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Dioon purpusii Rose (Zamiaceae)

a misknown species.

Dioon purpusii Rose (1909) was established by a concise description not accompanied by an illustration. Only in the Type U.S. National Herbarium n. 454142 is enclosed a photograph of a living specimen grown in New York Botanical Garden (Tab. 1).

The specimens, collected by Rose at Tomellín cañon, are deposited in few American and European herbaria (F, K, NY, US) (Tab. 2). Numerous other specimens, collected in Mexico by several authors, were attributed to *Dioon purpusii*. In our opinion, however, only the specimens collected by Chamberlain at Santa Catarina, Oax., in 1908 (F, MO) have been rightly classified as *D. purpusii*. On the contrary the remaining specimens have been erroneously attributed to this species (Sabato S., La Valva V., Moretti A., 1978). Furthermore some of these last have been recently attributed to the new species *D. califanoi* De Luca & Sabato (1979) and *D. caputoi* De Luca, Sabato & Vázquez Torres (1979).

For this reason we looked for *Dioon purpusii* again in Tomellín cañon in order to investigate its distribution and to give a more accurate description.

During a botanical expedition in Mexico we went along Tomellín cañon from Santa Catarina station to Tomellín, following the same itinerary of Rose (1909).

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Tomellín cañon crosses from south to north a mountainous district of northern Oaxaca. The cañon originates south of Santa Catarina station (1,500 m) and ends after 50 km ca. north of Tomellín (600 m) at the confluence of Rio Tomellín with Rio Grande.

Through we explored the whole cañon we found *Dioon purpusii* only in the vicinity of Santa Catarina station. The population of *D. purpusii* grows on the hillside opposite of Santa Catarina station. There are several plants in this vicinity and they are very frequent. The seedlings are very numerous and the species is not threatened with extinction even if the natives use its fronds for ornament. Scattered specimens were found by us only for eight or nine kilometers north of Santa Catarina. In the same locality CHAMBERLAIN (1909) saw and collected the species in various places between Santa Catarina and Tomellín. Furthermore in the same locality (Santa Catarina cañon, Oax.) Gonzatti & Gonzales in 1901 collected *D. purpusii* the specimens of which are deposited at Gray Herbarium and labelled *D. edule.*

Its common name is Palma Real.

We collected herbarium specimens and living plants at Barranca del Leon, on hills 1 km north of Santa Catarina station, Mpio of Cuicatlan; alt. 1,350 m (Tabs. 3-4). The former have been deposited in the following herbaria: ENCB, FI, MEXU, NAP and XALUV. The latter are now growing in the conservatory of the Naples Botanical Garden.

The plants grow in steep side cañons (barrancos) where they are shaded by bushes and small trees. The habitat is the Tropical Deciduous Forest.

Since the original description of *Dioon purpusii* was concise, it seems worth while describing more accurately the species from the new material now available.

Dioon purpusii Rose: Trunk 1-5 m in height; the very old specimens with reclining and branching stems; stem strong up

to 35-40 cm of diameter; absence of typical leaf scars because of a very long maintenance of the petioles on the stems. Cathaphylls woolly 12 cm ca. long, 12-15 mm wide. Fronds numerous, stiff and ascending, sometimes recurvate towards the tip, flat in adult plants, keeled in young plants, with 75-130 leaflets on each side, 0.80-1.60 m long; petioles 5-20 cm long, somewhat 4-angled, with a basis 2-3 cm wide. Apical leaflets inserted obliquely above the rachis with the upper end of the basal insertion nearer to the axis of the rachis than the lower one; basal and median leaflets arising at an acute angle from the rachis. Leaflets towards the base, 1 to 1.5-3 cm apart, above closely set. Median leaflets, stiff, strongly pungent, 7-11.5 cm long, 8-10 mm wide, entire or spinulose, with 2-3 spine like-teeth, 2-3 mm long, on the upper margin and rarely 1-2 spine like-teeth on the lower margin. Microsporangiate cone 20-30 cm long, 7-8 mm wide, the microsporophylls with tip sharply pointing up; megasporangiate cone 44 cm long by 20 cm broad near the base; megasporophylls very woolly, 10 to 15 cm long, 5-7 cm wide. Seeds about 3-4 cm in length.

