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## A new species of *Callochiton* Gray, 1847 (Mollusca: Polyplacophora) from Western Samoa

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Among molluscan material from Western Samoa collected by H. Bayer and sent to the first author an unknown species of chiton was found. It is here described as *Callochiton mumuena* spec. nov. The new taxon is only known from the holotype, collected on Savaii Island under coral slab at a depth of one metre.

Keywords: Mollusca, Polyplacophora, *Callochiton*, new species, Western Samoa

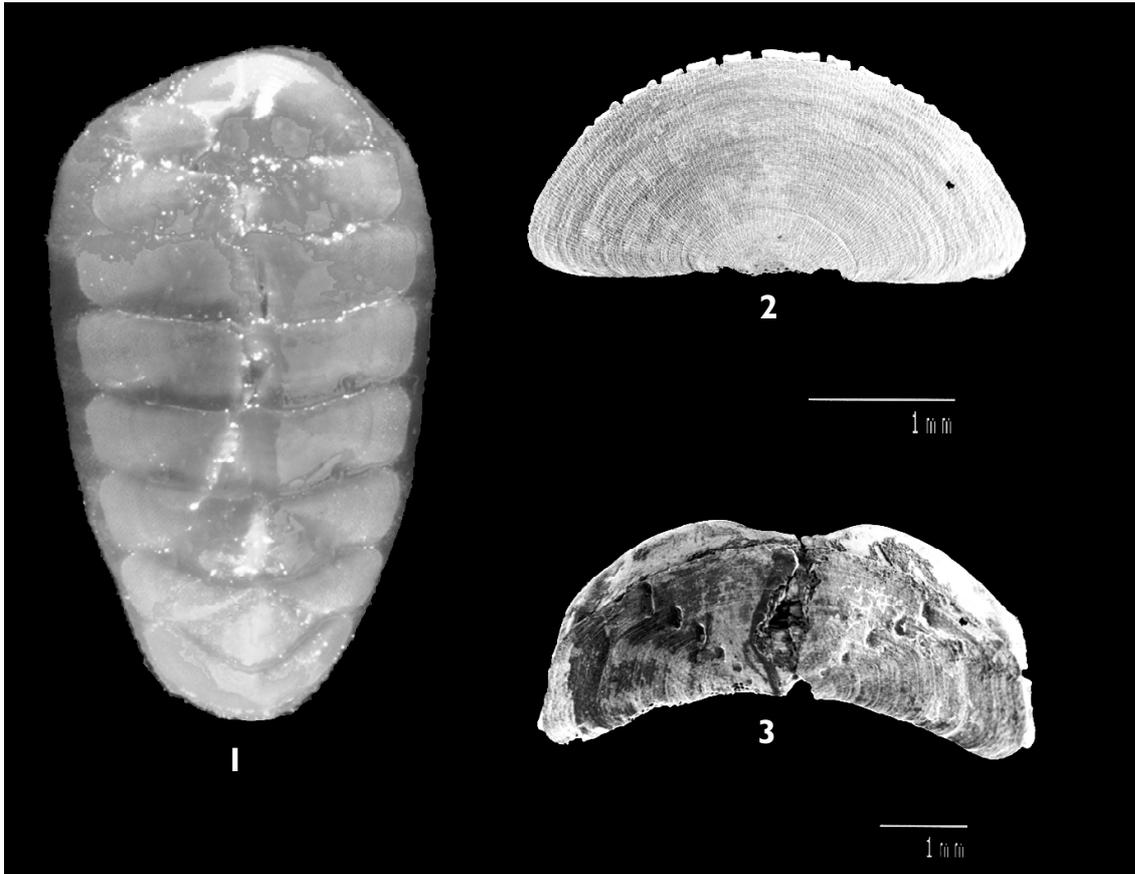
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### INTRODUCTION

Recently, Mr H. Bayer (Savaii Island, Western Samoa) has sent many molluscan specimens to the first author. This material included several different chiton species, of which the following could be identified: *Toncia (Lucilina) lamellosa* (QUOY & GAIMARD, 1835) (Schwabe 1997); *Callistochiton granifer* HULL, 1923; *Squamopleura araucariana* (HEDLEY, 1898) (first record from this locality); *Chiton subasimilis* SOUVERBIE, 1866 (first record, apart from the holotype) and *Callochiton bayeri* SCHWABE, 1998. One specimen defied identification and is described here as a species new to science.

### MATERIAL EXAMINED

For direct comparison the following material was studied: *Callochiton empleurus* (HUTTON, 1872) from New Zealand (National Museum of New Zealand, Wellington: lectotype NMNZ M279); *Callochiton klemi* ASHBY, 1926 from Yorke Peninsula, South Australia (South Australian Museum, Adelaide: holotype SAMA D11703, only a single median valve) *Callochiton bayeri* SCHWABE, 1998 from Savaii, Western Samoa (Zoologische Staatssammlung München: holotype ZSM 19981715).



