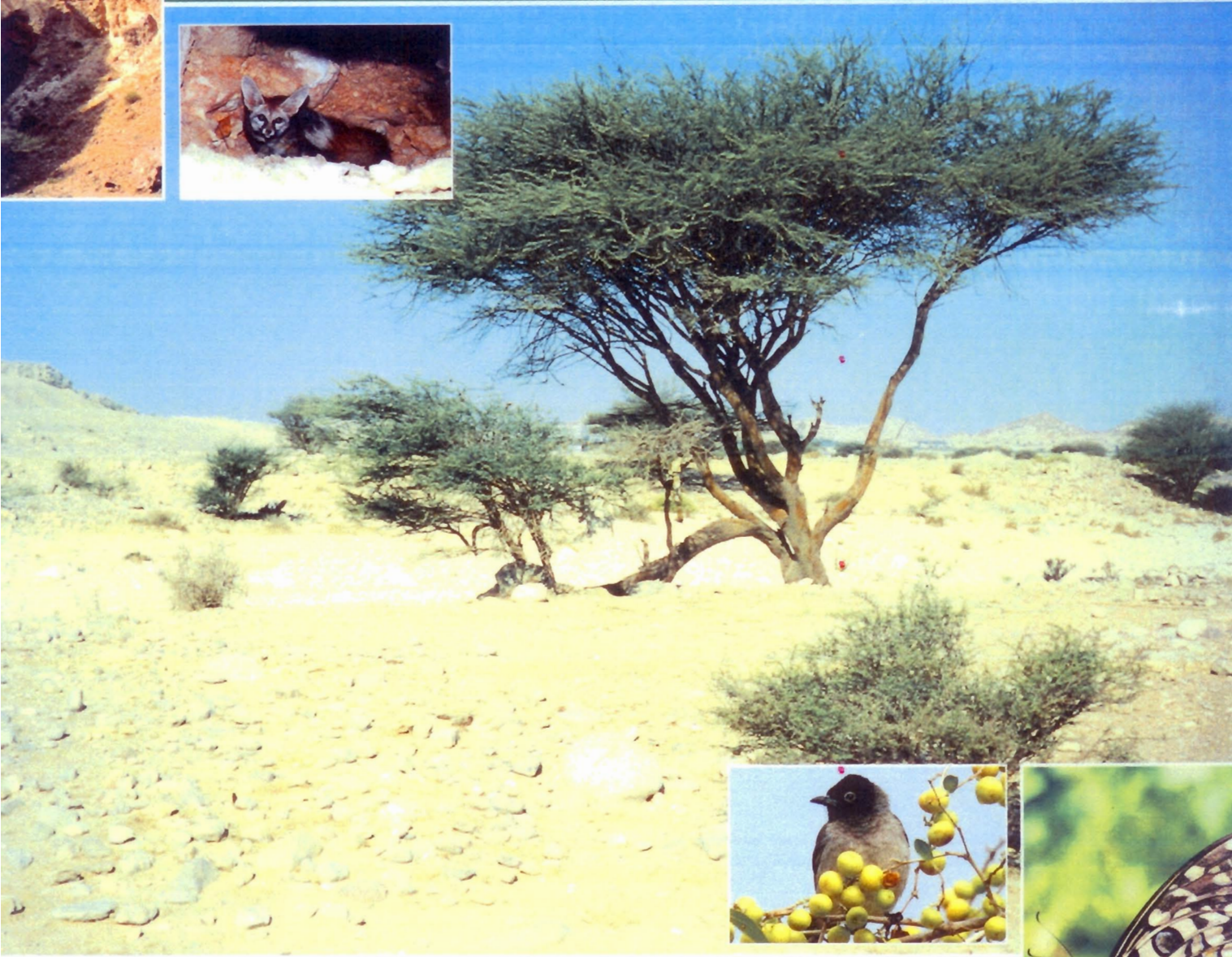


JEBEL HAFIT



NATURAL HISTORY



EMIRATES NATURAL HISTORY GROUP
ABU DHABI

JEBEL HAFIT,
A NATURAL HISTORY

EDITED BY

SIMON ASPINALL & PETER HELLYER



شركة أبوظبي للعمليات البترولية البرية (أدكو)
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Cover picture (main): Acacia tortilis in the mouth of Wadi Tarabat (Gary Brown)

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THE TROGLOBITES OF JEBEL HAFIT

Mark Beech, Olivia Pozzan & Simon Aspinall

Magharet Qasir Hafit is a cave system located just west of the summit ridge of Jebel Hafit (Waltham and Fogg, 1998; Fogg, Fogg and Waltham, 2002). First entered in 1996, exploration has mapped over 450m of shafts, passages and chambers reaching a depth of 96 m below ground. The chamber known as the Red Room and the Labyrinth are located between 75 and 96m below the entrance. The relatively constant temperature of the cave air is close to 32°C, with humidity of nearly 100%.

A visit was made in June 2000 to investigate the cave's biology, its troglobites (literally 'cave-dwellers'). The fauna comprised bristletails and an isopod, all unpigmented and which may be unique. Other fauna and flora collected included the (sub-fossil) remains of various bats (Beech *et al. in press*), and a small fox, as well as a number of live and dead ants. This note concerns solely the living fauna found in the depths of the cave.

The living bristletails (Thysanura) were discovered in the Labyrinth passages and in the Red Room (see figure overleaf). A few specimens, baited in with Danish Blue cheese, have been retained, but remain as yet unidentified. Bristletails are primitive wingless insects with elongate flattened bodies, three tail-like appendages at the posterior end of the abdomen and small separate compound eyes (Delany 1954). Bristletails occur in a wide variety of habitats ranging from houses, ant or termite nests, under stones, bark and in leaf litter, and generally feed on vegetation (Remington 1954). The specimens from Magharet Qasir Hafit appear to be adapted to a cave environment, having long antennae and lacking any pigmentation. Little scientific work has been carried out on bristletails, but they regularly occur as troglobites. Although there are about 370 species recorded worldwide, it is estimated that, for example, only 60% of the North American fauna is documented despite decades of intensive research. In the Arabian peninsula only the Lepismatidae have been examined (Irish 1991), and no work has been undertaken on other families within the Thysanura.

The similarly colourless single isopod (popularly known as woodlice), also collected from the Red Room, was retained for scientific determination. This individual was caught as it visited the 'weeping' surface of a still growing stalagmite, and, although the cave possesses a naturally humid atmosphere, this source of moisture could be of some importance to the live fauna present.

The troglobites present in Magharet Qasir Hafit may well be unique as the cave has constituted an environmentally-isolated niche for many thousands of millennia, having apparently remained physically sealed off for much of that time.

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Dr. John Irish (Department of Entomology, National Museum of Bloemfontein, South Africa) generously provided advice concerning the identification of the bristletails.

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