Case 3229

Erbocyathus Zhuravleva, 1955 (Archaeocyatha): proposed conservation

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Abstract. The purpose of this application is to conserve, under Article 23.9.3 of the Code, the generic name *Erbocyathus* Zhuravleva, 1955, which is in widespread use for a group of Cambrian fossil sponge-like archaeocyaths (family ERBOCYATHIDAE). This name was proposed to replace the pre-occupied name *Polycyathus* Vologdin, 1928, but is threatened by the single usage in 1955 of an older replacement name *Pluralicyathus* Okulitch, 1950.

Keywords. Nomenclature; taxonomy; Archaeocyatha; ERBOCYATHIDAE; *Erbocyathus*; *Polycyathus heterovallum*; Early Cambrian; fossil.

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1. Vologdin (1928, p. 32) erected a new Archaeocyatha genus and named it *Polycyathus* (type species *P. heterovallum* Vologdin, 1928 (p. 36) by subsequent designation by Simon (1939, p. 34)) for an unusual, modular two-walled septate archaeocyath that has an attached microporous sheath on its outer wall, several rows of simple pores per intersept on its inner wall, and aporose to sparsely porous septa (Debrenne et al., 1990, p. 141). Vologdin (1928, p. 35) also erected the family POLYCYATHIDAE based on his new genus. The class Archaeocyatha Bornemann, 1884 includes fossil marine organisms almost exclusively from the Early Cambrian epoch. The group is now generally assigned to the sponges (Porifera).

2. However, Simon (1939, p. 34) noted that Vologdin's generic name *Polycyathus* had already been used by Duncan in 1876 for a genus of cnidarian. In response, replacement names for *Polycyathus* Vologdin, 1928 were subsequently and independently proposed by both V.J. Okulitch and I.T. Zhuravleva.

3. Okulitch (July 1950, p. 503) proposed the replacement name *Pluralicyathus* in order to stabilise nomenclature for the then forthcoming edition of the *Treatise on Invertebrate Paleontology* (Okulitch, 1955, pp. E1-E20), in which he used the name on p. E10.

4. Zhuravleva (1949, p. 10; February 1950a, p. 11) mentioned a replacement name, *Erbocyathus*, for the same genus in two avtoreferats. In the former U.S.S.R., and subsequently, avtoreferats were and are short thesis summaries that are issued in small numbers in connection with the examination of a submitted thesis. Zhuravleva's first (1949) defence of her kandidat thesis in biological sciences was not successful, whereas her second (1950) was. Her 1949 avtoreferat was reprinted with modifications in February 1950. She used the name *Erbocyathus* only once in each of the avtoreferats when writing about the Obruchev horizon: 'Apart from the characteristic species *Erbocyathus (Polycyathus) heterovallum* (Vologdin), several species of *Ethmophyllum*, *Retecyathus operosus* and others are found there [1949, p. 10; 1950a, p. 11; current authors' translation]'.

5. Only 150 copies for each of Zhuravleva's avtoreferats were printed and distribution was very limited. As a result, we do not accept that the name *Erbocyathus* is available from either of these avtoreferats (see Article 8.1 of the Code). In addition, neither of the two avtoreferats contains a clear statement that *Erbocyathus* is intended to be a replacement name for *Polycyathus*.

6. The first undisputed publication of the generic name *Erbocyathus* is by Zhuravleva (1950b, October), where she writes regarding development of modularity in the cup (p. 857): 'In representatives of the "genus" *Erbocyathus* (=*Polycyathus*) from the former "family" POLYCYATHIDAE, cups were observed only up to the stage of a continuous inner wall. Revision of *Erbocyathus* specimens in the Palaeontological Institute A.N. S.S.S.R., . . . together with familiarity with all known literature on colonial archaeocyaths, leads me to the conviction that in those cases in which examples with a colonial skeleton are found, species should never be distinguished as independent genera and families only on this feature alone, for all cases of colonial cups just as for solitary individuals. Thus we can abolish the following colonial "genera" of archaeocyaths: *Erbocyathus* (=*Polycyathus*), *Sajanocyathus* Vologdin and *Densocyathus* Vologdin [current authors' translation]'. However, this publication of the replacement name *Erbocyathus* by Zhuravleva (1950b) does not satisfy the requirements of Article 13 (specifically Article 13.1.3), as the provisions of Article 11 are not also satisfied (Article 13.1). This is because the whole thrust of Zhuravleva's commentary (quoted above) is not to validate the genus as required by Article 11.5, but to abolish it.

