taxonomy

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*Communication*

# Validation of Three Species of Spongicolid Shrimp of New Zealand: *Spongicoloides clarki* Schnabel, Kou & Xu, *S. sonne* Schnabel, Kou & Xu and *Spongiocaris antipodes* Schnabel, Kou & Xu (Crustacea: Decapoda: Stenopodidea)

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**Abstract:** Schnabel, Kou & Xu reported three new species of spongicolid shrimp from New Zealand. The present note, with ZooBank registrations, serve to validate the names *Spongicoloides clarki*, *S. sonne* and *Spongiocaris antipodes* by fulfilling Code conditions for nomenclatural availability. As such, the date and authorship of the species names take the date of publication of this note. Specimens are deposited at the National Institute of Water & Atmospheric Research, Wellington (NIWA) and the Museum of New Zealand Te Papa Tongarewa, Wellington (NMNZ).

**Keywords:** taxonomy; validation; sponge shrimp; association; Southwest Pacific Ocean



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Schnabel, Kou & Xu [1] reported three new species of spongicolid shrimp from New Zealand. Although the description and figures presented fully characterise the new species, the article in which the new name appeared did not include a ZooBank registration number (LSID) for the article, required for validation of new names in electronic-only publications [2]. As a result, the names *Spongicoloides clarki*, *S. sonne* and *Spongiocaris antipodes*, as published in this Special Issue (Diversity 13(8): 343), are not available according to the International Code of Zoological Nomenclature (hereafter, the Code; [2,3]).Therefore, the present note, with ZooBank registrations, serve to validate the names *Spongicoloides clarki*, *S. sonne* and *Spongiocaris antipodes* by fulfilling Code conditions for nomenclatural availability. As such, the date and authorship of the species names take the date of publication of this note. Specimens are deposited at the National Institute of Water & Atmospheric Research, Wellington (NIWA) and the Museum of New Zealand Te Papa Tongarewa, Wellington (NMNZ).

**Taxonomy**

Family SPONGICOLIDAE Schram, 1986 [4].

**Genus *Spongicoloides* Hansen, 1908 [5]**

***Spongicoloides clarki* sp.nov.**

*Spongicoloides clarki* Schnabel, Kou & Xu 2021 [1]: 343, figs. 1, 2, 5–7 [unavailable under Art. 8.5.3].

LSID urn:lsid:zoobank.org: act: 8C0FBE9C-A1FC-4781-B911-BA17E6895C99

**Type material**. **Holotype:** F ov. (PCL: 11.8 mm); Macauley Island, Kermadec Islands, 30.28–30.29° S, 178.20–178.20° W, 1431–1426 m; 29 October 2016; RV *Tangaroa* Stn. TAN1612/71, beam trawl; found inside *Regadrella okinoseana* Ijima, 1896 [6]; NIWA 118650.

**Diagnosis.** Carapace with faint hepatic groove; surface with only scattered small postrostral, hepatic and anterolateral spines, cervical groove not lined with distinct spines; anterior margins without antennal spine, few small anterolateral spines. Rostrum reaching distal margin of basal article of antennular peduncle; with nine small dorsal teeth, laterally unarmed. Epistome anteriorly straight, nearly smooth. Second and third pleonite with acute articular knob; fifth and sixth pleonites smooth on dorsal midline, unarmed posteroventral margin. Telson broadly rectangular, about twice as long as wide, small teeth along posterior margin. Antennular peduncle unarmed except for minute distomesial spine on second article, stout stylocerite. Antenna with small ventromedian spines on basicerite; scale with 7–8 small lateral teeth. First maxilliped with single arthrobranch. Second maxilliped with single arthrobranch, well-developed podobranch, lacking epipod. Third maxilliped with two arthrobranchs and rudimentary epipod, setiferous organ well-developed. First pereiopod with setiferous organ on propodus only. Third pereiopod nearly entirely glabrous and unarmed; fixed finger unarmed on distoventral margin; ischium with distodorsal spine and row of small ventral spines; coxa mesially unarmed. Fourth and fifth pereiopods dactyli with ventral unguis bearing a small ventral and dorsal tooth; coxa mesially unarmed; fourth pereiopod with paired arthrobranchs.

**Etymology.** Named after Malcolm Clark, Principal Scientist at NIWA, for his contribution to deep-sea, specifically seamounts, research, and who led the voyage that collected the holotype (Kermadec-Rangitahua, TAN1612), with KS's gratitude for his mentoring and guidance.

**Remarks** A full description and figures of *Spongicoloides clarki* are given by Schnabel, Kou & Xu [1].

***Spongicoloides sonne* sp. nov.**

*Spongicoloides sonne* Schnabel, Kou & Xu 2021 [1]: 33 of 61, figs. 1, 2, 12–17 [unavailable under Art. 8.5.3].

LSID urn: lsid: zoobank.org: act: 0703260B-D4DD-4825-906C-BA2E0144A236

**Type material**. **Holotype:** F ov. (PCL: 15.0 mm); Southern Kermadec Ridge, 35.380° S, 178.980° E, 1184.1 m; 7 February 2017; RV *Sonne* Stn. SO254/33ROV08, Remote Operated Vehicle; NIWA 127111; found inside *Corbitella* sp. **Allotype:** M (PCL: 11.4 mm); Southern Kermadec Ridge, 35.380° S, 178.980° E, 1184.1 m; 7 February 2017; RV *Sonne* Stn. SO254/33ROV08, Remote Operated Vehicle; NIWA 127110; found inside *Corbitella* sp.

