

GEOLOGY OF BONNY HILLS

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Bonny Hills is situated on the eastern rim of the Lorne Basin which is a clearly defined structure about 40 km. in diameter. It is bounded in the south, by the Cooperook fault line, the Bago fault in the north, and the volcanic Comboyne plateau in the west.

Its sediments are mainly of Triassic age (200 – 250 million years ago) similar to the much larger Sydney Basin. These sedimentary rocks, which are over 200 meters thick in places, have been disturbed by several younger intrusions.

Several fault lines which occur within the basin and on its perimeter provide some spectacular scenery as well as exposing the sedimentary strata making it readily visible to the budding geologist. The strata are also exposed on the headlands around Bonny Hills. Most of these are accessible by foot but care must be taken when trying to access the more precipitous rock outcrops.

The significant rock layers are the:

- i. Jolly Nose conglomerate is the oldest on display and is probably early Triassic
- ii. Cooperook conglomerate
- iii. Camden Head claystones
- iv. Grant's Head formation

A colorful display of these rocks can be seen by taking the track from Honeysuckle Crescent onto the beach and exploring the outcrop at its northern end. Here you will see amazing weathering patterns and colours in the conglomerates and sandstones. The pebbles and cobbles, embedded in the matrix which is rich in ferrous minerals, are mainly cherts, quartzite and jaspers.

From the southern end of this little beach, follow the track over Grants head and on the way examine the rock layers mentioned above.

At low tide walk out onto the rock platform between Rainbow Beach and Bartlett's beach where you *may* find some plant fossils and you *will* find a comprehensive range of littoral animals and algae.

Coffee rock is the common name for rock-like formations of indurated sands that were formed from ancient river sediments of the Pleistocene age (from 2,588,000 to 12,000 years before present). It can be seen exposed by coastal weathering processes on Rainbow Beach as an example.

For further information it is suggested that you read a paper which appeared in the Quarterly Notes of the NSW Department of Industry and Investment No.134, June 2010, entitled *A Revised Triassic Stratigraphy for the Lorne Basin by Winston Pratt*
http://www.dpi.nsw.gov.au/aboutus/resources/periodicals/quarterly_notes/00134-triassic-stratigraphy