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ABSTRACT BOOK

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The upper Mississippian of the Montagne Noire (south Central Massif, France): a small endemic coral area controlled by reefal facies

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In the Montagne Noire, uppermost Viséan and Serpukhovian limestones (respectively Roque Redonde and Roc de Murviel Formations) correspond to microbial reefs exposed as olistolites. They yield abundant and diversified rugose coral faunas belonging to two stratigraphical assemblages (upper RC8 and RC9 rugose coral zones).

Some of the most common uppermost Viséan rugose corals belong to genera widespread and common in the Western European Province (that also includes North African and Nova Scotia): *Axophyllum*, *Clisiophyllum*, *Diphyphyllum*, *Lithostrotion*, *Siphonodendron*, *Solenodendron*, fasciculate *Lonsdaleia*, *Nemistium* and *Palaeosmilia*. Other ones, which are common in the same province, are uncommon in the Montagne Noire such as *Palaestraea* (both species *regia* and *carbonaria*), *Pareynia* and *Siphonophyllia*, and moreover, typical uppermost Viséan corals, such as lonsdaleids with a cerioid habitus (*Actinocyathus*), *Dibunophyllum bipartitum* and *Thysanophyllum*, were not found. In opposite, uppermost Viséan corals, abundant in the Montagne Noire, are very rare elsewhere, such as *Kizilia* or *Melanophyllidium*.

The Serpukhovian coral fauna of the Montagne Noire shows close relationships with the uppermost Viséan one, and some of the Serpukhovian taxa could be phylogenetically linked (such as *Serraphyllum* which possibly evolved from one of the upper Viséan local species of *Lonsdaleia*). This fauna also comprises common taxa, which are either widespread, such as *Axophyllum*, *Siphonodendron*, *Lithostrotion*, or uncommon outside the area or endemic (*Kizilia*, *Melanophyllidium*, *Serraphyllum*). It includes also a colonial heterocoral known only there and in Pyrenees. The widespread Serpukhovian coral genera *Actinocyathus* and *Dibunophyllum* are absent in the Montagne Noire, but the latter is abundant in slightly younger Serpukhovian strata in Serre de Castet (central Pyrenees), which probably belongs to the same palaeogeographical unit.

Therefore, both the uppermost Viséan and the Serpukhovian of the Montagne Noire comprise abundant endemic species, whereas taxa characteristic for the northern part of the Western European Province (such as *Thysanophyllum* or *Actinocyathus*) are missing. This suggests that the Montagne Noire was a small, partially endemic, southern area in the Western European Province. However, some of the common species in the Montagne Noire (such as *Kizilia* and *Pareynia*) are only documented from reefal facies elsewhere (e.g. in Morocco and Belgium). The absence of species (e.g. *Dibunophyllum bipartitum*) that are common in non-reefal facies of the Pyrenees suggests that the coral assemblages are strongly controlled by the presence or absence of late Viséan-Serpukhovian reefal facies. Nevertheless, endemism could be due to the palaeogeographical location of the Montagne Noire area, more open to the Paleo-Tethys Ocean, whereas the other areas were developed in more continental platforms.