

Supplementary file S1: Key to brackish and freshwater slug genera (Acochlidimorpha)

- 1 (At least temporarily) brackish, body colour translucent-whitish, oral tentacles tapered and (slightly) longer than rhinophores *Pseudunela**
- Freshwater habitat, body colour diverse 2
- 2 Interstitial, body size up to 3 mm, body colour translucent-whitish, foot as broad as body, eyes not visible externally *Tantulum*[†]
- Benthic, on or underside of stones, body size larger than 3 mm 3
- 3 Body colour translucent-whitish, body size up to 12 mm, foot as broad as body, eyes not visible externally *Potamohedyle*[‡]
- Body colour pigmented, foot broader than body, eyes usually visible externally, only known from Indo-Pacific Islands 4
- 4 Visceral sac elongated, round or slightly flattened in cross-section 5
- Visceral sac leaf-shaped and flattened in cross-section, propodial tentacles present, body colour yellowish to deep green with dark stripes on head, body size up to 35 mm 6
- 5 Propodial tentacles absent, body size up to 10 mm, body colour blue-green with faint stripes, visceral sac slightly flattened in cross-section *Wallacellia*[§]
- Propodial tentacles present, body size up to 35 mm, body colour yellowish to orange-brown, visceral sac tube-shaped and round in cross-section *Strubellia*[¶]
- 6 Visceral sac oval to leaf-shaped, edge of visceral sac smooth *Acochlidium*[#]
- Visceral sac broader, edge of visceral sac undulated *Palliohedyle***

Footnotes:

* Five species are currently known in the genus *Pseudunela*, all restricted in distribution to the Indo-Pacific. While *Pseudunela marteli* Neusser, Jörger & Schrödl, 2011 and *Pseudunela viatoris* Neusser, Jörger & Schrödl, 2011 are truly marine mesopsammic, two species are regarded as (at least temporarily) brackish inhabiting the intertidal influenced by freshwater: small (3 mm) interstitial *P. cornuta* (Challis, 1970) and medium-sized (9 mm) *P. espirotusanta* Neusser & Schrödl, 2009 living on the underside of intertidal rocks. *Pseudunela eirene* Wawra, 1988 needs detailed anatomical reexamination.

[†] Monotypic *Tantulum elegans* Rankin, 1979 is only known from a mountain swamp on St. Vincent Island.

‡ Monotypic *Potamohedyle espinosai* n. gen. n. sp. is only known from Cuba.

§ Monotypic *Wallacellia siputbiru* Brenzinger, Glaubrecht, Schrödl, Jörger & Neusser, 2021 is only known from Ambon Island/Indonesia.

¶ Two species known in the genus: *Strubellia paradoxa* (Strubell, 1892) from Ambon Island/Indonesia and *Strubellia wawrai* Brenzinger, Neusser, Jörger & Schrödl, 2011 from Solomon Islands and Vanuatu. Both species can be distinguished morphologically only by slight differences in the reproductive organs.

Currently, the genus *Acochlidium* comprises three species: *Acochlidium amboinense* Strubell, 1892 from Ambon Island/Indonesia and *A. bayerfehlmanni* Wawra, 1980 from Palau that cannot be properly distinguished by morphological features, and *A. fijiense* Haynes & Kenchington, 1991 from Fiji. Preliminary molecular data suggest that *Palliohedyle sutteri* should be transferred into *Acochlidium*.

** Two species known in the genus: *Palliohedyle weberi* (Bergh, 1895) from Flores/Indonesia and *Palliohedyle sutteri* (Wawra, 1979) from Sumba/Indonesia .