

First Italian record of scolecophidian snakes (late Miocene, Moncucco Torinese)

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Riassunto. *Primo ritrovamento di serpenti scolecofidi in Italia (tardo Miocene, Moncucco Torinese).* Il record paleontologico europeo degli Scolecophidia è rappresentato da scarsi resti (esclusivamente vertebre isolate) che testimoniano un areale antico molto più ampio di quello attuale. Viene qui descritto il primo ritrovamento italiano di questi serpenti. Si tratta di una vertebra frammentaria che può essere identificata solo come Scolecophidia indet. poiché le vertebre di questo gruppo sono prive di caratteri diagnostici a livello generico. Non è chiaro se questi serpenti abbiano abitato esclusivamente l'Italia settentrionale o se abbiano avuto una distribuzione più ampia, ma è importante considerare che la loro presenza è sicuramente sottovalutata a causa delle piccole dimensioni dei loro elementi scheletrici.

Keywords. *Typhlops vermicularis*, vertebral morphology, palaeoherpetology.

The current European range of the scolecophidian snakes is limited to the Balkan Peninsula and the Caucasus (Darevsky, 1997), but the fossil record testifies for a formerly much wider range that reached higher latitudes and included central and western Europe also. Fossil remains were found in Austria, Belgium, Czech Republic, France, Greece, Hungary, Romania, Spain, and Ukraine, (Szyndlar, 1991; Folie, 2006; Böhme & Ilg, 2003). The oldest European remains referred to scolecophidians date back to the Paleocene (Folie, 2006); they went extinct in the Iberian Peninsula at the end of Pliocene (Bailon & Blain, 2007). Up to the present, these diminutive snakes were not known in the Italian fossil record probably because the small size of their bones hindered their retrieval and detection in the localities that yielded vertebrate assemblages (Delfino, 2002, 2008).

Here we report on the first fossil scolecophidian snake from Italy, that was recently identified in the well-diversified fossil assemblage of Moncucco Torinese, a post-evaporitic Messinian (latest Miocene) locality that records the shift from shallow brackish waters (the "Lago-Mare" facies) to freshwater/emerged environments (Angelone et al., 2010).

The material is represented by a single fragmentary vertebra, 1 mm long, devoid of the posterior end of the centrum and neural arch. It is characterized by: presence of zygosphenes; neural arch smooth without any trace of neural spine; paradiapophyses undivided and globular; cotyle dorsoventrally depressed; ventral surface of the centrum gently rounded and devoid of hypapophysis, but with well-marked paracotylar grooves (just medial to the paradiapophyses) and two relatively large subcentral foramina. The absence of hypapophysis associated to well-developed paracotylar grooves could indicate that the vertebra was originally located in the posterior preloacal sector.

The vertebral morphology of scoleophidian snakes is rather simple and so uniform that even members of different extant families cannot be discriminated (Szyndlar, 1991). Therefore, the vertebra from Moncucco is simply identified as *Scoleophidia* indet. and not referred to *Typhlops vermicularis*, the only European scoleophidian.

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