

World News of Natural Sciences

An International Scientific Journal

WNOFNS 35 (2021) 102-117

EISSN 2543-5426

New location of the known corals genera (*Favosites* Lamarck, 1816 and *Halysites* Fischer von Waldheim, 1828) in the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland

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ABSTRACT

This paper presents the new location of the known corals genera: *Favosites* Lamarck, 1816 and *Halysites* von Waldheim, 1828, in the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland. These corals were obtained as a result of many years of exploration in this mine, by searching individual lots of post-glacial materials extracted by this mine.

Keywords: *Favosites*, *Halysites*, Mielenko Drawskie, post-glacial materials, Mineral Raw Materials Mine in Mielenko Drawskie, fossilized coral, palaeontological corals, palaeozoic corals

1. INTRODUCTION

Favosites are an extinct genus of coral that occurred from the Ordovician to the Late Permian. *Halysites* is an extinct genus of coral that occurred from the Ordovician to the Devonian. Corals fossils of the genera *Favosites* and *Halysites* can be found in sedimentary rocks almost all over the world.

***Favosites* morphology**

Favosites were found in colonies, branch-shaped, with funnel-shaped calyces composed of corallites in the form of prismatic tubes with polygonal cross-sections. Corallites are

connected by mural pores. Tabulae are numerous tightly arranged. The entire colony was usually oval, resembled a honeycomb, and lived in shallow waters.

***Halysites* morphology**

The colony consisted of long tubes connected laterally by narrower sides. Numerous densely arranged tabulae, no mural pores and structures resembling septae. Corallites in the form of tubes with a circular or oval cross-section.

Occurrence of fossilised corals in Poland

Fossilised corals can be found in solid sedimentary rocks in the Świętokrzyskie Mountains. In northern Poland, they are often found in post-glacial sediments, transported in the Pleistocene by the ice sheet from Scandinavia.

2. RESULT

Maps 1-4 show the location of the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland.

Photos 1-4 show the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland (photos taken by Tomasz Borowski).

Photos 5-13 show the known coral genera *Favosites* Lamarck, 1816, from the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland (photos taken by Tomasz Borowski).

Photos 14-17 show the known coral genera *Halysites* von Waldheim, 1828, from the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland (photos taken by Tomasz Borowski).

Paleontological systematics [taxonomy]

Kingdom: Animalia

Phylum: Cnidaria

Class: Anthozoa

Subclass: Tabulata

Order: Favositida

Family: Favositidae

Genus: *Favosites* Lamarck, 1816

Kingdom: Animalia

Phylum: Cnidaria

Class: Anthozoa

Subclass: Tabulata

Order: Halysitida

Family: Halysitidae

Genus: *Halysites* Fischer von Waldheim, 1828

3. CONCLUSION

The new discovery site of the palaeozoic corals of the genus *Favosites* & *Halysites* in the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland is documented and entered into the world map of the species distribution.

