

by exceptionally large specimens - tutu with trunks an unbelievable 18" diameter; a hinau, *Elaeocarpus dentatus*, had a girth of about 10'; huge parapara, *Heimerliodendron brunonianum*, one with a canopy spread of 50 feet and masses of seedlings beneath - up to 200 - 400/sq. metre at the cotyledon stage; large tapapou, *Flanchonella novo-zelandica*, with 24" diameter trunks, with much regeneration beneath them.

One puzzle was the complete lack of regeneration of puriri beneath a mature tree having both flower and berry. There was some discussion on this point at the meeting, others having noted a similar lack elsewhere. Professor Newhook would be interested to hear of any possible explanations for this.

In proposing a vote of thanks to Professor Newhook for a most interesting lecture, Mr. Warren said that he felt sure our Society would strongly support the efforts being made to preserve these obviously unique islands.

A.D.P.

JUNE 1971.

One of the best lectures we've had for a very long time was how Mr. Butler, in his vote of thanks, summed up the meeting held on June 2nd., when Professor L.H. Briggs of the University of Auckland's Chemistry Department talked to us about what was, he said, the oldest commercial industry, namely that concerned with the extraction and distillation of essential oils and perfumes from plants.

Professor Briggs had obviously been to a great deal of trouble preparing for the lecture and had brought along many examples of scented plants and bottles of many different essential oils, which were passed round during the evening. He also had his own still which, with the aid of a primus stove, he used to distil during the course of the lecture an incredibly large quantity of essential oil from the Australian plant *Chamaelaucium*. The leaves of this plant yield about 2% essential oils, mostly of commerce.

Among plants passed round were the camphor tree, *Cinnamomum camphora*, from which camphor is extracted commercially by steam distillation; *Myrtus bullata*, in which were discovered three completely new compounds; *Myoporum laetum*, ngaio, containing a rare compound also found in rotten sweet potatoes - the oil vessels show up very clearly when the leaf is held up to the light; tea tree; *Eucalyptus* spp, some of which contain up to 8% essential oil - the hot sun volatilizing the oil causes the distinctive blue haze which gives the Blue Mountains near Sydney their name; *Melicope ternata*.

We were shown two sets of slides, the first showing a series of apparatus used for distilling essential oils, dating from 1507 to more modern times and including a still used for lavender in S. France and one for *Eucalyptus* oil (this oil was the first Australian export).

The second set showed the process known as 'enflorage' which has to be used to extract the perfume from flowers such as jasmine, hyacinth, *Gardenia* and violets which have no essential oils. Briefly, the flowers are placed on a layer of deodorised fat in a tray and an upturned tray of fat is

placed on top of the flowers. After 24 hours the top tray is used for the bottom and vice-versa with a fresh batch of flowers. This process is repeated 36 times, the fat absorbing more and more of the perfume. The fat is then melted down, the fat extracted with alcohol and the alcohol then distilled off under a vacuum, the result being the basis of French perfumes.

Other points of interest that emerged were, firstly, that the presence or absence of a certain compound has in several cases provided chemical evidence to help the botanist. Such evidence suggested, for example, that Hall's totara was a separate species and not just a variety of Podocarpus totara. Secondly, the smell of a plant can provide a good guide to its identification, thus Asplenium bulbiferum has no distinctive smell whereas the fronds of Asplenium lamprophyllum smell of oil of wintergreen when crushed.

This was a lecture full of interesting facts and amusing anecdotes and was greatly enjoyed by all present.

A.D.P.

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Those who curse some plant names and their authors, may be interested in the following quote from "The Plant Hunters" by Whittle, which shows just how much soul-searching goes into the naming process on occasions!

" No greater or more bizarre affair has ever occurred than in the struggle between the supporters of Victoria regia and the supporters of Victoria regina in the naming of the Amazon water lily, which took place over a hundred years ago. It involved eminent botanists of all nations, two learned societies, half the drawing rooms of Potsdam, Paris and London, a collection of explorers, two dukes and Queen Victoria herself."

Our own local specimen of this remarkable lily grows in the tropical house at the Auckland Domain Winter Gardens and contrary to popular belief, bears flowers fairly regularly throughout the summer. The floating leaves, which can reach a diameter of up to 6 feet, usually have upturned edges revealing the extremely spiny under surface.

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Did you know that the All Russian Society for the Conservation of Nature has a staggering 16 million members and is probably the largest voluntary organization of its kind in the world?

It may also come as something of a surprise that in a totalitarian state there are, in the various republics, conservation boards and councils with powers equal to ministries or even higher. These are not merely consultative but have the right to veto badly designed projects and to force the reconsideration of development projects at an early stage. (From an article in New Scientist, April 1970.)

Why do we have to lag behind in tackling so vital a problem?