

S U M M A R Y

This study is concerned with the taxonomy, geographical distribution, phenology and floral biology of species of Orchidaceae found at the Campina Biological Reserve (Manaus-Caracarái Road, Km. 62). A list of the orchids collected from or cited as occurring in campinas of Central Amazonia has also been included for comparison.

A total of 24 genera and 48 species of orchids were found in the campinas studied.

Encyclia fragrans (Sw.) Lemée was found to be the most common species. The number of endemic species appeared to be small, 9.67%. Only *Bulbophyllum correae* Pabst, *Encyclia tarumana* Schltr., and *Maxillaria pauciflora* Barb. Rodr. appeared as species characteristic of this community.

31 species belonging to 17 genera were found at the Campina Reserve, and most species had a broad range of distribution. *Bulbophyllum correae* Pabst was collected here which extended its previously described range, and *Ornithidium parviflorum* (Poepp. & Endl.) Rchb. f. was collected for the first time in the state of Amazonas.

The phenology of the species was variable throughout the twelve months of the year, and the phenology of species belonging to the same genus was also variable.

The months of little flowering activity with the rainy season when insolation, radiation and temperatures were low. During the season of less rain, prior to the budding period, temperatures dropped to an absolute minimum of 19.0°C. This probably induced the species which flower during the rainy season to be activated at this time, when normally they would not flower.

The months of greatest flowering coincided with the relatively dry months, when radiation, temperatures and insolation were

high. Only *Epidendrum huebneri* Schltr. of all the flowering species, blossomed all year round. In relation to the vegetative development there did not seem to be a marked difference between those species which flowered during the dry and wet seasons respectively. The genus *Catasetum* was the only one to lose its leaves during the dry season.

The majority of pollinization syndromes of the plants found at the Campina Reserve showed adaptation to Hymenoptera, Lepidoptera, Diptera and Trochillidae (in that order).

The plants produced odor mostly during the morning. Few species produced odors at night or during the afternoon. Three species did not produce odors.

Rodriguezia secunda H.B.K. was previously reported as being pollinized by Trochillidae. However, it was observed that *Heliconius hermanthena* (Hewitson) (Lepidoptera) seemed to be the real pollinator in the area. Analysing the floral syndrome of this species, it was concluded that the species syndrome encompasses the two types of pollinators. This is of great importance from the evolutionary point of view of this species, as the campina population is isolated from other populations, and this could encourage future occurrence of speciation.

The majority of the species need a pollinizing agent for effective fertilization according to the data on pollination and fertilization. Only *Epidendrum strobiliferum* Rchb. f. was autogamous. Once the number of seeds per capsule in this family is taken into consideration, the average computed for pollinization and fruiting is significant, 0.49 and 0.52 respectively. The fact that the average for fruiting is higher than the average

for pollinization at first seems contradictory. However, this questionable result is explained by the autogamy of *Epidendrum strobiliferum*, which influences the numerical results.

Insofar as the relationship between the pollination mechanisms and pollinizing agents is concerned, it was noted that the pollinia

adheres specifically and precisely. This is of great importance in maintaining the specificity of the pollinizing mechanism. It was noted that animals other than specific pollinizing agents also visited the flowers, but they either did not carry pollinia, or their visit did not result in pollinization.

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