Acknowledgments

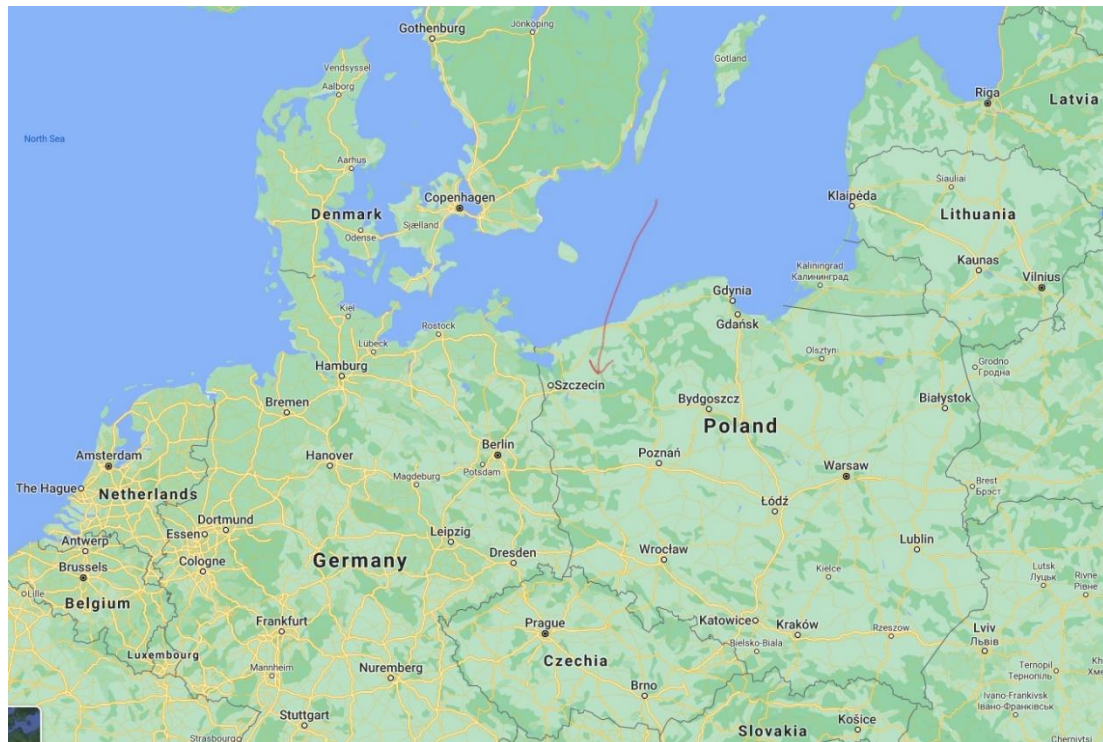
The author of this paper would like to thank the Management of the Mineral Raw Materials Mine in Mielenko Drawskie for the friendly atmosphere of cooperation and for making available fossil materials located in this mine for research purposes.

References

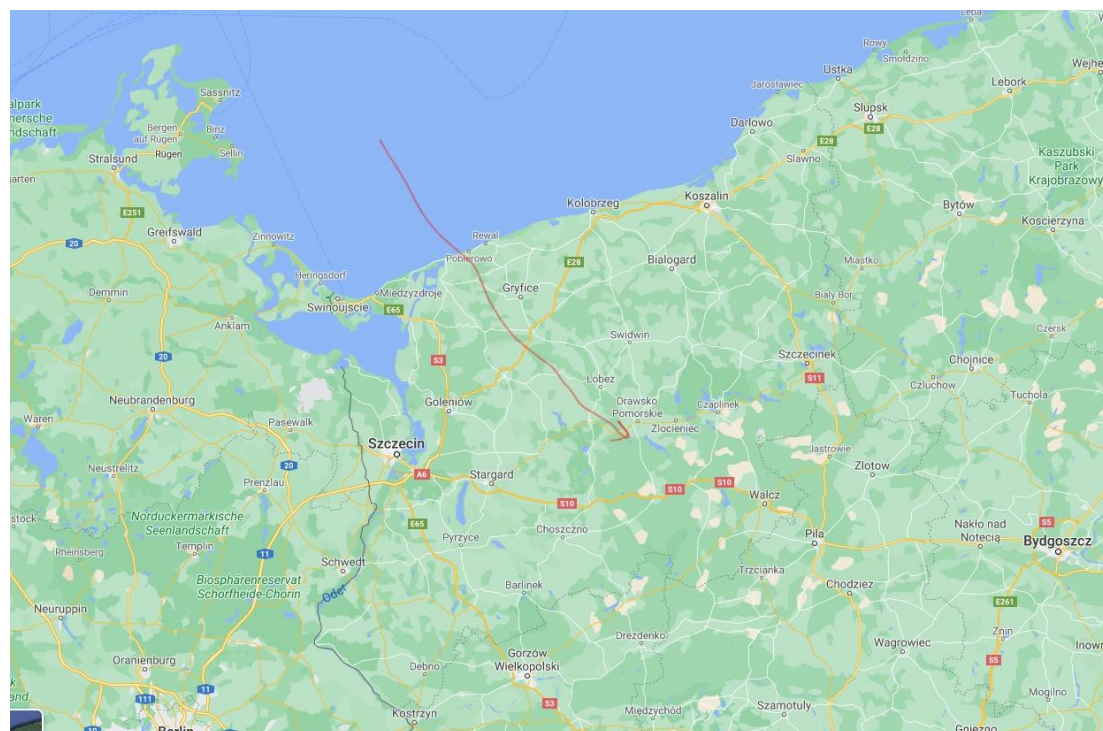
- [1] Jean Lafuste & Francis Tournier. Microstructure du genre *Favosites* Lamarck 1816 (Tabulata) et de *Favositides* du Silurien, avec une révision du néotype de *Favosites gothlandicus* Lamarck 1816. *Annales de la Société géologique de Belgique* 110 (1987) 189-198
- [2] Yves Plusquellec, Francis Tournier. Persistence of microlamellar Favositids (Cnidaria, Tabulata) in the Devonian. *Comptes Rendus de l'Académie des Sciences - Series IIA - Earth and Planetary Science* Volume 326, Issue 4, February 1998, Pages 283-289. [https://doi.org/10.1016/S1251-8050\(97\)86819-X](https://doi.org/10.1016/S1251-8050(97)86819-X)
- [3] Mari-Ann Mitusa and Olev Vinn. The worm endosymbionts in tabulate corals from the Silurian of Podolia, Ukraine. *Estonian Journal of Earth Sciences*, 58, 3, (2009) 185-192. doi:10.3176/earth.2009.3.03
- [4] Tapanila, L. 2002. A new endosymbiont in Late Ordovician tabulate corals from Anticosti Island, eastern Canada. *Ichnos*, 9, 109-116
- [5] Tapanila, L. 2004. The earliest Helicosalpinx from Canada and the global expansion of commensalism in Late Ordovician sarcinulid corals (Tabulata). *Palaeogeography, Palaeoclimatology, Palaeoecology*, 215, 99-110
- [6] G. H. Packham, T. C. T. Hubble. (2016). The Narooma Terrane offshore: a new model for the southeastern Lachlan Orogen using data from rocks dredged from the New South Wales continental slope. *Australian Journal of Earth Sciences* 63:1, pages 23-61
- [7] Robin Offler, Hui-Qing Huang. (2018) Middle-Late Devonian nascent back arc formation, southern New England Orogen, NSW, Australia. *Gondwana Research* 63, pages 250-267
- [8] Mari-Ann Mötus (2004). Tabulate corals from the Lower Silurian of Jämtland (Sweden). *GFF*, 126:4, 339-352, DOI: 10.1080/11035890401264339
- [9] Pohler, S.M.L. Favositidae (Tabulata) from Emsian to Middle Devonian limestones of the Tamworth Group (N.S.W., Australia). *Paläont. Z.* 76, 1-19 (2002). <https://doi.org/10.1007/BF02988181>

