narrow spaced	prominent, narrow spaced	weak, widely spaced
colour	brightly mottled lv whitish rv	mottled lv whitish rv	mottled lv whitish rv	brightly mottled lv whitish rv

Table 1. Compared morphological characters.

sculpture on the left valve, in having a more weakly inflated right valve (*P. rainesi* has a strongly convex right valve, and in having more prominent commarginal lamellar sculpture on the anterior auricle of the right valve (*P. rainesi* has more closely spaced, more delicate lamellae) and in having more irregularly spaced internal riblets (riblets equally spaced and developed in *P. rainesi*).

Etymology. — Named after Bret K. Raines, research associate at the Natural History Museum of Los Angeles County, who achieved his research trips to Easter Island in the years 1998, 2000 and 2002 to sample marine molluscs, including the present parvamussioid specimens, by diving and dredging.

ACKNOWLEDGEMENTS

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