

TRANSFER OF PHRYGILANTHUS SONORAE TO PSITTACANTHUS (LORANTHACEAE)

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When *Phrygilanthus sonorae* (Watson) Standley, a mistletoe from southern Baja California and adjacent Sonora, was first assigned to *Phrygilanthus* (Standley, 1919) the genus had representatives in both the Old and the New World. More recently, concepts have swung to the exclusion of Old World species (Barlow, 1962). Even the New World remnant is currently under considerable question as a coherent taxonomic unit. It is no wonder that the appropriateness of *P. sonorae* in this genus is also at issue. In particular, the possibility of the species belonging in *Psittacanthus* seemed to warrant exploration.

The major criterion of *Psittacanthus* at this time is the absence of endosperm in the mature fruit. All other Loranthaceae, *sensu stricto*, have endosperm. A recent study of Bhatnagar and Chandra (1968) has, however, demonstrated the presence of normal endosperm in *Psittacanthus cuneifolius* (Ruiz & Pavon) Blume from Argentina. While the systematic position of this species may be questioned, the reliability of the endosperm—less condition as the major generic criterion is equally insecure. Little doubt exists, nevertheless, that species lacking endosperm are to be included in *Psittacanthus*. The author, therefore, visited the area of Bahia de los Angeles, Baja California in early January, 1969, in order to study fruits in the fresh condition. Detailed results will be published elsewhere at some future date. The main result, however, is a confirmation of the complete absence of endosperm in mature fruits, the cotyledons having taken over the storage function. There is no alternative, therefore, to transfer this mistletoe to *Psittacanthus*. As the internal organization of the genus *Psittacanthus* has not been adequately worked out it is impossible to place *P. sonorae* accurately in relation to other species.

PSITTACANTHUS sonorae (Watson) Kuijt, comb. nov. *Loranthus sonorae* Watson, Proc. Amer. Acad. Arts 24:73. 1889. *Phrygilanthus sonorae* (Watson) Standley, Contr. U. S. Natl. Herb. 20:212. 1919. *Dipodophyllum diguetii* Van Tiegham, Bull. Soc. Bot. France 42:177. 1895?

Watson designated this species "*Loranthus (Psittacanthus) Sonorae*." While does this not constitute a nomenclaturally valid publication of *Psittacanthus sonorae*, it leaves no doubt as to Watson's ideas of affinity.

A noteworthy fact observed in several instances near Bahia de los Angeles was the hyperparasitism of the common desert mistletoe, *Phoradendron californicum* Nuttall, on *Psittacanthus sonorae* (fig. 1). In one case more than a dozen hyperparasitic plants of various sizes grew

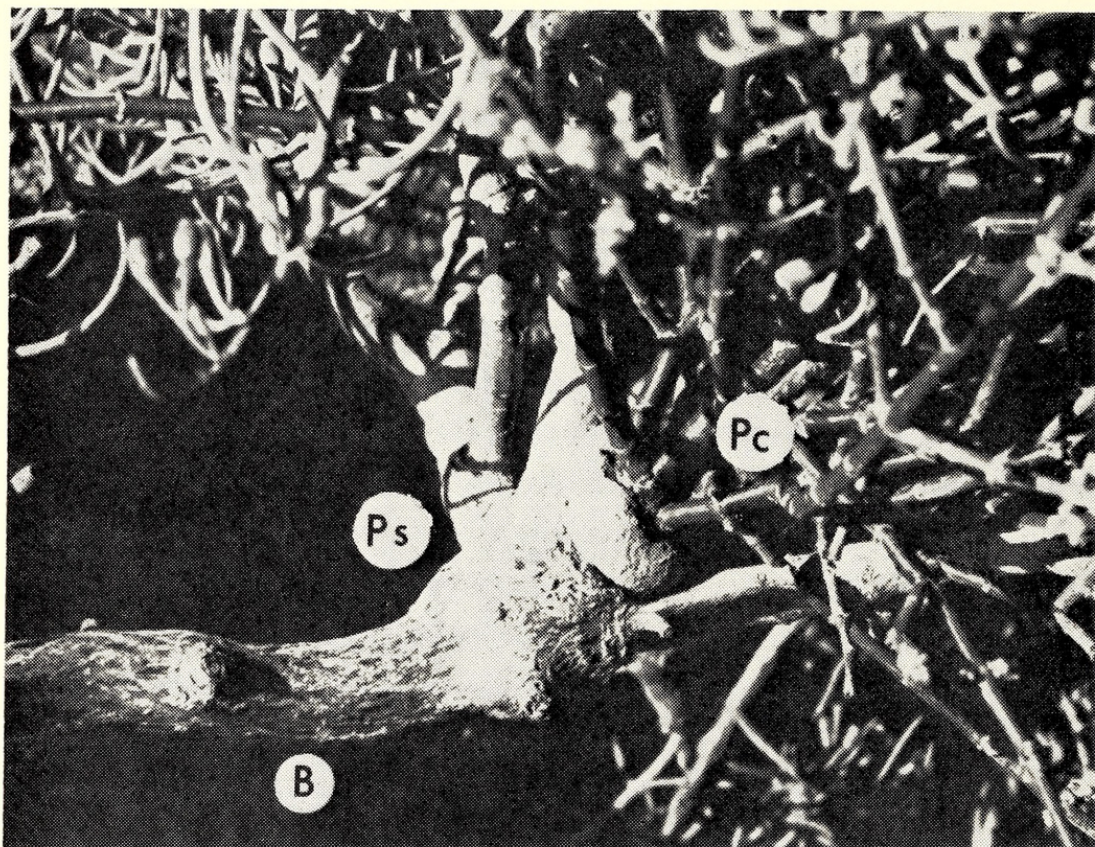


FIG. 1. Hyperparasitism of *Phoradendron californicum* (Pc) on *Psittacanthus sonorae* (Ps), in turn parasitic on *Bursera microphylla* (B). The chalk-white bark belongs to *Psittacanthus sonorae*.

on a single individual of *Psittacanthus sonorae*. The haustorial organs of the hyperparasite were surrounded by a crater-like formation of *Psittacanthus* wood, and were greatly restricted when compared to their normal development on desert trees. A similar phenotypic variability in haustorial development has been reported in other cases of hyperparasitic mistletoes (Kuijt, 1964). This kind of hyperparasitism in mistletoes is undoubtedly an indication of the fact that local fruit-eating birds eat the berries of both species, the seeds thus being voided together. No evidence was seen of self-parasitism of *Psittacanthus sonorae* on members of the same species.

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