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NOTES ON THE ASCENT AND NATURAL HISTORY OF GUNUNG API, A LIMESTONE MOUNTAIN IN SARAWAK.**N.M. Collins, J.D. Holloway and J.Proctor****INTRODUCTION**

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Since the mid-nineteenth century explorers and naturalists have been interested in these mountains, and occasionally probed into their foothills and slopes. However, it was not until the 1977/78 joint expedition by the Royal Geographical Society and the Sarawak Forest Department that the main ridge and peaks of Gunung Api were explored. This paper describes the journeys made, and includes some notes on the structure, flora and fauna of the mountain. Gunung Benarat remains unclimbed, despite several attempts (Hanbury — Tenison 1980).

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Introduction

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Structure and scenery of Gunung Api

The geomorphological features of Gunung Api have been described elsewhere; accounts of general geomorphology (Sweeting 1977, 1980), climate (Walsh 1982), the structure and formation of limestone pinnacles (Ley 1980, Osmaston 1980), and the position and extent of cave systems (Brook & Waltham 1978, Eavis 1981) should be consulted for details. The high rainfall of over 5000 mm per year (Walsh 1982) has eroded the 2000 m thick, fine-grained, pure limestones of the Melinau formation into spectacular karst structures. Prominent among these are the razor-edged pinnacles, which are to be found on a relatively small scale all over the mountain, but reach heights of over 50 m at 1200 m altitude on Api's north-east flank. The caves so far explored consist of well over 100 km of fossil and recent galleries, reaching their greatest proportions in the 700 x 300 x 70 m Sarawak Chamber of Lobang Nasip Bagus (Eavis 1981).

Api is the Malay word for fire, and we were told that there are corresponding names for the mountain in the Berawan (Apoy) and Penan languages. The name is believed to have arisen from rare natural fires caused

by lightning strikes during dry spells. Local people remember a fire in 1970 which possibly corresponds with a 2 ha burned area on the lower western slopes. Anderson (1965, 1966) reported that the submontane vegetation of Api was largely destroyed by fire in the early 1930s. The source of this information was Mr. Southwell, a missionary living in Marudi, but when asked in 1978, Southwell was certain that the year of the fire was 1929. The fires lasted for several weeks and the blaze may have been on Gunung Benarat rather than Gunung Api, since the peaks are virtually indistinguishable from Marudi. Southwell visited Benarat in 1930 but failed to find a burnt area. The *Pandanus* facies (Table 1) near the summit of Api may have resulted from fires (Anderson & Chai 1982), although there is no direct evidence for this, but the upper ridges of Benarat are more barren, suggesting that the vegetation was damaged more recently and has not yet fully recovered. Evidence of the slow recovery of burnt vegetation on these limestones was discovered in July 1978 on a fire site on Batu Pajing (split rock), a twin-peaked limestone hill to the south of the main massif (Fig. 1, Hanbury–Tenison 1980). This burnt area was said by local people to be several years old, and there were few charred remains. However, the topsoil was still completely absent, limestone boulders were loose over the whole surface, and recolonisation was limited to a few herbs growing in crevices.

Fires are not restricted to forest over limestone. Shackleton (1938) reported small fire clearings high on Gunung Mulu in 1932, although no traces were seen in 1977/78. It is likely that recovery has been much more rapid on the Mulu soils than on limestone, and that the Mulu fires were exceptional, possibly resulting from a dry spell in 1929. Drought was reported to be the cause of widespread forest fires in Peninsular Malaysia, Kalimantan and Sabah in 1983.

Exploration of the limestone mountains in the Mulu Park

There is no evidence of attempts by local people to reach the summit of Gunung Api. The first account of exploratory journeys is by St. John (1862), who approached Mulu from the River Medalam to the north. St. John did not distinguish between Api, Benarat, and Mulu, citing them all as the “Molu Range” on his maps. St. John and his companion Low tried to climb “Molu” from the north, and were in fact in the far more difficult terrain of either Api or Benarat. St. John (1862, p. 7 *et seq.*) describes the dissected topography, with “sharp axes below and pointed needles above”. The two men turned back from an altitude of about 800–1000 m.

In 1961, G.E. Wilford, a geologist surveying the Mulu area, cut a path up the north flank of Api from the Melinau Gorge to the Pinnacles (Figure 1). The route took four days to complete and was walked a few days later by an Assistant Conservator of Forests in Sarawak, J.A.R. Anderson.

In the course of the Mulu expedition several attempts were made to reach the summit of Api. The Pinnacles were reputed to bar the way to the summit from the north, and two attempts were made from other directions (Hanbury–Tenison 1980). The first attempt (8–13 November 1977) was based on an examination of maps and aerial photographs, which suggested gently rising slopes on Api's east flank. A party of eight followed a compass bearing of 130° from the point where the main trail to the Melinau Gorge crosses the Sungai (River) Melinau (Fig. 1, Appendix). After three days climb