Figures 1-3. *Callochiton mumuena* spec. nov., holotype, collection Nationaal Natuurhistorisch Museum, Leiden, reg.nr: RMNH. 59387; **1** dorsal view of the complete specimen (length 12.1 mm) now disarticulated; **2** valve I, dorsal view; **3** valve V, dorsal view. Scale bar (for Figs. 2-3) 1 mm. [photo's: F.J.A. Slieker (1), Nationaal Natuurhistorisch Museum (2-3)]

## SYSTEMATICS

Family Ischnochitonidae  
Subfamily Callochitoninae  
Genus *Callochiton* GRAY, 1847

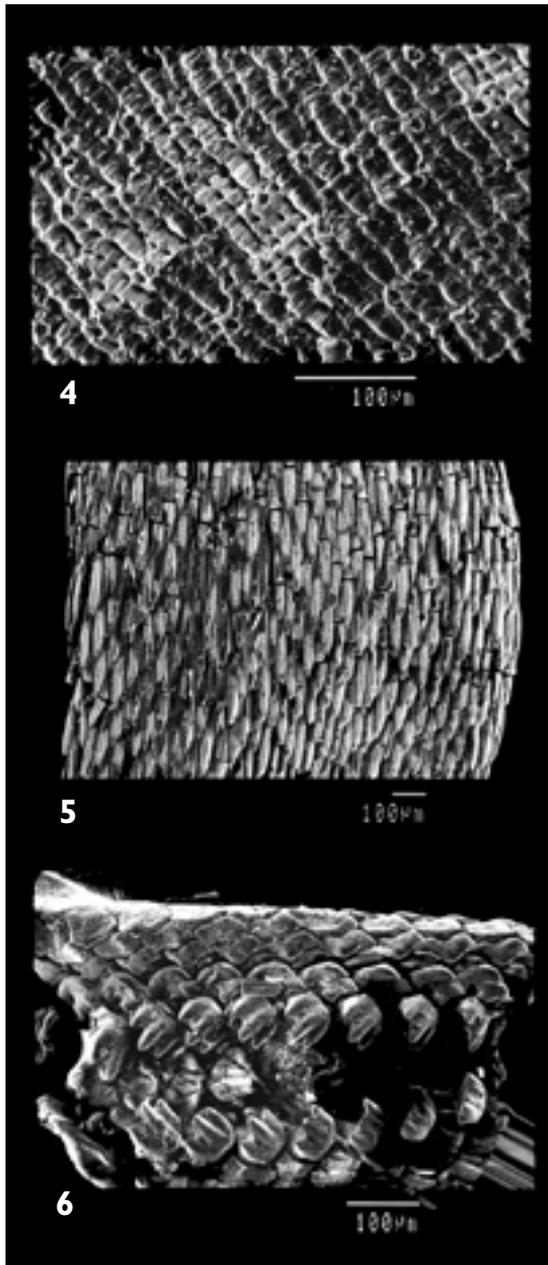
### *Callochiton mumuena* spec. nov.

Figures 1-6

**Holotype** Nationaal Natuurhistorisch Museum, Leiden, reg. nr. RMNH 59387. Western Samoa, Savaii Island, Vaisala lagoon, under coral slab at about 1m depth, collected February 1999 by H. Bayer. Specimen slightly curved, length 12.1 mm, width 6.9 mm; now disarticulated and preserved dry, valves III-VIII medially broken; slides of perinotum and part of the radula

also preserved dry. No other type material.

**Differential diagnosis** A typical member of the genus *Callochiton* as defined by Gray (1847). Differs from *C. empleurus* (HUTTON, 1872) by the greater number of pits in the pleural areas of the intermediate valves, the more keeled valves and the form of the dorsal girdle spicules which are broader and more sharpened in *C. empleurus*. *C. klemi* ASHBY, 1926 (although only known from the holotype, a single median valve) differs from *C. mumuena* spec. nov. by the number of slits in the insertion plates, which are 2-3 in *C. klemi* and one in *C. mumuena* spec. nov., by the more beaked apex in *C. klemi* and in having a stronger sculpture. *C. mumuena* spec. nov. differs from the recently described



Figures 4-6 *Callochiton mumuena* spec. nov., holotype, collection Nationaal Natuurhistorisch Museum, Leiden, reg.nr: RMNH 59387; **4** valve V, detail of tegmentum; **5** ventral girdle scales; **6** radula, central and lateral teeth; (scale bars 100 µm). [photo's: Nationaal Natuurhistorisch Museum]

*Callochiton bayeri* SCHWABE, 1998 by the shape of the postmucronal slope in the tail valve which is straight and steep in *C. bayeri* instead of concave as in *C. mumuena* spec. nov. Furthermore the grooves in *C. bayeri* are more numerous and larger.

**Description** Animal small, elongate oval and broader towards the tail valve; back rather flat, dorsal elevation quotient 0.34 (valve II). Valves slightly beaked, lateral areas clearly raised. Tegmentum sculptured with minute granules, arranged in many radial rows, shell eyes numerous, absent in the pleural areas of the intermediate valves. Girdle moderately wide, somewhat darker than the tegmentum, dorsally densely covered with conical, inwardly directed spicules. Tegmentum reddish brown (for colour photograph see Slieker 2000: pl. 34, fig. 6); articulamentum pinkish white. Apophyses short, wide, and connected across the jugum by a small, slightly concave, lamina. Slit formula of insertion plates 13/1/c.13. Head valve semicircular, with a few fine growth lines; posterior margin straight, not notched in the middle. Intermediate valves broadly rectangular, posterior margins slightly concave, lateral areas clearly raised, side slopes straight, apices somewhat pointed. Pleural areas with short, broad and rather deep longitudinal grooves parallel to diagonal ridge, two grooves at both sides of jugum in valve II, four in valve III and five in valves IV-VIII; grooves become longer towards anterior margin of valves. Tail valve semicircular, length about  $\frac{1}{2}$  of width, mucro slightly anterior, postmucronal slope concave. Girdle moderately wide, somewhat darker than tegmentum, dorsally densely covered with conical, inwardly directed spicules, which measure  $140 \times 36 \mu\text{m}$ . Radula only partly known. Major lateral teeth with a strong tridentate cusp. Central teeth larger, tulip-shaped, with a thin blade. Gills unknown.

**Distribution** Only known from the type locality, Savaii Island, Western Samoa.

**Etymology** *C. mumuena* is named after a combination of the Samoan words 'mumu' (red) and 'ena' (brown), being the colour of the tegumentum (Milner 1966).

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