

## The genus *Spongites* (Corallinales, Rhodophyta) in South Africa

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FBIS150609118997

Despite their ubiquity, the non-geniculate coralline red algae are a relatively poorly known group of marine organism. While morphology, anatomy, ecology and distributions are useful in separating the South African species of *Spongites*, DNA sequence data has forced us to question the practice of placing into synonymy geographically widely separated specimens (and species) of non-geniculate coralline algae. For example, *psbA* sequences deposited in GenBank from 28 specimens called *Spongites yendoi* from New Zealand are not the same species as South African material called *S. yendoi*. Furthermore, several specimens we have sequenced, which initially were classified as *S. yendoi*, proved to be genetically different from the ecological (the species is characteristically found as the basal coralline on the low shore intertidal zone in the *Scutellastra cochlear* zone) concept of *S. yendoi* in South Africa. Consequently, we find that we must question whether any of the sequenced material from South Africa called *S. yendoi* is conspecific with type (or 'topotype') material, which incidentally has yet to be sequenced. This suggests that there exists a large number of cryptic species posing under the name of *S. yendoi* in South Africa, and possibly also so for other species from the genus *Spongites* in South Africa. Using traditional alpha-taxonomy as well as current molecular techniques, the aim of this research is to re-assess the genus *Spongites* along the entire South African coastline.