

looked like a pink inflorescence of some kind belonging to the Cactus.

Mr. Thiselton Dyer has examined the mass of parasitic tissue of this Mistletoe, which draws the nourishment from the interior of the stem of the Cactus. He finds that, having a soft and succulent matter in which to ramify, the basal fibres of the parasite form a large spongy mass of great size within the stem of the Cactus, which curiously simulates a mass of *mycelium*, such as produced by a parasitic fungus.

The fact that the Mistletoe growing on a leafless Cactus has no leaves itself, reminded me of a remark which Sir William MacArthur made to me in New South Wales. He told me that he had noticed that the Mistletoes growing on the various species of Gum-trees (*Eucalyptus*) simulated in their foliage that of the tree on which they grew to such an extent that they were often difficult to find. He pointed out to me examples.

The leaves of one Australian species of Mistletoe, *Loranthus celastroides*, which grows on species of *Eucalyptus*, are so like those of the *Eucalyptus* itself, that the varieties of the species have been termed *L. eucalyptoides* and *L. eucalyptifolius*. The Australian species of *Loranthus* have commonly two very different forms of leaves, broad and narrow. In the case of *L. celastroides* the broad-leaved varieties grow on *Banksias* mostly, and the narrow-leaved on *Eucalypti*; but both forms are found on species of *Casuarina*, which is a tree with narrow needle-like leaves; all gradations occur between the two varieties of this Mistletoe.\*

*Loranthus aphyllus* is the only *Loranthus* without leaves. It grows only upon the *Cereus quisco*. There are, however, species of the genus *Misodendron* of the Mistletoe family, which are leafless, and yet grow on trees with well-developed leaves, such as the Fuegian Beech Trees.

Probably the leafless Mistletoe on the Cactus has got rid of its leaves for the same reason as the Cactus, viz., to minimise loss of moisture by evaporation in an arid climate. The Australian Mistletoes possibly are adapting their leaves to the forms of those of the Gum-trees, in order to benefit the trees, and thus themselves, by interfering as little as possible with the vegetation at the roots of their host. They can hardly be supposed to gain by being inconspicuous, but must rather be certain to lose thereby.

After accompanying me for about half the distance up the Pass, my companion, Lieut. G. R. Bethell, had to return, and

\* "Flora Australiensis," Vol. III., pp. 388, 390. Bentham and Müller. London, 1866.