

EVENTS PRECEDING THE OPENING OF THE MESOZOIC TETHYS IN THE EAST MEDITERRANEAN REGION

S. Kovács

Academic Research Group, Department of Geology, Eotvös Lóránd University, H-1088
Budapest, Muzeum krt 4/a.

The western end of the Early Mesozoic Tethys had two branches that underwent very different evolution. The prehistory of the northwestern, Dinaric-Alpine branch was determined by the final phase of Variscan tectogenesis in the Middle Carboniferous and the Middle Triassic opening of the Vardar oceanic branch; between the two events, there were no major changes in the plate tectonic organisation of the surrounding region. Starting with the Devonian situation (which basically determined Variscan tectogenesis), the six most important events of paleogeographic evolution are discussed in some detail.

The western, Aegean-Sicilian branch was a subduction zone with olistostromatic sedimentation, probably combined with strike-slip movements, from the Middle-Late Carboniferous until the Middle Triassic (partly even until the Carnian). By means of this subduction directed towards the North or Northeast, the island-arc type Middle Triassic magmatism of the Southern Alps and the Outer Dinarides can be well explained. Behind this arc, the Vardar oceanic branch opened by means of a back-arc basin mechanism. An "Adriatic Promontory" did not exist during the Late Paleozoic and Triassic; the connection of the pelagic Triassic units in Southern Italy (Lagonegro, Imerese, Sicani) was not from the North but from the South of the Apulian microplate.

THE PELAGIC PERMIAN AND TRIASSIC DEEP-WATER SEQUENCE OF WESTERN SICILY AND ITS CONTINUATION IN THE EASTERN MEDITERRANEAN AREA

H. Kozur*

* Dr. Sc. Heinz Kozur, Rézsű u. 83, H-1029 Budapest/Hungary

The Permian deep-water sequence of western Sicily (fig. 1) is characterized by Circumpacific conodont and radiolarian faunas. Similar pelagic sequences and faunas are known from Oman (above oceanic crust), NE Iraq and from the Phyllite Group of Crete. They belong to the Permian Tethys at the northern margin of Gondwana. The pelagic sedimentation continued during the Triassic with a short shallowing, but continuous sedimentation near the P/T boundary.

SYSTEM	STAGE	LITHOLOGY - FOSSILS	
T	Rhaetian	Pelagic gray bedded cherty calcilutites with intercalations of calcarenites <i>Heliobryonia</i> , ammonoids, conodonts, radiolarians	
	Norian		
P	Upper	Upper	Pelagic gray cherty calcilutites with intercalations of brown calcarenites and, at places calcirudites, gray shales <i>Heliobryonia</i> , conodonts, radiolarians, ostracods, trace fossils
		Carnian Middle	
A	Lower	Upper	Pelagic greenish-gray to pink nodular cherty limestones, greenish-gray, rarely violet shales, subordinately thin red radiolarites, <i>Daonella</i> , " <i>Posidonia</i> " <i>wengensis</i> , ammonoids, conodonts (<i>Gladigondolella</i> , <i>Pseudofurnishius</i> etc.) radiolarians, ostracods.
		Ladinian	
S	Middle	Lower	Pelagic reddish to greenish-gray nodular cherty or siliceous limestones, greenish tuffites, greenish to gray radiolarites. Conodonts, radiolarians Or: red siliceous limestones, cherts
		Anisian (Upp.)	
C	Lower (Scytn.)	Olenekian	Reddish pelagic calcilutites (Hallstatt Limestones), marls, yellowish weathering limestones, marls, limestone conglomerates. Foraminifers, ostracods, radiolarians
		Brahmanian	Pelagic graded yellowish weathering conglomeratic to calcarenitic limestones with shallow-water clasts, grain supported. Conodonts, foraminifers, holothurian sclerites
P	Upper	Changxingian	Pelagic red deep-water claystones with few thin calcarenites. Radiolarians, ostracods, foraminifers, conodonts, sponge spicules. Toward the lower part: increasingly light-gray intercalations.
		Dzunfian	
R	Middle	Capitanian	Gray, yellowish weathering red claystones. Conod., radiol. White reef slope or base-of-slope biogenic limestones. Sponges, bryozoans, conodonts, holothurian sclerites, ammonoids, erinoids
		Wordian	
		Roadian	
A	Lower	Leonardian S.Str.	Dark gray limestones. Brachiopods, ammonoids, echinoderms, conodonts, scoliocodons, radiolarians, spongiomorphs (Olistoliths). Resedimented calcarenites, biogenic ls. Conodonts, sponge spicules (Olistoliths). Gray and red flysch grades, sandstones, partly fine-conglomeratic, siltstone, shales. Echinoderms, foraminifers, ostracods, conodonts, trace fossil (Olistoliths and sequences). Gray micritic silic. limest., dark-gray silty marls, marly ls (Olistoliths). Radiolarians, conodonts (Mostly olistoliths)
		Artinskian	
N	Lower	Sakmarian	Unknown
		Asselian	

Fig. 1: Stratigraphic column of the Permian and Triassic in the Sicilian paleogeographic domain of western Sicily. Vertical distances not time- or thickness-related.