SEDIMENTOLOGICAL, STRATIGRAPHIC AND STRUCTURAL EVIDENCE FOR TECTONIC SETTING OF THE ALBO-CENOMANIAN FLYSCH NOIR BASIN IN THE CENTRAL PYRENEES

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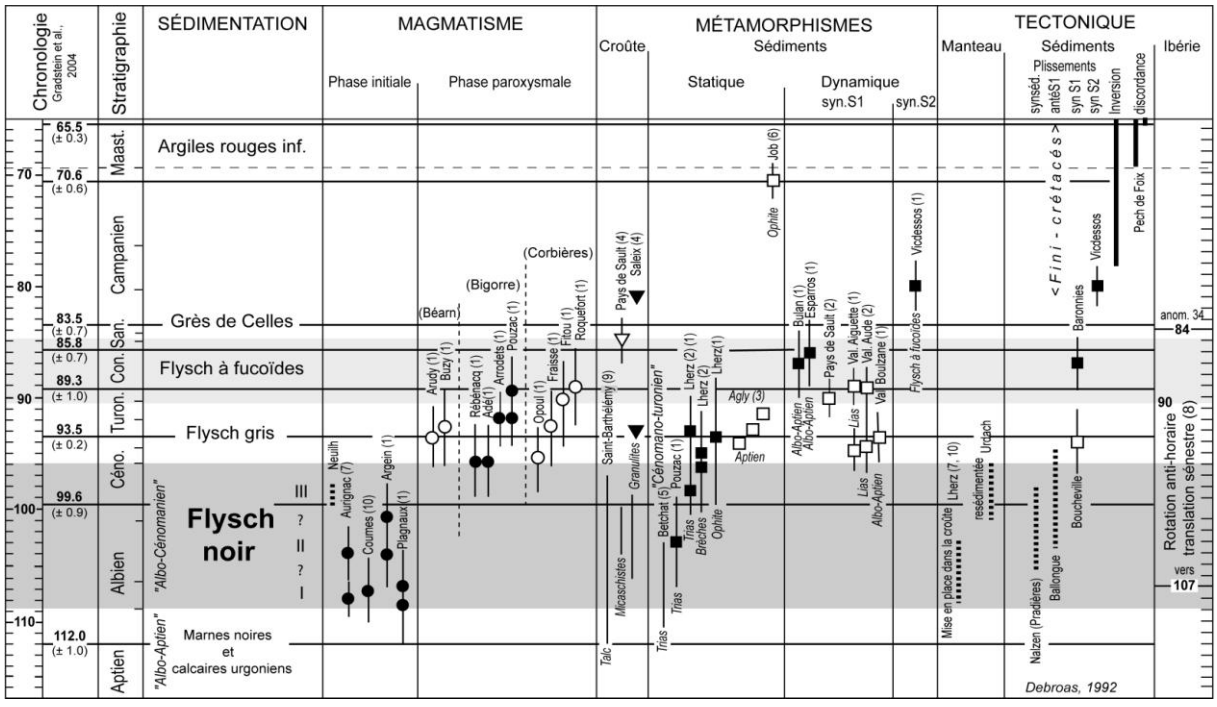
The initial stage of building of the Pyrenean range corresponds to the opening of the Flysch noir Basin above the Iberia-Europe lithospheric plate boundary. Even after half a century of intensive geological study, the tectonic setting of this basin is still the subject of various interpretations (extension, transform faulting, transpression, transtension, compression, hyper-extension, etc.). Most of these interpretations fail to take account of certain features of the Albo-Cenomanian Flysch noir deposited in the basin, and, in some cases, even completely ignore its existence. However, the Flysch noir reaches a thickness of 4000 m, with an area of outcrop occupying almost half of the surface of the North-Pyrenean Zone. The characteristics of this formation are established from numerous field studies (mapping, sedimentology and stratigraphy), which reveal the presence of various synsedimentary structures, such as normal and strike-slip faults, half-grabens, grabens, horsts, unconformities, folds, etc. The association of these structures shows that, from the Middle Albian to Early Cenomanian, the Flysch noir Basin was a composite rift, undergoing a three-stage opening during sinistral transtension with an offset of 10-km and extension decreasing towards the east. This rifting fits well with the nature and chronology of other events that occurred during and immediately after the deposition of the Flysch noir (magmatism, metamorphism, crustal thinning, mantle uplift, drift of Iberia, tectonic inversion - table), with the exception of synsedimentary submarine exhumation of the mantle on the floor of the Aulus (Lherz) and eastern basins.



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