- [10] Gordon H. Packham, Graeme M. Philip & Thomas C.T. Hubble (2006). Late Silurian or Early Devonian corals from the continental slope off southern New South Wales. *Alcheringa: An Australasian Journal of Palaeontology*, 30:1, 33-42, DOI: 10.1080/03115510608619343
- [11] Yves Plusquellec. Unusual Upper Emsian Tabulata and Rugosa from the Floresta Formation of Columbia. *Bulletin of Geosciences* Vol. 94, 4, 2019. DOI 10.3140/bull.geosci.1766
- [12] Mari-Ann Motus & Einar Klaamann (1999). The halysitid coral genera Halysites and Cystihalysites from Gotland, Sweden, *GFF*, 121:2, 81-90, DOI: 10.1080/11035899901212081
- [13] Błażej Berkowski, Mikołaj K. Zapalski. (2018). Large dwellers of the Silurian Halysites biostrome: rhizoseless life strategies of cystiphyllid rugose corals from the Llandovery of Gotland. *Lethaia* 51:4, pages 581-595. <https://doi.org/10.1111/let.12279>
- [14] Michał Zatoń, Tomasz Wrzolek, Colonization of rugose corals by diverse epibionts: dominance and syn vivo encrustation in a Middle Devonian (Givetian) soft-bottom habitat of the Holy Cross Mountains, Poland. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 10.1016/j.palaeo.2020.109899, 556, (109899), (2020).
- [15] Michał Zatoń, Tomasz Wrzolek, Jan Ove R. Ebbestad, Patterns of sclerobiont colonization on the rugose coral *Schlotheimophyllum patellatum* (Schlotheim, 1820) from the Silurian of Gotland, Sweden. *Lethaia*, 10.1111/let.12371, 53, 4, (486-499), (2020)
- [16] Diego K. Kersting, Cristina Linares, Living evidence of a fossil survival strategy raises hope for warming-affected corals. *Science Advances*, 10.1126/sciadv.aax2950, 5, 10, (eaax2950), (2019)
- [17] Michał Zatoń, Mikołaj K. Zapalski, Błażej Berkowski, Tomasz Wrzolek, Cryptic encrusting communities in a Middle Devonian mesophotic paleoenvironment of the Holy Cross Mountains, Poland. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 10.1016/j.palaeo.2018.04.015, 501, (82-91), (2018)
- [18] Zapalski, M.K., Berkowski, B. The Silurian mesophotic coral ecosystems: 430 million years of photosymbiosis. *Coral Reefs* 38, 137–147 (2019). <https://doi.org/10.1007/s00338-018-01761-w>
- [19] Guangxu Wang and Renbin Zhan. A new species of middle Rhuddanian Halysites (Tabulata) from Meitan, northern Guizhou, Southwest China. *Estonian Journal of Earth Sciences*, 2015, 64, 1, 105-109
- [20] Theresa Nohl & Axel Munnecke. Reconstructing time and diagenesis of limestone-marl alternations from the selective compaction of colonies of the tabulate coral Halysites. *Bulletin of Geosciences* Vol. 94, 3, 2019, 1-20. DOI: 10.3140/bull.geosci.1752
- [21] Ulitina, L.M., Bondarenko, O.B. & Minjin, C. Evolution of the taxonomic diversity of Mongolian Ordovician-Silurian corals. *Paleontol. J.* 43, 499 (2009). <https://doi.org/10.1134/S0031030109050049>

