
Noteworthy brachiopods from the Campanian Stratotype, France

Daniele Gaspard^{*1,2}

¹Muséum National d'Histoire Naturelle – Muséum National d'Histoire Naturelle (MNHN) – France

²Centre de Recherche en Paléontologie-Paris (CR2P) – UMR-CNRS 7207, Lab. Origines et Evolution – France

Résumé

Brachiopods are present since the Cambrian, although decreasing after the permo-triassic period with a heavy replacement of taxa, they are still present during the Mesozoic and particularly during the Cretaceous, even the Campanian.

After the reports of Coquand (1958-62) in a restricted region of the stratotype (Aubeterre), Arnaud (1877) tried to precise the boundaries of the Campanian highlighting the basal part by the first occurrence of (*Cyclothyris* (*Rhynchonella*) *globata* (Arnaud, 1877)) in his sub-level (P1). However, misinterpretations remained for the upper part of the Campanian there. The works of Seronie-Vivien (1972-76), those of Andrieff & Marionnaud (1973) providing a biozonation based on benthic foraminifera, followed by Neumann et al. (1883) and the geologic maps of Platel (1976-1996) allowed to precise the upper limit of the Campanian in les Charentes and Dordogne.

Two subphyla of the phylum Brachiopoda (Rhynchonelliformea (e.g. Articulata) and Craniiformea (e.g. Inarticulata pr.p.) are recognized in this stratotype region. Representatives of about twenty species were recognized by their external (morphology and ornamentation) and internal (shape of brachidium using transverse serial sections, microtomography and when available, owing to diagenesis, microstructural characteristics. These identified species (a Craniida; Rhynchonellida, Thecideida, Terebratulida (Terebratulidina and Terebratellidina)), are repositioned within the nine biozones (Andrieff and Marionnaud, 1973), and six formations (Fm: Gimeux, Segonzac, Biron, Barbezieux, Aubeterre, Maurens) proposed by Platel (1996, 1999 and Contribution to the volume of the Campanian Stratotype in progress). The Campanian series ends with tufa limestones with a *Thecidea* sp. and "*Waldheimia*" *clementi* Coquand of the Maurens formation. The evolution of these Campanian species (some of which were already present as early as the Santonian) is highlighted in various environmental facies of the North Aquitaine platform from a deep marine environment (Lower Campanian) via progressively a circa, an infralittoral platform. (Upper Campanian) to a nearly costal environment.

Mots-Clés: Keywords – Campanian stratotype, Brachiopods, Craniiformea, Rhynchonelliformea, Distribution, palaeoenvironments

^{*}Intervenant