



ETHNOBOTANICAL AND ECOLOGICAL STUDIES
IN THE NORTHWESTERN AMAZON

Sci. name
Unonopsis veneficiorum
Tribal name (Muhl.) R. E. Sch. var. A
Kofán: 11851 ja'mdi
Locality Santa Rosa on Rio Cauca
Culmango, Colombia
Elevation 1000 ft
Soil swamp - Spanish: negro
Kofán: an de K'i
Use of root:
Remarks: Curative ingredient
Small tree 20 ft.
Coll. Homer V. Pinkley No. 558
Date 11-26-66 Det. James W. Walker

Herbarium specimen of *Unonopsis veneficiorum* (Annonaceae) on which is based the modern ethnotoxicological note of the Kofán Indian use of the plant in curare.
H. V. Pinkley 558. Courtesy: Botanical Museum of Harvard University.

PK99
A17
A567

Drugs and Foods from Little-Known Plants

Notes in Harvard University Herbaria

By SIRI VON REIS ALTSCHUL

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field notes and gave freely of their time and advice to help unravel knotty problems.

Professor Benjamin R. Hershenson, of the Massachusetts College of Pharmacy, is responsible almost exclusively for constructing the medical index to the catalogue, a painstaking task that required accuracy and judgment.

For their generous academic support, my special appreciation goes to: Professor Heber W. Youngken, Jr., Dean of the College of Pharmacy at the University of Rhode Island; Dr. Bryce Douglas, Director of Research at the Smith Kline and French Laboratories; Professor Robert F. Raffauf, of the College of Pharmacy at Northeastern University (formerly of Smith Kline and French); and Dr. Gordon H. Svoboda of Eli Lilly and Company. They worked in close cooperation with our team, enthusiastically receiving and analyzing portions of our data as they were gathered.

Perhaps more than any of my professional friends who were not intimately involved with the project, the late Professor Daniel H. Efron, of the National Institute of Mental Health and the University of Maryland, comprehended the broader implications of what we were trying to achieve. While the catalogue was in preparation, he suggested on a number of occasions appropriate forms for the presentation of portions of our data. He made recommendations of major importance to the publishing of the book.

We received financial aid from Eli Lilly Research Laboratories and from Smith Kline and French Laboratories, as well as from the National Institute of Mental Health, all to accomplish the gathering of data. The Massachusetts College of Pharmacy supported Professor Hershenson's portion of the work, while a grant from the National Library of Medicine made it possible to publish the manuscript through Harvard University Press.

S. v. R. A.

Foreword

In 1961 Dr. Siri von Reis Altschul, as an extension of her work in taxonomy and ethnobotany and her interest in several natural-products research programs then under way in American pharmaceutical circles, conceived an ambitious idea. This idea materialized, thanks to her persistence, and led to preparation of the present volume. I believe that the many kinds of specialists who undoubtedly will utilize the information in the following pages may appreciate a few words on the conception and development of Dr. Altschul's idea.

In science's search for novel biodynamic constituents and potential new therapeutic agents from the plant kingdom, several avenues of approach have been followed: a random sampling of the existing flora; direct study of plant uses among peoples still living in primitive cultures; and reliance upon information in the literature.

The last of these avenues apparently has been the one most commonly followed in pharmaceutical circles. Generally speaking, it has been unreliable. Scraps of information about the use of a plant may be gleaned easily from all kinds of literature—including even history, reports of missionaries and travelers, and other rather casual and diffuse writings. Investigators frequently begin by consulting regional floras, compendia prepared by botanists that usually include economic notes about the species growing naturally in the area covered by the particular flora. These notes on plant uses are seldom first-hand; more often they are second-, third- or fourth-hand repetitions, citing neither sources of the original reports nor voucher specimens from which the identifications were made. Consequently, errors and uncertainties are frequent even in the floristic literature, which should be—and undoubtedly is—the most reliable available. Recent pharmaceutical research more than once has become disoriented because of erroneous reports in floras.

It occurred to Dr. Altschul, as a direct outgrowth of her survey of literature reports about the use of hallucinogenic snuffs in the New World, that too much reliance had been placed on these data in

floristic, historic and other works—data completely divorced from specimens or other means of checking identification. The natural corollary then occurred to her: Why not utilize the almost untapped wealth of ethnobotanical notes hidden away on labels in our herbaria?

The more she pondered the potentialities inherent in a search of herbaria and the longer she discussed it with her colleagues, the more Dr. Altschul was convinced that this source of information on folk medicine ought to be utilized.

A herbarium report itself, she reasoned, was usually first-hand, jotted down on the spot by the collector of the plant in the locality and at the time of collection. It was on a label, often in the collector's own handwriting, and physically attached to a specimen. Consequently, there could be no uncertainty about the identity of the plant. The season of collection, ecological notes, description of the plant, vernacular names, and other information would often be found on the label—all of these data occasionally of importance either for evaluation of the use or for possible re-collection of fresh material of the plant for chemical study. Some of the collections would be recent, others very old. The old specimens frequently preserved notes about uses that have disappeared with the cultures or peoples who employed the plant and therefore would be even more valuable to modern researchers.

The herbaria of the world comprise vast collections of plants from all parts of the world during the past two centuries. Thus they make it economically feasible to pursue significant ethnobotanical studies in deserts or in tropical rain forests, at sea level or on the highest mountains, in Asia, Australia, Africa, Europe, North or South America—all without leaving the herbaria.

Dr. Altschul eventually set about to search the estimated 2,500,000 specimens preserved in the combined collections of the Gray Herbarium and the Arnold Arboretum at Harvard University. It was a major task, but one which she carried through over a period of four and a half years, with the results that are set forth in the following pages. A combination of enthusiasm and energy, faith in the value of the work, and meticulous organization of the information retrieved mark her accomplishment. It is offered as an indicator and, at times, as a guide for the diverse kinds of specialists dedicated to an examination of the world's vegetation; it is also a potential model for what may prove to be in older and larger herbaria—as well as in newer and smaller ones—a key to advantageous use of the plant kingdom as a source of valuable new chemical constituents.

Richard Evans Schultes, Director
Botanical Museum of Harvard University

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