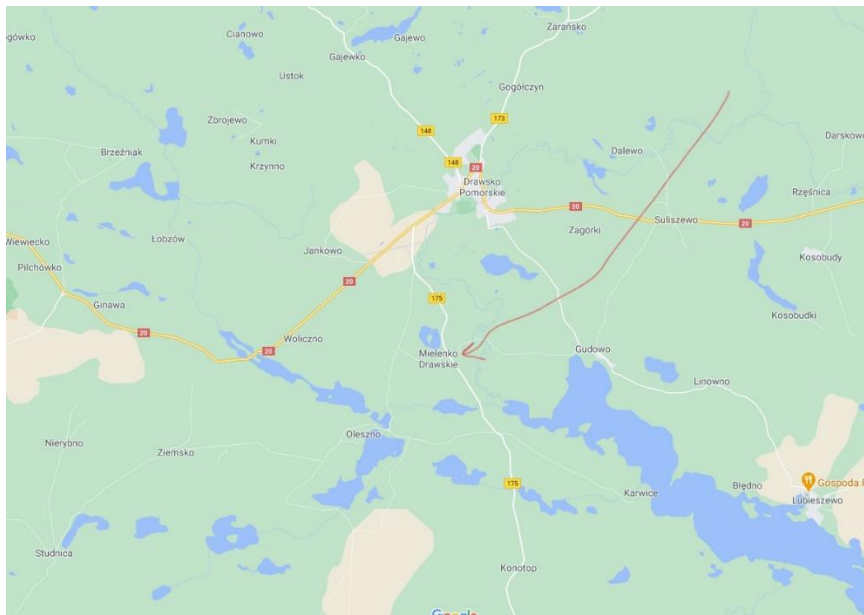
- [22] A.E. Verrill (1881). On the zoological affinities of Halysites. *Annals and Magazine of Natural History*, 8:43, 72, DOI: 10.1080/00222938109459845
- [23] Kun Liang, Robert J. Elias, Dong-Jin Lee. Morphometrics, growth characteristics, and phylogenetic implications of Halysites catenularius (Tabulata, Silurian, Estonia). *Journal of Paleontology* (2019) 93 (2): 215-231. <https://doi.org/10.1017/jpa.2018.73>
- [24] Guangxu Wang, Ian G. Percival & Yong Yi Zhen (2020). The youngest Ordovician (latest Katian) coral fauna from eastern Australia, in the uppermost Malachis Hill Formation of central New South Wales. *Alcheringa: An Australasian Journal of Palaeontology*, 44:3, 356-378, DOI: 10.1080/03115518.2020.1747540
- [25] Kun Liang, Robert J. Elias, Dong-Jin Lee, The early record of halysitid tabulate corals, and morphometrics of Catenipora from the Ordovician of north-central China. *Papers in Palaeontology*, 10.1002/spp2.1111, 4, 3, (363-379), (2018)
- [26] Kun Liang, Robert J. Elias, Dong-Jin Lee, Morphometrics, growth characteristics, and phylogenetic implications of Halysites catenularius (Tabulata, Silurian, Estonia). *Journal of Paleontology*, Volume 93, Issue 2, March 2019, pp. 215-231. DOI: <https://doi.org/10.1017/jpa.2018.73>
- [27] Tomasz Borowski. New location of the known Silurian graptolite Monograptus uncinatus Tullberg, 1883 in the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland. *World News of Natural Sciences* 35 (2021) 56-67
- [28] Tomasz Borowski, Piotr Daniszewski. New location of the well-known Ordovician trilobite Asaphus expansus (Wahlenberg, 1821) from north-western Poland. *World News of Natural Sciences* 34 (2021) 82-87
- [29] Tomasz Borowski. Chasmops – a typical representative of the family Pterygometopidae (Reed, 1905) found in an aggregate mine in Mielenko Drawskie, West Pomerania Province, Poland. *World Scientific News* 57 (2016) 81-90
- [30] Tomasz Borowski. Odontopleura generalandersi – a new Silurian trilobite species of the Odontopleura genus occurring in the north Poland. *Current World Environment* 3(2) (2008) 213-216
- [31] Tomasz Borowski, Megistaspis gibba from the Area of Mining Works in Mielenko Drawskie, the Drawskie Lakeland. *Annual Set The Environment Protection*, 6 (2004) 47-54
- [32] Webb, G. (1996). Morphological variation and homoplasy: The challenge of Paleozoic coral systematics. *The Paleontological Society Papers*, 1, 135-157. doi:10.1017/S1089332600000085
- [33] M. K. Zapalski. Parasites in Emsian-Eifelian Favosites (Anthozoa, Tabulata) from the Holy Cross Mountains (Poland): changes of distribution within colony. *Geological Society, London, Special Publications*, 314, 125-129, 1 January 2009, <https://doi.org/10.1144/SP314.6>
- [34] Shuji Niko. Halysitid Tabulate Corals from the Silurian Fukami Formation, Kumamoto Prefecture, Japan. *Bull. Natl. Mus. Nat. Sci. Ser. C*, 41, pp. 17-23, December 22, 2015



