



## New species and records of Scissurellidae and Anatomidae from the Americas (Mollusca: Gastropoda: Vetigastropoda)

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## Abstract

New Scissurellidae and Anatomidae from the geographic and political Americas are described, with many long-standing misidentifications being corrected, and some comparisons to described species complementing the contribution. *Sinezona kayae* **n. sp.**, previously mis-identified as the South African *Sin. insignis*, and *Sin. hawaiiensis* **n. sp.** without a selenizone, are described from Hawaii. *Sinezona carolarum* **n. sp.** is added to the Panamic province with a more depressed shell than the more common *Sin. rimuloides* (Carpenter, 1865), and a proportionally shorter selenizone. *Coronadoa demisispira* **n. sp.** from the Panamic and northeastern Pacific provinces is the third species in the genus, living sympatrically in the southern range of *C. simonsae* Bartsch, 1946. The new species is characterized by a shell with lower profile and a wider umbilicus. *Anatoma alternatisculpta* **n. sp.** from the Caribbean is most similar to *A. proxima* (Dall, 1927), but has conspicuously different sculpture on shoulder and base. *Anatoma plicatazona* **n. sp.** from the Caribbean has markedly upturned keels of the selenizone. *Anatoma disciformis* (Golikov & Sirenko, 1980) is reported from Alaska and illustrated for the first time by SEM. *Thielella kelseyi* (Dall, 1905) is resurrected for what has previously been misidentified as the European *Anatoma crispata* (Fleming, 1828) in the northeastern Pacific, with a neotype designated, as the holotype is missing. *Thielella peruviana* **n. sp.** from Peru is similar to *T. kelseyi* but has a taller shell and differs in the morphology of lateral tooth 5 of the radula. *Thielella bathypacifica* **n. sp.** from the Panamic province is a deep-water species (2500 m), and known from a single specimen only. The species shows a marked angulation on teleoconch I at the spiral cord in the position of the selenizone; additionally it has a radula with marginal teeth showing a distinct posterior food groove. The bodies of two species (*T. kelseyi*, *T. peruviana*) were examined by SEM. An accessory cephalic tentacle between the anterior most epipodial tentacle and the eye stalk was encountered. The epipodial sense organ is recognized for the first time in Anatomidae, and the presence of bursicles on the gill is confirmed.

**Key words:** new species, North and South America, Pacific, Caribbean, Hawaii, scanning electron microscopy, radula, external anatomy, bursicle, epipodial sense organ, neotype

## Introduction

Scissurellidae and Anatomidae are families of small, marine Vetigastropoda (see Geiger *et al.* 2008 for review of Vetigastropoda) distributed world-wide from the intertidal to the abyssal plain. A global revision of the group is being undertaken by DLG (Geiger 2003, 2006a,b,c, 2008, 2009, Geiger & Jansen 2004a,b, Geiger & Sasaki 2008, 2009, Sasaki *et al.* in press, Zelaya & Geiger 2007, 2008). This contribution focuses on species occurring in the geographic and political Americas. While some work has been carried out with the benefit of scanning electron microscopy (SEM), particularly in the Caribbean (Rolán & Luque 1994, Rolán 1996, Bandel 1998), findings from some earlier reports (e.g., McLean 1966, Kay 1979) need to be re-examined and rectified. Due to the global outlook of the overall project and having examined many type specimens of Scissurellidae and Anatomidae by SEM, we can address some long-standing errors in the literature.

A number of species have already been described from the Americas, with the following considered the valid species. In the northeastern Pacific: *Sinezona rimuloides* (Carpenter, 1865), *Coronadoa simonsae* Bartsch, 1946, *Anatoma janetae* Geiger, 2006, *Anatoma lyra* (Berry, 1947), *Anatoma* s.l. *chiricova* (Dall, 1919), *Thielella baxteri* (McLean, 1984), *Thielella kelseyi* (Dall, 1905), and the vent taxa *Sutilizona theca* McLean, 1989, *Sutilizona tunnicliffae* Warén & Bouchet, 2001, and *Temnocinclis euripes* McLean, 1989. In the Panamic Province *Sinezona rimuloides*, *Scissurella kaiserae* Geiger, 2006, *Coronadoa simonsae*, *Anatoma keenae* (McLean, 1970) [= *A. epicharis* (McLean, 1970)], and the vent species *Temnozaga parilis* McLean, 1989, are known. The Peruvian faunal province is currently represented only by some records of *Scissurella clathrata* Strebel, 1908. The Argentinian Province is represented by *Scissurella alexandrei* Montouchet, 1972, *Sci. electilis* Montouchet, 1972, *Sci. morretesi* Montouchet, 1972, *Satondella brasiliensis* (Mattar, 1986) (Luque, Geiger & Rolán unpubl. data), *Anatoma aedonia* (Watson, 1886), and *A. proxima* (Dall, 1927) [= *A. americana* Bandel, 1998]. From the Caribbean the following species have been described: *Sinezona confusa* Rolán & Luque, 1994 [= *Schismope columbiana* Bandel, 1998], *Sin. garciai* Geiger, 2006, *Scissurella redferni* (Rolán, 1996), *Satondella tabulata* (Watson, 1886), *Anatoma aedonia*, *A. alta* (Watson, 1886), *A. proxima* and *A. atlantica* (Bandel, 1998). From Hawaii, the problematic record of *Sinezona* “*insignis*” is here rectified, and *Anatoma pseudoequatoria* Kay, 1971, has been described from there.