

## **Lithofacies of Volcanic Rocks in Central Coastal Range, Eastern Taiwan: Implications to Oceanic Island Arc Evolution**

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The Miocene igneous rocks in the central Coastal Range, eastern Taiwan consist of diabase, andesitic lavas, andesitic to dacitic volcanoclastics, ignimbrites and basaltic lavas. Based on rock characters, they can be grouped into eleven lithofacies. Furthermore, these lithofacies can be appropriately linked into five lithofacies associations according to paleoenvironments and conditions of volcanism. The volcanic eruptions might commence on a deep ocean floor in early Miocene, pour out in a shallowing environment in middle to late Miocene and, finally, take place in a subaerial condition at the end of Miocene. The subaqueous eruptions produced voluminous pillow lavas and breccias, hyaloclastites, massive lavas and thick volcanoclastic deposits. But, the subaerial eruptions only yielded limited amount of ignimbrites and basaltic lavas. After the cessation of volcanism due to the arc-continent collision, the volcanoes rapidly subsided and later overlaid with thick continent-derived sediments.