

Supplement File 4 of BENFEP, a quantitative database of BENthic Foraminifera from surface sediments of the Eastern Pacific by Paula Diz, Víctor González-Gutián, Rita González-Villanueva, Aida Ovejero, Iván Hernández-Almeida.

File 4. Extended explanations about some species.

The species names refer to the authors' taxonomic concept and are listed in alphabetical order.

***Bolivina rankini* Kleinpell, 1938 in Ingle et al. (1980) dataset**

Ingle et al. (1980) identified *Bolivina aff. rankini* (see Ingle et al., 1980, Plate 1, Fig. 3-4) in their study. The authors indicated in their taxonomic appendix the resemblances of their specimens to the fossil ones. They state: "This species is abundant at upper bathyal depths coincident with the shallow oxygen minimum zone present in this area. These Recent specimens are essentially identical with those common to upper Miocene diatomites in southern California but populations include forms lacking the characteristic, half opaque-half clear chambers."

Bolivina rankini Kleinpell has also been identified by Golik (1965). He/she find it "distributed between 128 and 1750 meters with the largest abundance about 550 m".

***Cassidulina smechovi* (Voloshinova, 1952) in Liu (2001) dataset**

Cassidulina smechovi (this study *Islandiella smechovi* (Voloshinova, 1952)) is mentioned only in Liu (2001) dataset. We could not find any other reference of this species in recent sediments of the East Pacific. It is highly likely that this taxonomic assignment corresponds to a mistaken identification of a *Cassidulina* species.

***Cassidulina* sp1Nienstedt in Nienstedt (1986) dataset**

The dataset of Nienstedt (1986) has been manually digitized from needle printed text. Unfortunately, the readability of the species name of this high abundant (up to 50%) *Cassidulina* is hampered by the print quality and we had no other choice as to artificially name it as "*Cassidulina* sp1Nienstedt".

The paper of Nienstedt and Arnold (1988), do not provide raw counts but it is based on Nienstedt (1986) dataset. There, the authors name only two *Cassidulina* species; *C. carinata* Silvestri (Plate 2, Fig 10) and *C. laevigata carinata* d'Orbigny (Plate 2, Fig. 11) whereas in the original dataset there are three abundant *Cassidulina* (no sps) species. It is difficult to know which species is "sp1Nienstedt", but it might be one on the two presented in Nienstedt and Arnold (1988).

***Elphidium clavatum batialis* Siadova (?) (?typo in author name) in Echols and Armentrout (1980) dataset**

Elphidium batialis (this study *Criboelphidium batiale* (Saidova)) is mentioned only in Echols and Armentrout (1980) dataset. The authors indicated that *Elphidium batialis* (as named in the text, in the plate caption the species is named as *Elphidium clavatum batiatitis* Siadova, Plate 3, Fig. 19 and 20) "may be derived from outcrops off Upper Pleistocene sediment" and "may be a morphotype of *Elphidium clavatum*".

***Gyroidina multicamerata* (Kleinpell) in Bandy and Arnal (1957) dataset**

Gyroidina multicamerata (this study *Hansenisca multicamerata*) is mentioned only in Bandy and Arnal (1957) dataset. The authors indicated "*Gyroidina multicamerata* (Kleinpell), a thin-walled and fragile species, probably represents a reworked occurrence from Miocene strata".

The relative abundance of this species in the samples is less than 5%.

***Nuttallinella florealis* (White, 1928) in Liu (2001) dataset**

Nuttallinella florealis is mentioned only in Liu (2001) dataset. The stratigraphic range of this species extends to the Paleocene (Bolli et al., 1994). It is unlikely that samples collected with multicorer in the East Pacific Rise are Paleocene in age. Thus, the assignation of *N. florealis* is likely a misidentification.

The relative abundance of this species in the samples is less than 2.5%.

***Valvalabamina depressa* (Alth, 1850) in Takata et al. (2016) dataset**

Valvalabamina depressa (this study *Gyroidinoides depressa*) is mentioned only in Takata et al (2016) dataset. The stratigraphic range of this species extends to the Early Eocene (Bolli et al., 1994). It is unlikely that samples collected with multicorer in the central Pacific are Eocene in age. Thus, the assignation of *V. depressa* is likely a misidentification.

The relative abundance of this species in the samples is less than 2%.

***Valvulineria herricki* (Hadley, 1934) in Ingle et al., 1980 dataset**

Valvulineria herricki (this study *Cibicorbis herricki*) is mentioned only in Ingle et al. (1980) dataset. The authors indicated *Valvulineria herricki* as “probably fossil”.

Set of potentially reworked species in Zalesny (1959) dataset

The author identified in Santa Monica Bay “*Bolivina interjuncta* and *Bolivina subadvena sulphurensis*, *Bolivina decussata*, *Bolivina perrini*, *Uvigerina hootsi* as reworked foraminifera from Pliocene to Miocene outcrops”. He/she considers “*Bolivina sinuata*, *Bulimina dubia*, and *Bulimina subacuminata* as Pliocene to Recent species”.

References cited in this document and not included in the main text:

- Bolli, H. M., Beckmann, J. P., and Saunders, J. B.: Benthic Foraminiferal Biostratigraphy of the South Caribbean Region, Cambridge University Press, Cambridge, DOI: 10.1017/CBO9780511564406, 1994.
- Nienstedt, J. C. and Arnold, A. J.: The distribution of benthic foraminifera on seamounts near the East Pacific Rise, Journal of Foraminiferal Research, 18, 237-249, 10.2113/gsjfr.18.3.237, 1988.