Dioon purpusii on the basis of the oblique leaflets insertion is related only to *D. califanoi* and *D. caputoi*. It differs from the former because its fronds are flat and not keeled (with the exception of the juvenile ones which are very similar to the fronds of *D. califanoi*) and in its longer (7-11.5 not 6-7 cm) leaflets not regularly spaced along the whole rachis. It differs from the latter in its wider (8-10 not 4-5 mm) leaflets which are closely set in the median and apical region of the frond.

Dioon purpusii herbarium specimens examined:

MEXICO, Oaxaca: Santa Catarina cañon, *C. Gonzatti & V. Gonzales n. 1166*, Sept. 1901 (GH); Tomellín cañon, *J. N. R. Rose & J. S. Rose n. 11352*, Sept. 7, 1906 (F, NY, US); Tomellín cañon, *MacDougal & Rose n. 25747*, 1906 (K, NY); Santa Catarina, *Chamberlain*, April 1908, 3 (F, M0).

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SUMMARY

The authors have found *Dioon purpusii* Rose at Santa Catarina station in Tomellín cañon (Oaxaca, Mexico). A more accurate description and an analysis of the species is given in relation to the related species: *D. califanoi* De Luca & Sabato and *D. caputoi* De Luca, Sabato & Vázquez Torres.

SOMMARIO

Gli autori dopo aver rinvenuto *Dioon purpusii* Rose nei pressi di Santa Catarina nel cañon di Tomellín (Oaxaca, Messico) forniscono una descrizione di questa specie, alla quale erano in passato ascritti molti saggi, parte dei quali sono ora attribuiti a due nuove entità: *D. califanoi* De Luca & Sabato e *D. caputoi* De Luca, Sabato & Vázquez Torres.