7. The name *Erbocyathus* was next used by Zhuravleva (1955), within an existing family, though again without diagnosis or any elaboration. She mentions the genus once (p. 44): 'Thus it is concluded that the genera numbered in the family Ethmophyllidae are few – four in all: *Ethmophyllum* Meek, *Ethmocyathus* R. & W. Bedford, *Tegerocyathus* Krasnopeeva and *Erbocyathus* (=*Polycyathus*) Zhuravleva'. This usage appears to satisfy Article 11.5 and therefore Article 13, provided that the construction '*Erbocyathus* (=*Polycyathus*) Zhuravleva' constitutes an express proposal of a new replacement name for the purposes of Article 13.1.3. We have accepted that this is the case and that the name *Erbocyathus* Zhuravleva became available in 1955.

8. Vologdin (1956, p. 879) later proposed the family ERBOCYATHIDAE Vologdin & Zhuravleva. Although no diagnosis was provided, this name is available under Article 13.2.1, as we have accepted (para. 7 above) that the replacement name *Erbocyathus* was successfully made available by Zhuravleva in 1955 (p. 44) (Article 13.2).

9. Zhuravleva (1960, p. 189), in her influential book on Siberian Platform archaeocyaths, used '*Erbocyathus* Zhuravleva, 1950', invalidly citing her 1950a avtoreferat as having made this name available. She provided diagnosis, description and illustration of the genus and also accepted the family name ERBOCYATHIDAE Vologdin & Zhuravleva, 1956 and (p. 187) elevated this to a superfamily with the name ERBOCYATHACEA. Both names are in use today. *Polycyathus heterovallum* Vologdin, 1928 is the type species of *Erbocyathus* Zhuravleva, 1955 (see para. 1 above and Article 67.8).

10. From 1950 to the present, *Erbocyathus* Zhuravleva (generally attributed to the 1950a publication) has been widely viewed as the valid replacement name for *Polycyathus* Vologdin, 1928. To our knowledge, no author has challenged the use of the name *Erbocyathus*, other than Okulitch (1955) who used the senior replacement name *Pluralicyathus* Okulitch, 1950. To date the genus *Erbocyathus* has been treated taxonomically in numerous publications including seminal works by Hill (1965, 1972), Rozanov (1973) and Debrenne et al. (1990) and includes five species from the Siberia-Mongolia-Central Asia region (Debrenne et al., 1990). With the exception of Okulitch (1955), the name *Pluralicyathus* has only been cited as a synonym of *Erbocyathus*, and no species other than the type species has ever been assigned to the genus *Pluralicyathus*.

11. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to suppress the generic name *Pluralicyathus* Okulitch, 1950 for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;

(2) to place on the Official List of Generic Names in Zoology the name *Erbocyathus* Zhuravleva, 1955 (gender: masculine), type species *Polycyathus heterovallum* Vologdin, 1928 by subsequent designation by Simon (1939) of the replaced nominal genus *Polycyathus* Vologdin, 1928;

(3) to place on the Official List of Specific Names in Zoology the name *heterovallum* Vologdin, 1928, as published in the binomen *Polycyathus heterovallum* (specific name of the type species of *Erbocyathus* Zhuravleva, 1955);

(4) to place on the Official List of Family-Group Names in Zoology the name ERBOCYATHIDAE Vologdin & Zhuravleva, 1956, type genus *Erbocyathus* Zhuravleva, 1955;

(5) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the names:

(a) *Pluralicyathus* Okulitch, 1950, as suppressed in (1) above;

(b) *Polycyathus* Vologdin, 1928 (a junior homonym of *Polycyathus* Duncan, 1876).

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Acknowledgement of receipt of this application was published in BZN **59**: 69.

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