

## SUPPLEMENTARY DATA: TAXONOMIC APPENDIX

Taxonomic list of the benthic foraminiferal taxa identified in the upper Toarcian–middle Aalenian from the Maria Pares and the Zambujal de Alcaria sections (Lusitanian Basin, Portugal). Suprageneric and generic identifications followed the classification of Loeblich and Tappan (1987), and the Ellis and Messina (1940–1990) Catalogue of Foraminifera was systematically consulted for specific determinations. Species are referred with its author and year of publication. The identified taxa are:

Phylum SARCODINA Schmarda, 1871

Class RHYZPODEA Von Siebold, 1845

Order FORAMINIFERIDA Eichwald, 1830

Suborder TEXTULARIINA Delage and Hérouard, 1896

Textulariina sp. indet. (not illustrated)

Superfamily ASTRORHIZACEA Brady, 1881

Family SACCAMMINIDAE Brady, 1884

Subfamily SACCAMMINIDAE Brady, 1884

Genus *Lagenammina* Rhumbler, 1911

*Lagenammina jurassica* (Barnard, 1959) (not illustrated)

Subfamily THURAMMININAE Miklukho-Maklay, 1963

Genus *Thurammina* Brady, 1879

*Thurammina jurensis* (Franke, 1936) (Fig. 4A)

Superfamily LITUOLACEA De Blainville, 1827

Family LITUOLIDAE De Blainville, 1827

Subfamily AMMOMARGINULININAE Podobina, 1978

Genus *Ammobaculites* Cushman, 1910

*Ammobaculites coprolithiformis* (Schwager, 1867) (Fig. 4B)

*Ammobaculites fontinensis* (Terquem, 1870a) (Fig. 4C)

*Ammobaculites vetustus* (Terquem and Berthelin, 1875) (Fig. 4D)

*Ammobaculites* sp. indet. (not illustrated)

Superfamily TROCHAMMINACEA Schwager, 1877

Family TROCHAMMINIDAE Schwager, 1877

Subfamily TROCHAMMININAE Schwager, 1877

Genus *Trochammina* Parker and Jones, 1859

*Trochammina* cf. *canningensis* Tappan, 1955 (Fig. 4E)

*Trochammina sablei* Tappan, 1955 (not illustrated)

Suborder SPIRILLININA Hohenegger and Piller, 1975

Family SPIRILLINIDAE Reuss and Fritsch, 1861

Genus *Conicospirillina* Cushman, 1927

*Conicospirillina* sp. indet. (not illustrated)

Genus *Spirillina* Ehrenberg, 1843

*Spirillina numismalis* Terquem and Berthelin, 1875 (Fig. 4F)

*Spirillina orbicula* Terquem and Berthelin, 1875 (Fig. 4G)

Suborder MILIOLINA Delage and Hérouard, 1896

Superfamily CORNUSPIRACEA Schultze, 1854

Family NUBECULARIIDAE Jones, 1875

Subfamily NUBECULINELLINAE Avnimelech and Reiss, 1954

Genus *Vinelloidea* Canu, 1913

*Vinelloidea tibia* (Terquem and Berthelin, 1875) (Fig. 4H)

Family OPHTHALMIDIIDAE Wiesner, 1920

Genus *Ophthalmidium* Kübler and Zwingli, 1866

*Ophthalmidium carinatum* (Kübler and Zwingli, 1866) (Fig. 4I)

*Ophthalmidium concentricum* (Terquem and Berthelin, 1875) (Fig. 4J)

*Ophthalmidium* sp. indet. (not illustrated)

Genus *Spirophthalmidium* Cushman, 1927

*Spirophthalmidium* cf. *clarum* Antonova, 1958 (not illustrated)

Suborder LAGENINA Delage and Hérouard, 1896

Superfamily ROBULOIDACEA Reiss, 1963

Family ICHTHYOLARIIDAE Loeblich and Tappan, 1986

Genus *Lingulonodosaria* Silvestri, 1903

*Lingulonodosaria dentaliniformis* (Terquem, 1870b) (Fig. 4K)

Genus *Prodentalina* Norling, 1968

*Prodentalina propinqua* (Terquem, 1870b) (Fig. 4L)

*Prodentalina pseudocommunis* (Franke, 1936) (Fig. 4M)

*Prodentalina subsiliqua* (Franke, 1936) (Fig. 4N)

*Prodentalina varians* (Terquem, 1866a) (Fig. 4O)

*Prodentalina* sp. indet. (not illustrated)

Family ROBULOIDIDAE Reiss, 1936

Genus *Falsopalmula* Bartenstein, 1948

*Falsopalmula jurensis* (Franke, 1936) (Fig. 4P)

*Falsopalmula obliqua* (Terquem, 1864) (not illustrated)

*Falsopalmula tenuistriata* (Franke, 1936) (Fig. 5A)

