

My Experience in Amazonia

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For approximately the last eight years I, with colleagues and graduate students, have been studying the evolution of resinsecreting trees. This project was initiated through a world-wide investigation of ambers (fossil resins) in which it became apparent that tropical angiosperms are more prolific resin producers than temperate conifers. Interest was then stimulated as to the reason why plants had produced resin since essentially the time that trees had evolved. Discovery that amber from Mexico, Colombia, and Brazil was derived from the leguminous genus *Hymenaea* led to interest in studying resin production, and ultimately to its possible "raison d'être". *Hymenaea* seemed to be a particularly good genus to study because species had radiated into a wide range of habitats from the center of its distribution in the Amazon Basin, and also had close relatives in Africa.

The initial difficulty, however, was how to conduct a meaningful study of the Amazonian populations of *Hymenaea*. My first trip to Amazonia came in connection with the *Simpósio Sobre a Biota Amazônica* in 1966. Arrival by plane from Belém to Manaus tends to emphasize to the Amazonian novice the strategic difficulties for scientific studies imposed by this vast rainforest ecosystem. Fortunately, however, my introduction of these rainforest species of *Hymenaea* came easily with the help of labeled trees in the Ducke Reserva. But the problems in collecting flowers, fruit, and in our case resin, are indeed difficult with trees 30m in height

that branch only relatively near to the crown. Experienced tree climbers and marksmen to shoot down specimens are a necessity for adequate collecting; otherwise the grounded botanist is frustrated indeed. Phenological data, so necessary in tropical rainforest where there is not a defined seasonal period, were available for important plants. Also of importance at the Ducke Reserva are residential facilities, relatively primitive but adequately comfortable for a stay in the forest.

Of great importance also was the friendly and helpful attitude of the personnel at the Institute, and availability of previous collections from Amazonia and a library of pertinent references. My first trip was only a reconnaissance and the second one in 1969 was built upon the experience in 1966. I looked forward to the assistance I felt assured would be available. Even on a very tight schedule I was able to obtain more collections and data than would be possible without the kind of assistance provided by the Institute. A social note might be added that, although the heat may be enervating particularly during September and October, one can always count on the cooling effects of guaraná and the igarapé of Amazonia.

Not only has the tropical thrust of our evolutionary studies of resin producers been significantly furthered by the facilities and personnel of the Instituto Nacional de Pesquisas da Amazonia, but my experience in Amazonia has been so pleasant that I look forward to the next opportunities to be there.