

THE AMERICAN MINERALOGIST, VOL. 54, MARCH-APRIL, 1969

PALYGORSKITE FROM THE DEEP SEA: A REPLY

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Dr. Sabatier is entirely correct in pointing out that our recent paper (Bonatti and Joensuu, 1968) failed to quote the discovery of palygorskite in sediments from the Red Sea and the Gulf of Aden (Heezen *et al.*, 1965): We hereby recite a sincere "mea culpa" for this oversight.

More data on the paragenesis and distribution of the Red Sea and Gulf of Aden palygorskite are required to determine its origin. We agree with Dr. Sabatier that the "hydrothermal" hypothesis which we suggested as an explanation for our findings in the Atlantic is attractive also in the case of the Red Sea material. There is evidence that hydrothermal solutions debouch from rifted and fractured areas of the ocean floor, *i.e.*, along active oceanic ridges and fracture zones (see, for instance, Arrhenius and Bonatti, 1965; Bonatti, 1966; Bostrom and Peterson, 1966). The axial rift in the Red Sea is a likely site for hydrothermal activity, as also suggested by the recent discovery there of hot brines and heavy metal deposits (Miller, *et al.*, 1966).

If our hypothesis is correct, one can predict that authigenic Mg-silicates of the palygorskite-sepiolite group will be found frequently in deep-sea sediments associated with active ridges and fracture zones.

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