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THE POTENTIAL VEGETABLE DIETARY OF PLIO-PLEISTOCENE HOMINIDS AT MAKAPANSGAT*

by

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ABSTRACT

Neither fossil pollens nor macroscopic plant remains have as yet been reported from the Makapansgat Limeworks breccias; hence there exists no direct means of assessing the character of the local floral environment during australopithecine times. However, it is suggested that provided acceptable evidence on the nature of the contemporaneous climate and particularly rainfall can be obtained, by indirect means a comparatively full picture may be presented, both of the local vegetation and of the plant foods available to hominids in the area at that time.

The methods and types of data employed in deducing the nature of the palaeoflora at Makapansgat, under hypothetical conditions of rainfall both higher and lower than the present, are briefly summarised.

The extant vegetation in the Makapansgat area is briefly described and the food plant component is discussed with reference to the numbers and types of food plant present, the numbers and types of foods these plants provide and the times at which they are availabe. These data relate to two study areas, one lying within an 8 km radius of the Limeworks site, the other lying within a 16 km radius.

The present climate and floral-climatic relationships at Makapansgat in recent and historic times are discussed. The nature of secondary disturbance in the area is discussed and its effects emphasised.

The conjectured nature and food plant component of the prehistoric Makapansgat vegetation is discussed in relation to hypothetical conditions of both increased and diminished rainfall.

The five vegetation types represented at Makapansgat provide a total of 117 food plants within a radius of 8 km of the Limeworks site, and 150 within a 16 km radius. These plants are mainly trees and shrubs providing edible fruits.

The numbers and main types of edible parts provided by these food plants are:

1. Within 8 km of the Limeworks:
   66 Fruits (49 small or very small; 17 larger)
   20 Leaves
   12 Roots — mainly enlarged storage organs
   14 Gums
2. Within 16 km of the Limeworks:
   82 Fruits (56 small or very small; 26 larger)
   22 Leaves
   16 Roots — mainly enlarged storage organs
   21 Gums

Fifteen alien food plants are common to both areas. These provide 3 fruits, 11 edible leaves and one provides edible floral parts and they are reflected in the above list.

These food plants should provide a wide and adequate vegetable dietary during the late spring and summer months of the year; difficulty might be experienced during the winter months when the dietary would mainly be restricted to the edible underground parts.

It is considered that under prehistoric conditions of reduced rainfall as low as 50–60 per cent of present an almost comparably varied dietary would be available. This dietary would probably be more adequate than the present in that a larger number of edible underground parts would be available for winter-time eating.

With improved rainfall conditions the potential vegetable dietary would also be somewhat comparable with that presently available, but, while the greater number of fruits available would include some of larger size and greater palatability, the number of edible underground plant parts, such as bulbs, corms and tubers, would be considerably reduced.

Under almost all rainfall conditions, perhaps with the exception of the very arid, the Makapansgat valley would have supported a comparatively rich and varied flora.

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