

## PERSBERIG VIR GANSBAAI COURANT

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### POLLINATORS OF FYNBOS

More than a century ago, Darwin (1859) observed that “the number of bumblebees in any district depends in a great measure upon the number of field mice, which destroy their combs and nests ... the number of mice is largely dependent, as everyone knows, on the number of cats .. it is quite incredible that the presence of a feline animal in large numbers in a district might determine, through the intervention first of mice and then of bees, the frequency of certain flowers in that district”. Darwin recognized the importance of interactions amongst organisms, specifically the role that pollinators play as links in communities. Yet, almost 140 years later, our understanding of pollination interactions are still rudimentary. The extent of dependence and linkage in pollination systems is currently under scrutiny as an issue affecting conservation of biodiversity. Today, at least 67% of flowering plants depend on insects for pollination and others depend on birds and mammals. For these plants to persist, pollinators are as critical as light and water. The pollinators of fynbos are amongst others, bees, butterflies, birds and mammals. Research has shown that the butterfly, Table Mountain Beauty, *Memeris tulbaghia* (Black with yellow and blue spots on its wings) prefers fynbos with red flowers. Since about 15 of the most spectacular fynbos species depend solely on *Memeris tulbaghia* for pollination, the butterfly can be considered a keystone species with a high priority for conservation. Many African rodents feed on flowers, but in the fynbos biome, rodents are important pollinators of a number of *Protea* species. Although pollination by non-flying mammals is not a uniquely African phenomenon, the degree to which it occurs in fynbos, is exceptional. The African rodents involved in the pollination of *Protea* species are seasonal nectarivores, feeding on foliage and seeds for most of the year. The main food rewards, nectar and pollen, are available to them in winter, when energy requirements of small rodents are high. Sunbirds and sugarbirds show a strong aversion to the xylose in *Protea* nectar. Insects associated with fynbos plants play an important ecological role as pollinators, seed dispersers, and seed predators.

#### Sources:

CA Kearns, DW Inouye – Pollinators, flowering plants and conservation biology;

SD Johnson, WJ Bond – Red flowers and butterfly pollination in the fynbos of South Africa;

IG van Tets, SW Nicholson – The nutritional ecology of rodent pollinators of *Protea* in South Africa.

Written by Elrina Versfeld for Pearly Beach Conservancy.

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