

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 3, Niko and Badpa (2020, 2021)

Shuji Niko^{1*} and Mahdi Badpa²

¹Department of Environmental Studies, Faculty of Integrated Arts and Sciences, Hiroshima University,
1–7–1 Kagamiyama, Higashihiroshima, Hiroshima 739–8521, Japan

²Department of Geology, Payame Noor University of Qom, Qom, Iran

*Author for correspondence: niko@hiroshima-u.ac.jp

Abstract Niko and Badpa (2020, 2021) that proposed a new genus and four species of tabulate corals were issued electronically without satisfying the International Code of Zoological Nomenclature, thus descriptions of nominal taxa, *Michelinia flugeli* Niko and Badpa, sp. nov., *Syringopora iranica* Niko and Badpa, sp. nov., *Sutherlandia khachikensis* Niko and Badpa, sp. nov., *Julfamichelinia* Niko and Badpa, gen. nov., are given herein. A new combination name, *Julfamichelinia allata* (Tchudinova in Ruzhentsev and Sarycheva, 1965), is produced as the type species of the new genus *Julfamichelinia*.

ZooBank registration:

<https://www.zoobank.org/urn:lsid:zoobank.org:pub:BEE29A73-0FA4-4909-9743-6DE67C3112EA>

Introduction

After the preceding papers (Niko *et al.*, 2023; Niko, 2023), the present third part concerns unavailable names of Paleozoic tabulate corals described in Niko and Badpa (2020, 2021) based on reproduction from the original descriptions.

Description

***Michelinia flugeli* Niko and Badpa, sp. nov.**

urn:lsid:zoobank.org:act:7963D287-6043-4FD5-BDA0-063664B9DFE5

Michelinia flugeli Niko and Badpa, 2020: 49, 51, fig. 3, *nomen nudum*, unavailable.

Type Material: Holotype, SDO11. Paratypes, SDO14, SDO15, SDO18, SDO19 and SDO20. All specimens deposited at the paleontological collections at Ferdowsi University of Mashhad, Mashhad, Iran.

Occurrence: The Sardar Formation, late Bashkirian (early late Carboniferous), Zaladu, the Ozbak-kuh Mountains, East-Central Iran.

Diagnosis: Species of *Michelinia* with small coralla indicating subspherical to longitudinally prolonged domical or columnar in growth form; diameter of coralla 12–25 mm; corallite small in diameter, 2.7 mm mean; intercorallite walls thin, usually 0.23–0.46 mm; septal spines sporadic; mural pores uncommon, occur angles and faces; most common tabulae complete and weakly up-arched.

Etymology: The specific name honors the late Dr. H. W. Flügel, in recognition of his contributions to the study of the Iranian coral faunas.

***Syringopora iranica* Niko and Badpa, sp. nov.**

urn:lsid:zoobank.org:act:1E9F9AE3-BACF-43E0-9265-8801771ABF69

Syringopora iranica Niko and Badpa, 2020: 55, fig. 6, *nomen nudum*, unavailable.

Type Material: Holotype, NMNS PA19901. Deposited at the Department of Geology and Paleontology, National Museum of Nature and Science, Tsukuba, Ibaraki Prefecture, Japan.

Occurrence: The Sardar Formation, late Serpukhovian (late early Carboniferous), Zaladu, the Ozbak-kuh Mountains, East-Central Iran.

Diagnosis: A species of *Syringopora* with approximately 0.8 mm in corallite diameter; usually 2.2–3.6 mm in corallite distance (center-to-center) and well-developed connecting tubuli that tend to occur at same level; some tubuli become enlarged by lower bulge-like inflation; septal spines numerous; granular to spine-like saliences developed on tabulae; axial syringes relatively large, 0.4–0.8 mm in diameter.

Etymology: The specific name derives from Iran.

***Sutherlandia khachikensis* Niko and Badpa, sp. nov.**

urn:lsid:zoobank.org:act:1C6C834C-42D8-4E01-9E75-41E88A5B6009

Sutherlandia khachikensis Niko and Badpa, 2021: 42, 44, fig. 2, *nomen nudum*, unavailable.

Type Material: Holotype, J168. Deposited at the paleontological collections at Ferdowsi University of Mashhad, Mashhad, Iran.

Occurrence: The Khachik Formation, Capitanian (late middle Permian), Kuh-e-Ali Bashi, the Ali Bashi Mountains, Julfa, Northwest Iran.

Diagnosis: Small species of *Sutherlandia* with subspherical corallum, having maximum diameter of 11 mm; distal corallites subcylindrical, approximately 1.2 mm in diameter; intercorallite walls commonly thickened, attaining 0.35 mm; mural pores (tunnels) well-developed; squamulae 0.2–0.3 mm in length; tabulae common, but restrict in proximal corallites.

Etymology: The specific name derives from the type stratum, named the Khachik Formation.

***Julfamichelinia* Niko and Badpa, gen. nov.**

urn:lsid:zoobank.org:act:97285C4A-2701-4130-BB54-836D362997E6

Julfamichelinia Niko and Badpa, 2021: 44, *nomen nudum*, unavailable.

Type species: *Michelinopora allata* Tchudinova

in Ruzhentsev and Sarycheva, 1965 [= *Julfamichelinia allata*, **comb. nov.**]. Wuchiapingian (early late Permian).

Diagnosis: Genus of *Michelininae* characterized by small cerioid coralla with strong holotheca and fibrous intercorallite wall structure; both mid-wall and angle pores developed; septal spine probably absent; incomplete tabulae most common.

Etymology: The generic name is a combination of the Julfa area and *Michelinia*. The gender is feminine. The figured specimen in the seven syntypes of the type species of this new genus was collected in Dorasham of this area (Tchudinova in Ruzhentsev and Sarycheva, 1965).

Acknowledgements

We thank Takuma Haga for his help to register the new name to ZooBank and thoughtful review.

References

- Niko, S. (2023) 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). *Bulletin of the National Museum of Nature and Science, Series C*, **49**: 83.
- Niko, S. and Badpa, M. (2020) Carboniferous tabulate corals from the Sadar Formation in the Ozbak-kuh Mountains, East-Central Iran. *Bulletin of the National Museum of Nature and Science, Series C*, **46**: 47–59.
- Niko, S. and Badpa, M. (2021) Tabulate corals from the Middle and Upper Permian formations in the Julfa area, Northwest Iran. *Bulletin of the National Museum of Nature and Science, Series C*, **47**: 41–51.
- Niko, S., Badpa, M., Ghaderi, A. and Ataei, M. R. (2023) 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 1, Niko, Badpa, Ghaderi and Ataei (2018). *Bulletin of the National Museum of Nature and Science, Series C*, **49**: 81.
- Ruzhentsev, V. E. and Sarycheva, T. G. (1965) Development and change of marine organisms at the Paleozoic and Mesozoic boundary. *Akademiia Nauk SSSR, Trudy Paleontologicheskogo Instituta*, **108**: 1–431. (In Russian.)