*Falsopalmula* sp. 1 Canales, 2001 (Fig. 5B)

Superfamily NODOSARIACEA Ehrenberg, 1838

Family NODOSARIIDAE Ehrenberg, 1838

Subfamily NODOSARIINAE Ehrenberg, 1838

Genus *Nodosaria* Lamarck, 1812

*Nodosaria fontinensis* Terquem, 1870b (Fig. 5C)

*Nodosaria hortensis* Terquem, 1866b (Fig. 5D)

*Nodosaria liassica* Barnard, 1950b (Fig. 5E)

*Nodosaria pseudoregularis* Canales, 2001 (Fig. 5F)

*Nodosaria pulchra* (Franke, 1936) (Fig. 5G)

*Nodosaria torulosi* Frentzen, 1941 (Fig. 5H)

*Nodosaria* sp. 1 Canales, 2001 (Fig. 5I)

*Nodosaria* sp. indet. (not illustrated)

Genus *Pseudonodosaria* Boomgaard, 1949

*Pseudonodosaria* cf. *rapiformis* (Franke, 1936) (not illustrated)

*Pseudonodosaria vulgata* (Bornemann, 1854) (Fig. 5J)

Family VAGINULINIDAE Reuss, 1860

Subfamily LENTICULININAE Chapman, Parr and Collins, 1934

Genus *Lenticulina* Lamarck, 1804

*Lenticulina bochari* (Terquem, 1863) (Fig. 5K)

*Lenticulina constricta* (Kaptarenko-Chernousova, 1961) (Fig. 5L)

*Lenticulina exgaleata* Dieni, 1985 (Fig. 5M)

*Lenticulina helios* (Terquem, 1870a) (Fig. 5N)

*Lenticulina muensteri* (Roemer, 1839) (Fig. 5O)

*Lenticulina polygonata* (Franke, 1936) (Fig. 5P)

*Lenticulina* cf. *quenstedti* (Gümbel, 1862) (not illustrated)

*Lenticulina toarcense* Payard, 1947 (Fig. 6A)

*Lenticulina* sp. indet. (not illustrated)

Genus *Marginulinopsis* Silvestri, 1904

*Marginulinopsis pennensis* (Cubaynes and Ruget, 1983) (Fig. 6B)

*Marginulinopsis* cf. *major* (Bornemann, 1854) (not illustrated)

Genus *Saracenaria* Defrance, 1824

*Saracenaria* sp. indet. (Fig. 6C)

Subfamily MARGINULININAE Wedekind, 1937

Genus *Astacolus* De Montfort, 1808

*Astacolus dorbignyi* (Roemer, 1839) (Fig. 6D)

*Astacolus scalptus* (Franke, 1936) (Fig. 6E)

*Astacolus varians* (Bornemann, 1854) (Fig. 6F)

Subfamily VAGINULININAE Reuss, 1860

Genus *Citharina* d'Orbigny, 1839

*Citharina clathrata* (Terquem, 1863) (Fig. 6G)

*Citharina colliezi* (Terquem, 1866a) (Fig. 6H)

*Citharina heteropleura* (Terquem, 1867) (Fig. 6I)

Genus *Planularia* Defrance, 1826

*Planularia beierana* (Gümbel, 1862) (Fig. 6J)

*Planularia cordiformis* (Terquem, 1863) (Fig. 6K)

*Planularia protracta* (Bornemann, 1854) (Fig. 6L)

Genus *Vaginulina* d'Orbigny, 1826

*Vaginulina listi* (Bornemann, 1854) (Fig. 6M)

Family LAGENIDAE Reuss, 1862

Genus *Lagena* Walker and Jacob, 1798

*Lagena tenuicostata* Franke, 1936 (not illustrated)

Family POLYMORPHINIDAE d'Orbigny, 1839

Subfamily POLYMORPHININAE d'Orbigny, 1839

Genus *Eoguttulina* Cushman and Ozawa, 1930

*Eoguttulina liassica* (Strickland, 1846) (Fig. 6N)

Subfamily WEBBINELLINAE Rhumbler, 1904

Genus *Bullopora* Quenstedt, 1856

*Bullopora globulata* Barnard, 1950a (Fig. 6O)

*Bullopora rostrata* Quenstedt, 1857 (Fig. 6O)

Suborder ROBERTININA Loeblich and Tappan, 1984

Superfamily CERATOBULIMINACEA Cushman, 1927

Family CERATOBULIMINIDAE Cushman, 1927

Ceratobuliminidae sp. indet. (Fig. 6P)

Subfamily REINHOLDELLINAE Sieglie and Bermúdez, 1965

Genus *Reinholdella* Brotzen, 1948

*Reinholdella dreheri* (Bartenstein, 1937) (not illustrated)

Genus *Lamarckella* Kaptarenko-Chernousova, 1956

*Lamarckella* cf. *inflecta* Kaptarenko-Chernousova, 1956 (not illustrated)