**Diagnosis.** Carapace with distinct hepatic groove; scattered small spines on postrostral, cardiac, hepatic and branchial surfaces; cervical groove lined with distinct spines; antennal spine and anterolateral spines small but distinct. Rostrum at least reaching distal margin of basal article of antennular peduncle; with 8–10 dorsal teeth. Epistome anteriorly produced, with small anterior teeth. Second and third pleonite with blunt articular knob. Fourth to sixth pleonites smooth on dorsal midline; one or more small spines along each posteroventral margin. Telson broadly rectangular, about twice as long as wide; regular row of teeth along posterior margin. Ocular peduncle with 2–3 granules on dorsal surface. Antennule basal article unarmed on mesial margin; stout stylocerite. Antenna basal article with distinct ventral spines; basicerite with scattered spines on ventral surface; scale with 4–9 lateral teeth along distal half of margin. First maxilliped distal article with sharp distal spine; single arthrobranch developed. Second maxilliped with single arthrobranch and well-developed podobranch; epipod present. Third maxilliped with well-developed setiferous organ; lacking epipod; with paired arthrobranchs. First pereiopod with setiferous organ on propodus only. Second pereiopod similar to first, 1.5 times longer and stronger. Third pereiopod nearly entirely glabrous and smooth; fixed finger unarmed on distoventral margin; palm with few to many minute granules scattered along distoventral portion; ischium with distinct distodorsal spine, with row of ventral spines; coxa mesially granulate. Fourth and fifth pereiopods dactyli with ventral unguis bearing a number of small ventral teeth. First four pereiopods with paired arthrobranchs.

**Etymology.** Named after the German Research Vessel *Sonne* that collected the first specimens assigned to this new species during the 2015 *PoribacNewZ* voyage SO254. Used as a substantive in apposition.

**Remarks.** A full description and figures of *Spongicoloides sonne* are given by Schnabel, Kou & Xu [1].

***Genus* Spongiocaris Bruce & Baba, 1973 [7]**

***Spongiocaris antipodes* sp. nov.**

*Spongiocaris antipodes* Schnabel, Kou & Xu 2021 [1]: 44 of 61, figs. 1, 2, 18–22 [unavailable under Art. 8.5.3].

LSID urn: lsid: zoobank.org: act: 985BDCCF-0AC2-453C-8BE3-00A053AF7F69

**Type material**. **Holotype:** F ov. (PCL: 7.7 mm); West Norfolk Ridge, 34.342° S, 168.387° E, 382–390 m; 2 June 2003; NORFANZ Stn. TAN0308/139; NMNZ CR.025704. **Allotype:** M (PCL: 5.2 mm); West Norfolk Ridge, 34.285° S, 168.358° E, 785–800 m; 2 June 2003; NORFANZ Stn. TAN0308/141; NMNZ CR.019492. **Paratype:** 1 M (poor condition, PCL: ~6.2 mm); station details as for holotype; NMNZ CR.019493. 1 F (PCL: 8.0 mm); Seamount No. 986, off Hawkes Bay shelf, 39.991° S, 178.215° E, 792 m; 9 February 2017; method: manipulator arm; R/V Sonne, ROV *KIEL 6000*, cruise: SO254, dive: 36 ROV 10; NIWA 127133.

**Diagnosis.** Small commensal spongicolid shrimp so far known to be associated with euplectellid glass sponges; body slightly depressed. Carapace with distinct cervical groove, each side furnished with 6–10 small spines; small branchiostegal spine and antennal spine present or absent; 2–3 pairs of postrostral spines; typically, two pairs of supraorbital spines; pterygostomian angle furnished with a few small spines; a few anterolateral spines always present; hepatic spines typically present. Rostrum length reaching to distinctly overreaching last antennular peduncle article, entire dorsal margin with spines with 5–11 dorsal, 1–3 ventral, 0–3 lateral spines; cornea unpigmented. Antennal scale subrectangular, with 4–9 spines along the lateral margin. Epistome nearly always unarmed, may have single anterior spine; endopod of maxillule unarmed. Third maxilliped setiferous organ covering nearly entire length of propodal ventral margin; epipod always absent. First pereiopod with well-developed setiferous organ. Third pereiopod robust; carpi unarmed except for low blunt distal spines; meri smooth or with dorsal row of low spines; palm with a few scattered spines along distal portion of outer surface, at least 3 times longer than wide; fixed finger with dense fringe of setal brushes along two-thirds of ventral margin, unarmed. Fourth and fifth pereiopods with carpi distinctly segmented by 1–3 sutures; coxa may be armed with short distomesial spinose ridge (males) or granular (females); all pereiopods lack epipods. Posterior margin of fifth pleonal tergite ending in a few spines, posterior margins of pleura irregular; sixth tergite with 3–4 posterior dorsal spines, surface smooth, posterior margin of pleura with 1–3 spines. Telson with 6–8 spines along each lateral margin. Uropodal endopodite with two terminal dorsal hairs.

**Etymology.** Named *antipodes*, an archaic vernacular for Australia and New Zealand, as this species is so far restricted to the southwestern Pacific region. The term is used as a noun in apposition.

**Remarks.** A full description and figures of *Spongiocaris antipodes* are given by Schnabel, Kou & Xu [1].

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**Institutional Review Board Statement:** Not applicable.

**Data Availability Statement:** The data presented in this study are openly available in NCBI Gen Bank at https://www.ncbi.nlm.nih.gov/genbank/ (accessed on 10 July 2021), see Table 1 for Accession numbers.

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**Conflicts of Interest:** The authors declare no conflict of interest.

## Abbreviations

| | |
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| F | female |
| ov. | ovigerous |
| NIWA | National Institute of Water & Atmospheric Research, Wellington |
| NMNZ | Museum of New Zealand Te Papa Tongarewa, Wellington |
| M | male |
| PCL | Postrostral carapace length |

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