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Title: Evidence from overlying clastic and carbonate sediments for the emplacement of the Jurassic Mirdita Ophiolites (central and southern Albania)

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Abstract: Abstract: Sedimentology can shed light on the emplacement of oceanic lithosphere (i.e. ophiolites) onto continental crust. An example chosen here is the well-exposed Jurassic Mirdita ophiolite in central and southern Albania. Successions studied in five different ophiolitic massifs (Luniku, Shpati, Voskopoja, Rehove and Morava) document variable depositional processes and palaeoenvironments. Ophiolitic extrusive rocks (pillow basalts and lava breccias) retain an intact cover of oceanic radiolarian chert only locally, in the Shpati massif. Elsewhere, ophiolite-derived clastics typically overlie basaltic extrusives or ultramafic rocks directly. During its emplacement the Voskopoja ophiolite underwent drastic mass wasting in a subaqueous setting to form coarse ophiolite-derived talus that accumulated by mass-flow and rock-fall processes in an open-marine setting (free of terrigenous input). A prominent intercalation of serpentinite melange at one locality, Voskopoja, represents gravity reworking of serpentinite and other lithologies that were upthrust from beneath, or in front of, emplacing ophiolite. Overlying ammonite- and calpionellid-bearing pelagic carbonates of mainly Berriasian age in this section experienced gravity instability (reworking and slumping) during late-stage emplacement. In contrast, the well-rounded nature of many ophiolitic clasts elsewhere; e.g. overlying the Spathi ophiolite, shows that both extrusive and intrusive ophiolitic rocks (e.g. harzburgites) were exposed to erosion in a high-energy shallow marine, tonon-marine setting during and soon after emplacement. Overlying mixed ophiolite-derived clastic and neritic carbonate sediments accumulated during Early Cretaceous (?Hauterivian-?Aptian time) in variable deltaic, lagoonal and unrestricted shallow-marine settings, influenced by local tectonics and eustatic sea-level change. Terrigenous sediment gradually encroached from neighbouring landmasses. An Aptian transgression was followed by regression, creating a local unconformity (e.g. at Boboshtica), a Turonian marine transgression then initiated widespread Upper Cretaceous shelf carbonate deposition. In the regional context, the Albanian ophiolites of central and southern Albania appear to have been emplaced rapidly onto the Korabi-Pelagonian microcontinent probably from a Mirdita ocean, then generally to the south. The nature of the sedimentary cover is less consistent with models that imply multi-phase thrusting far over the Apulian continent for tens of millions of years.

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**Evidence from overlying clastic and carbonate sediments for the emplacement  
of the Jurassic Mirdita Ophiolites (central and southern Albania)**

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