

of artemisinin as well as other metabolites. Progeny of the *A. annua* plants was cultivated to determine if water stress can epigenetically be transferred. We have used a NMR targeted metabolomic approach to identify the difference in the metabolites in *A. annua* plants cultivated under water stress and those not. NMR and a mathematical formula were used to determine the artemisinin concentrations. The results indicated that water stress will increase the artemisinin concentration and there is also a difference in the metabolite content. Artemisinin could not yet be detected in the progeny due to its early growth stage, which is associated with very low levels of artemisinin.

doi:[10.1016/j.sajb.2010.02.085](https://doi.org/10.1016/j.sajb.2010.02.085)

---

### **Algal diversity on the rock-faces of the Golden Gate National Park**

A. Venter, A.A. Levanets, J.C. Taylor  
*School of Environmental Sciences and Development, North-West University, Potchefstroom, South Africa*

The Golden Gate National Park (28 °31'S; 28 °37'E) covers about 12 000 ha in the rugged Maluti Mountains. The geological

formations within the park are of the Karoo Supergroup and consist mainly of flat lying sandstones and subsidiary stilstones and mudstones. The Clarens sandstone with its characteristic yellow and red weathering can be seen on almost all of the overhangs and is an important sponge area that absorbs and retains water for periods between rainfall incidents. These outcrops produce seepage water that creates suitable microenvironments for a diverse array of epilithic algal growth, especially on the western rock-faces. The seepage water is usually alkaline with a pH of about 9. The investigated diatom flora of the sandstone formations contained several species from the genera *Amphora* and *Navicula*. In addition, a naviculoid species with a cruciform, often asymmetrical, valve shape was also discovered. A species possibly from the genus *Epithemia* was also present but its identity is uncertain as it is linear in shape that is atypical for this genus. Cyanoprokaryotes include several species of *Nostoc* such as *Nostoc microscopicum*. Other cyanoprokaryotes include *Pseudanabaena*, *Tolypothrix* and *Choococcus* spp. A green algal genus, *Chlorococcum* as well as several desmid species was also found in these microenvironments. These studies as yet have only revealed a small part of the diversity of the aerophilic algal species of South Africa.

doi:[10.1016/j.sajb.2010.02.086](https://doi.org/10.1016/j.sajb.2010.02.086)

---