EXPLORING FOR MEDICINAL PLANTS IN THE SOUTH PACIFIC

I find it difficult to do justice to Mr Uhe in a report on his lecture to the Society on July 6th. The subject of the lecture was his exploration of South Pacific Islands for medicinal plants, for analysis in the United States. Mr Uhe, of the Botany Department of the University of Auckland, was, and still is collecting plant specimens for several American Drug companies and the U.S. Institute of Health. He is now collecting in New Zealand for South, Klein and French (S.K.F.)

He started by explaining that although most modern medicines are made synthetically, there is still room for the discovery of new active principles, both alkaloids and glucosides in plant material which is being collected all over the world. Plants, including fungi and bacteria, have in the past played a very important part in the treatment and curing of disease. As early as 1600 B.C., castor oil, opium, cassia and wormwood were used. In ancient Greece, mustard, squills, gentian, rhubarb and chamomile found a place. Modern extraction methods have improved the products, and isolated new ones from a number of these older drugs.

There is still no better substitute for cascara, quinine, cocaine, eucalyptus, opium, codeine, belladonna, curare or digitalis. Penicillin is produced by a fungus. Rauwolfia serpentina (active principle reserpine) has been used in India for 1000 years and has only recently been "re-discovered," and is now used extensively. L.S.D. (Lysergic) is made from ergot, and a new drug which may be important in cancer research is from velbe, Madagascar's periwinkle, Vinca rosae. Four major products have been discovered since World War 11, and the best discovery is a completely new alkaloid hernandine, from Hernandia ulvigera.

Mr Uhe has been studying folk-lore in the Pacific and collecting samples of every plant he could find, in small quantities up to 10 grammes. When something useful is found he has to collect 50 to 70 pounds of material - bark, roots, leaves, etc., so it can be seen that he must know where to find the plant again. Also he has to dry and pack all these specimens for despatching to America, surely a prodigious undertaking. It is found that plants that contain latex and those that taste bitter and plants belonging to the natural orders Apocynaceae, Moraceae, Aslepiadaceae and Euphorbiaceae are the most interesting for this purpose. S.K.F. have five progressive methods of testing. Small portions of the sample are extracted with various solvents and a portion of this extract is tested for alkaloids, other portions for other chemicals, and for testing on animals etc. S.K.F. have methods of testing these specimens which are unique, and could not be done in this country as the expense alone would prohibit it here.

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Exploring for Medicinal Plants in the South Pacific
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At the conclusion of this talk - it was too conversational to be called a lecture - we were shown colour slides taken by Mr Uhe in the South Pacific, of Tahiti, New Caledonia, Norfolk Island, Lord Howe Island and Samoa, and we appreciated very much his descriptions both humorous and descriptive during the screening. A vote of thanks was proposed by Mr Warren, who said that in his opinion "it was one of the best lectures we had had." This was carried by hearty acclamation.

L.W. Butler

C H A R O P H Y T E S

"The New Zealand "Stoneworts"

For the September lecture I had the pleasure of introducing a group of water plants quite new to the vast majority of members - and indeed to many professional botanists. They have been passed over by both algologists and botanists dealing with the higher plants, and they fall in between somewhere, owned by few and usually quite neglected, so here's your chance to make some new discoveries! They are quite distinctive and need not be confused.

They are a very ancient group of plants with a fossil record stretching way back into the Lower Devonian at least, when the "spores," looking very like those we see today, were preserved. Most botanists include them now with the Green algae, of which they are among the largest freshwater examples. They have been regarded as a separate division of the plant kingdom by some devotees - hence the oft-used term "Charophyta." The male reproductive organ (the "antheridium"), is particularly complex.

The plant body is relatively simple, with a thread-like axis (though sometimes to ¼" thick), and regular whorls of lateral branchlets arising at "nodes" along the "stem." They can be likened to the "horsetails," and were in fact called Equisetum in pre-Linnean times. The common name "stonewort" arises from the limey covering adhering to certain species of the large genus Chara, and have in fact been used for scouring - the "chara" was used by the people of Lyons, who found them locally and used them to scour their plates clean some centuries ago (Wood). It was suggested by the audience that perhaps the household "char" got her name from the same root!

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