

Rectification of nomenclatural issues in papers on Paleozoic tabulate corals published in the Bulletin of the National Museum of Nature and Science, Series C, between 2018 and 2022: Part 2, Niko (2019, 2022)

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Abstract Because six species of tabulate corals proposed by Niko (2019, 2022) are insufficient in satisfying zoological nomenclature, *Thamnopora sumitaensis* Niko, sp. nov., *Klaamannipora densitabulata* Niko, sp. nov., *Pseudofavosites asoensis* Niko, sp. nov., *Gracilopora delicata* Niko, sp. nov., *Thamnopora miyamotoi* Niko, sp. nov. and *Thamnoptychia tanimotoi* Niko, sp. nov. are advocated based on reproduction from the original descriptions.

ZooBank registration:

<https://www.zoobank.org/urn:lsid:zoobank.org:pub:1C6F3B54-EA7C-49E4-A41B-E5A3538F11B0>

Introduction

Following Niko *et al.* (2023), the present paper describes six unavailable taxa of Paleozoic tabulate corals introduced in Niko (2019, 2022). The following descriptions are given based on reproduction from Niko (2019, 2022). All the type series are deposited in the Department of Geology and Paleontology, National Museum of Nature and Science, Tsukuba, Ibaraki Prefecture, Japan (NMNS PA).

Description

***Thamnopora sumitaensis* Niko, sp. nov.**

urn:lsid:zoobank.org:act:BB97C989-C25D-4918-AB6E-2724E53A64CE

Thamnopora sumitaensis Niko, 2019: 16, fig. 3-C–K, *nomen nudum*, unavailable.

Type Material: Holotype, NMNS PA18654. Paratypes, NMNS PA18649–18653, 18655–18663.

Occurrence: The Kamiarisu Formation, probably Givetian (Middle Devonian), Kamiarisu area of Sumita-cho, Kesen-gun, Iwate Prefecture, Japan.

Diagnosis: Species of *Thamnopora* with 5–12 mm

in usual diameters of branches and relatively slender corallites having diameters of 0.2–2.1 mm; intercorallite walls attain approximately 0.8 mm in thickness; mural pores abundant; short conical septal spines well-developed in peripheral stereozone; tabulae common.

Etymology: The specific name is derived from Sumita-cho. The type locality of the new species belongs to this town.

***Klaamannipora densitabulata* Niko, sp. nov.**

urn:lsid:zoobank.org:act:D558AFC9-D409-4A8E-BDD6-17514CA54F07

Klaamannipora densitabulata Niko, 2022: 17–20, fig. 2, *nomen nudum*, unavailable.

Type Material: Holotype, NMNS PA20404.

Occurrence: Naidaijin Formation, Givetian (Middle Devonian), Yamato-cho, Kumamoto Prefecture, Japan.

Diagnosis: Species of *Klaamannipora* with large corallite diameters at peripheral zone of corallum, 3.5 mm in mean; thickness of intercorallite walls 0.04–0.33 mm; both mid-wall and angle pores developed; septal spines rare, short; spacing of tabulae very close at distal part of peripheral zone.

Etymology: The specific name is derived from the Latin *densus*, meaning crowded, and *tabula*, in ref-

erence to its close spacing of tabula in its distal part of the peripheral zone.

***Pseudofavosites asoensis* Niko, sp. nov.**

urn:lsid:zoobank.org:act:5B41C8EE-8EB4-4B59-83EB-56E1F0C746DD

Pseudofavosites asoensis Niko, 2022: 20–22, fig. 3, *nomen nudum*, unavailable.

Type Material: Holotype, NMNS PA20405. Paratype, NMNS PA20406.

Occurrence: Naidaijin Formation, Givetian (Middle Devonian), Yamato-cho, Kumamoto Prefecture, Japan.

