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The Exploitation, Processing and Use of Softstone in Northern Madagascar and its Links to the Indian Ocean World, 800 – 1500 CE

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From the 9th to the 16th century CE, northern Madagascar was settled by the Islamised Rasikajy population who, as active participants in the Indian Ocean Trade Network, exploited the various natural resources of the island. Among the most spectacular remains of the Rasikajy are finely decorated lathe-turned tripod vessels made from a particular softstone called chlorite schist. In the course of this project, over 30 quarries were visited in the remote hinterland of the island, many of them previously unknown. The survey allowed a detailed look into the production line and operation of the quarries, which is very similar throughout the sites. However, local differences were still observed and suggest that while the vessel production followed a common technological tradition, it can not be considered as a standardised procedure.
The petrographic study on a vast array of quarry samples allowed the characterisation of the material. Chlorite schist, a type of rock which should be called Hoesbachite or Amphibole-Talc-Chlorite Fels after modern standards, is a unique meta-cumulate that was metasomatised into an amphibole- and talc-rich softstone and occurs in a single geological unit called Manambato Suite. Zircon dating revealed an emplacement age between 750-700 Ma for the quarried occurrences and recorded Pan-African metamorphism around 500 Ma ago. The metasomatic processes responsible for the formation of hoesbachites resulted in a high compositional variation that was recorded on a quarry scale. Rasikajy workers were aware of this and ensured their specific material choice by testing the rocks in the quarries. The detailed geological processes behind the compositional are also crucial for other, more commonly used softstones such as steatites, and should be considered for any provenance attempt on these materials.
In an attempt to refine the knowledge on the styles and particularities of the finished vessels, different stylistic groups were distinguished for the first time. In addition to the remarkable tripod vessels that were produced in the studied quarries, a second group of foot-less bowls made from talc schist was identified. This group, which was most likely produced in a second and older quarry zone south of the Bay of Antongil, is a rare find in the Malagasy archaeological record, but dominates the softstone inventory of Démbeni, an important trading port on Mayotte that was active in the late first millennium CE. The results from this study largely expand the history of softstone exploitation in northern Madagascar, from the identification of a second important extraction zone to the assessment of technological transfer from and within Madagascar. While the tradition of softstone vessel production appears to be under a strong influence from the Middle East, where this material is in use since millennia, the particularities of the Malagasy approach suggest that it developed with other inputs from the cultural realm of the Indian Ocean world.

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