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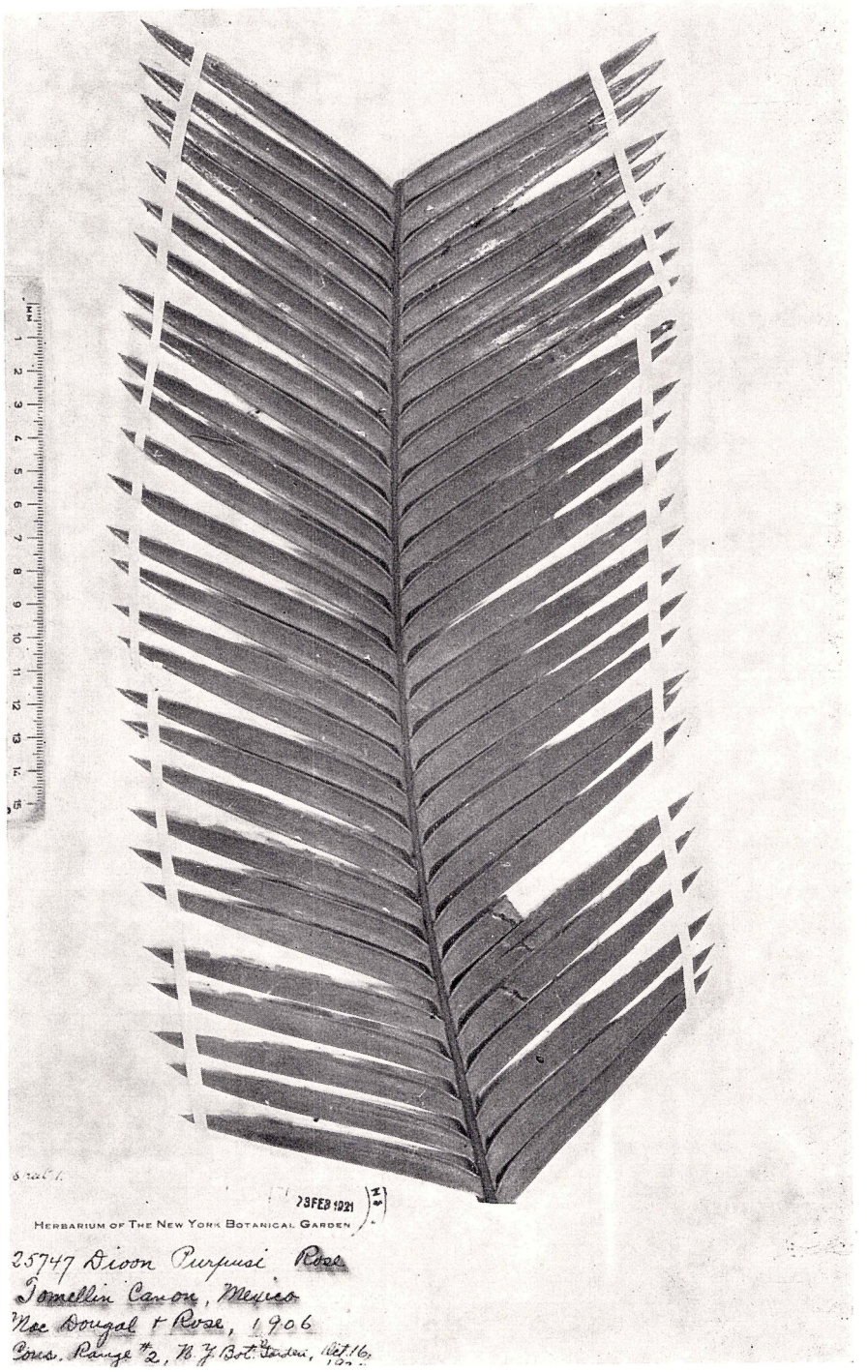
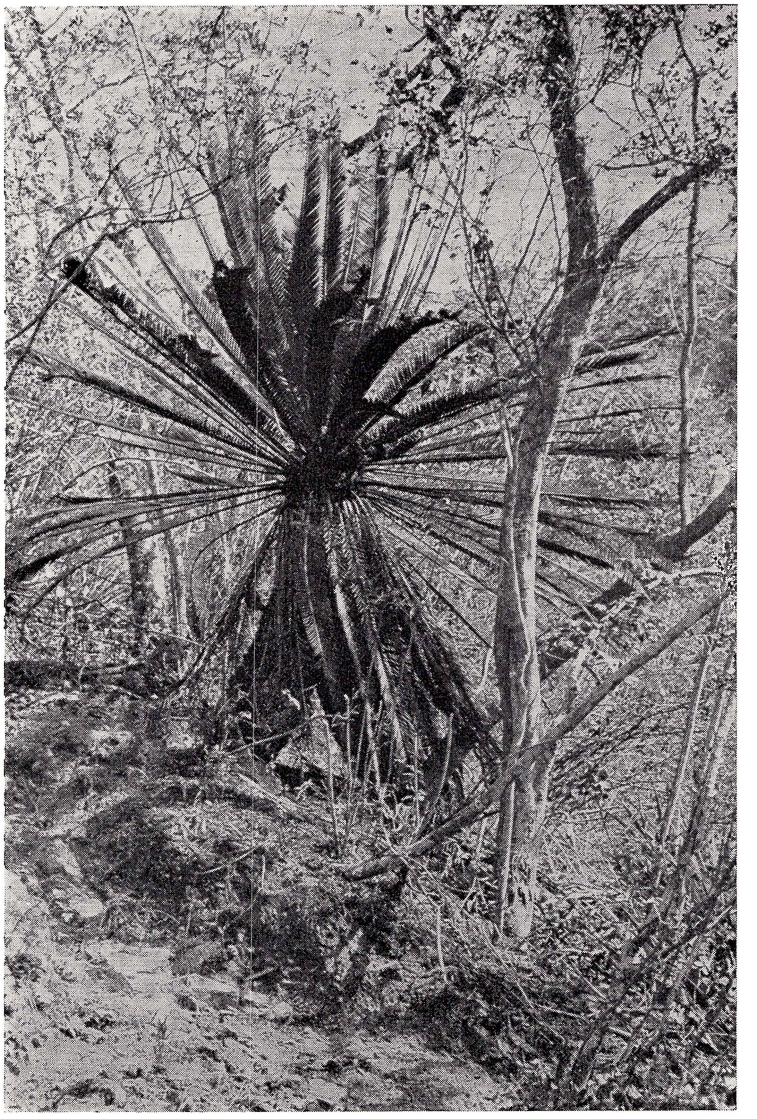
Type of *Dioon purpusii* Rose.



Isotype of *Dioon purpusii* Rose.

Tab. III



Living specimen of *Dioon purpusii* Rose at Santa Catarina (Oaxaca, Mexico).

Living specimen of *Dioon purpusii* Rose at Santa Catarina (Oaxaca, Mexico).