Diagnosis: Species of *Pseudofavosites* with corallite diameters of approximately 2.1 mm near calical rim; transverse sections of lumina mostly circular to rounded polygonal; thickness of intercorallite walls 0.10–0.38 mm; both mid-wall and angle pores developed; squamulae short, 0.31–0.42 mm; complete tabulae very rarely developed in the most proximal corallites.

Etymology: The specific name derives from Mt. Aso, that is a famous active volcano in Kumamoto Prefecture.

***Gracilopora delicata* Niko, sp. nov.**

urn:lsid:zoobank.org:act:E1677D12-4BCA-4DD8-8708-16E192F6B77B

Gracilopora delicata Niko, 2022: 22–25, fig. 5, *nomen nudum*, unavailable.

Type Material: Holotype, NMNS PA20415. Paratypes, NMNS PA20411, 20413, 20416, 20417, 20420, 20421.

Occurrence: Naidaijin Formation, Givetian (Middle Devonian), Yamato-cho, Kumamoto Prefecture, Japan.

Diagnosis: Species of *Gracilopora* with usual branch diameters of 3–11 mm; corallite diameters moderate, approximately 0.6 mm; calices oblique; intercorallite walls weakly thickened, 0.17–0.31 mm in peripheral stereozone; both mid-wall and angle pores developed; tabulae sparse, 0–5 tabulae in 2.5 mm.

Etymology: The specific names is derived from the Latin *delicatus*, meaning delicate, in reference of its corallite nature.

***Thamnopora miyamotoi* Niko, sp. nov.**

urn:lsid:zoobank.org:act:564A39EA-48B1-4DBD-B123-23239D7E5F62

Thamnopora miyamotoi Niko, 2022: 25, 27, fig. 7, *nomen nudum*, unavailable.

Type Material: Holotype, NMNS PA20462. Paratypes, NMNS PA20435, 20440, 20441, 20444, 20447, 20449–20451, 20458–20460, 20468.

Occurrence: Naidaijin Formation, Givetian (Middle Devonian), Yamato-cho (NMNS PA20435, 20440, 20441, 20444, 20447, 20449–20451, 20458–20460, 20462) and Misato-machi (NMNS PA 20468), Kumamoto Prefecture, Japan.

Diagnosis: Species of *Thamnopora* with moderate branch diameter, usually 6–19 mm, and relatively small corallite diameters, 0.5–2.0 mm; intercorallite walls gradually thickened and attain 1.08 mm in peripheral zone; mural pores well developed, elliptical in profile; septal spines rare; tabulae complete or incomplete, variable in distribution ranging from almost absent to somewhat crowded.

Etymology: The specific name honors Dr. T. Miyamoto, in recognition of his contributions to geology of the Kurosegawa Belt in Kyushu, especially in Miyamoto and Tanimoto (1993).

***Thamnoptychia tanimotoi* Niko, sp. nov.**

urn:lsid:zoobank.org:act:D27A45F0-949D-406B-8B95-367F39DDBE6E

Thamnoptychia tanimotoi Niko, 2022: 28, fig. 8, *nomen nudum*, unavailable.

Type Material: Holotype, NMNS PA20490. Paratypes, NMNS PA20478, 20480, 20481, 20483–20485, 20491–20493.

Occurrence: The Naidaijin Formation, Givetian (Middle Devonian), Yamato-cho, Kumamoto Prefecture, Japan.

Diagnosis: Species of *Thamnoptychia* with 5–15 mm in usual branch diameter; corallite diameters approximately 2.1 mm near calical rim; peripheral zone (= peripheral stereozone) relatively narrow; ratios of axial zone diameter per branch diameter 0.3–0.5; intercorallite walls attain approximately 1.2 mm in thickness; mural tunnels rare to common; tabulae well developed.

Etymology: The specific name honors Mr. Y. Tan-

imoto, in recognition of his contributions to geology of the Mt. Tenshu-zan area, especially in Tanimoto and Miyamoto (1986).

Acknowledgements

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