

U. SHORES

Field Note U8c3. Arniston shores – Geomorphological features – Dissolution features



Dissolution pinnacles.

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Dissolution of the rocks takes place in the intertidal zone, the wave spray zone above it and in the calcrete crust (where the dissolution is unrelated to sea water or wave action).

The features in the intertidal zone are pinnacle and pools (Figure 1).



Figure 1. View on an abrasion table at the foot of a sea cliff. Pools are formed on that part of the table which is washed by the tide. The pinnacles at the back (arrow) form along that part of the table, which is less frequently under water.

Pinnacles

Sharp pinnacles form above highest tide level (Figure 2).



Figure 2. Top and bottom - sharp pinnacles form above high-tide level.

Other sharp pinnacles are being weathered and rounded (Figure 3).



Figure 3. Top and bottom – weathered, rounded sharp pinnacles. The boxed area in the top photo is enlarged at the bottom photo. Note the miniature dissolution features.

Sharp pinnacle of different shape form along the zone, which receives the sprays of the breaking waves (Figure 4).



Figure 4. Top and bottom – sharp pinnacles of different shape form on that zone of the cliffs, which receive sea spray.

Rounded pinnacles form on the Rietvlei Formation rocks near Struis Point (Figure 5).



Figure 5. Top and bottom – pinnacles on the Rietvlei Formation rocks.

Spectacular, over 3 m high dissolution pinnacles (not to be confused with the karst pinnacles) were formed on the East Shore (Figures 6 and 7).



Figure 6. Top and bottom: pinnacles along the East Shore.
Person for scale – a passer-by.



Figure 7. Top and bottom – a dissolution pinnacle along the East Shore.

There are several dissolution pools on the abrasion tables (Figure 8).



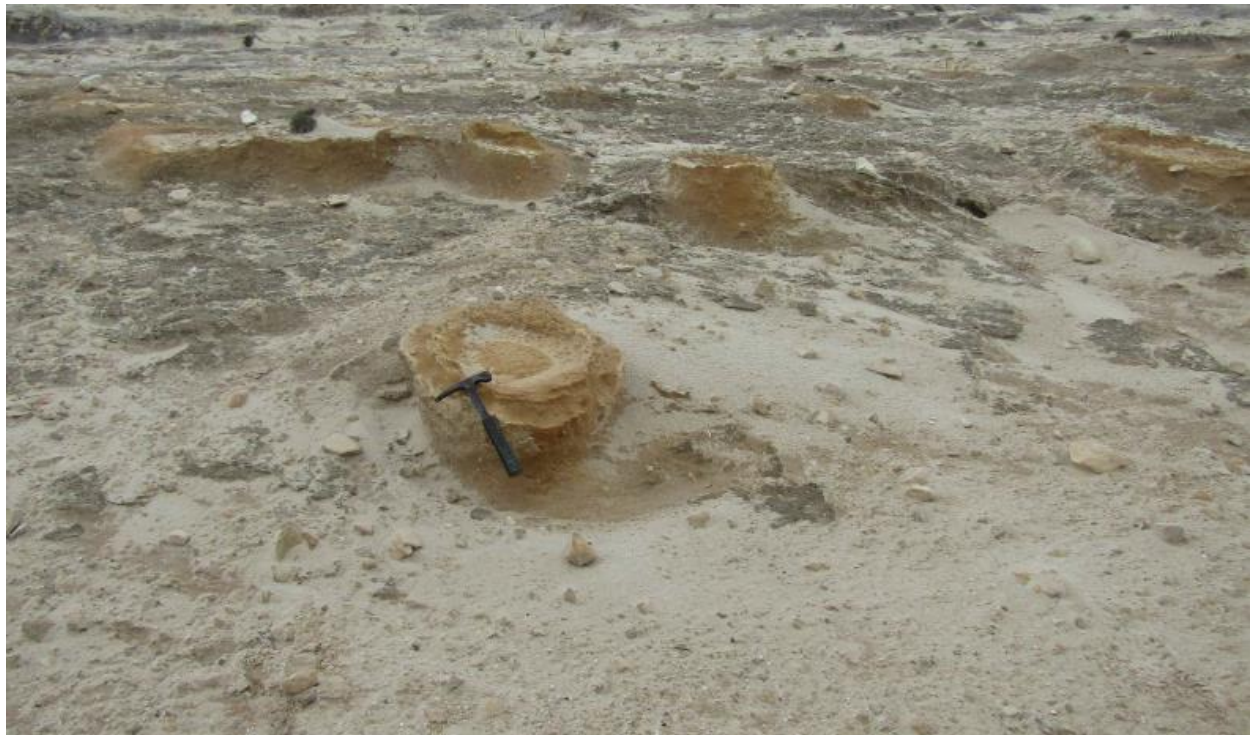
Figure 8. Top and bottom – dissolution pools on abrasion table. These pools are further eroded and enlarged mechanically by the waves, which swirl the pebbles, which area trapped in them.

Karst features under the calcrete layer can be seen along the cliffs (Figure 9).



Figure 9. Top and bottom – calcrete ‘stalactites’ at the bottom of the calcrete layer along the Arniston cliffs.

Dissolution features occur on top of the calcrete layer (Figure 10).



**Figure 10. Top and bottom – dissolution features (the top of karst pipes) on the calcrete layer.
See Field Note on karst pipes.**