Map 1. Location of the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland.



Map 2. Location of the Mineral Raw Materials Mine in Mielenko Drawskie, West Pomeranian Province, Poland



Map 3. Location of the Mineral Raw Materials Mine in Mielenko Drawskie,
West Pomeranian Province, Poland



Map 4. Location of the Mineral Raw Materials Mine in Mielenko Drawskie,
West Pomeranian Province, Poland



Photo 1. The Mineral Raw Materials Mine in Mielenko Drawskie,
West Pomeranian Province, Poland



Photo 2. The Mineral Raw Materials Mine in Mielenko Drawskie,
West Pomeranian Province, Poland



Photo 3. The Mineral Raw Materials Mine in Mielenko Drawskie,
West Pomeranian Province, Poland



Photo 4. The Mineral Raw Materials Mine in Mielenko Drawskie,
West Pomeranian Province, Poland



Photo 5. The palaeozoic coral of the genus *Favosites* Lamarck, 1816



Photo 6. The palaeozoic coral of the genus *Favosites* Lamarck, 1816



Photo 7. The palaeozoic coral of the genus *Favosites* Lamarck, 1816



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Photo 13. The palaeozoic coral of the genus *Favosites* Lamarck, 1816



Photo 14. The palaeozoic coral of the genus *Halysites* Fischer von Waldheim, 1828



Photo 15. The palaeozoic coral of the genus *Halysites* Fischer von Waldheim, 1828



Photo 16. The palaeozoic coral of the genus *Halysites* Fischer von Waldheim, 1828



Photo 17. The palaeozoic coral of the genus *Halysites* Fischer von Waldheim, 1828