

DIOON RZEDOWSKII (ZAMIACEAE), A NEW SPECIES FROM MEXICO

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De Luca, Paolo, Aldo Moretti, Sergio Sabato (Istituto di Botanica, Università di Napoli, via Foria 223, Napoli, Italy) and Mario Vázquez Torres (Facultad de Ciencias Biológicas, Universidad Veracruzana, Xalapa, Veracruz, Mexico). *Dioon rzedowskii* (Zamiaceae), a new species from Mexico. *Brittonia* 32: 225-229. 1980.—A new species of *Dioon* has been found in Oaxaca. It is characterized by leaflets which are entire, lanceolate but unequally tapering toward the apex and over 10 mm wide at the middle portion of the frond.

In the course of a botanical expedition to Mexico, we observed and collected along the canyon of the Rio Santo Domingo in the state of Oaxaca some *Dioon* specimens which, after examination, have turned out to represent a new species.

Dioon rzedowskii De Luca, Moretti, Sabato & Vázquez Torres, sp. nov. (Figs. 1, 2)

Truncus cylindricus, erectus vel reclinatus, 5 m vel ultra altus, 25–40 cm diam. Cataphylla dense lanata, 16–18 cm longa, basi 2 cm lata. Folia plana, numerosa, coriacea, adscendentia, in statu juvenili pubescentia, deinde glabra, 160 cm longa et ultra. Rachis semiteres, recta; petiolus semiteres, 10–15 cm longus, basi 3–4 cm latus. Foliola 80 et ultra utroque latere, subopposita, elongato-lanceolata sed inequaliter attenuata, acute pungentia, margine leviter revoluta, integerrima vel in juvenilibus plantis dentibus spinosis praedita, supra basin angustata, prope apicem deflexa, basalia remotiora, superiora confertiora. Foliola inferiora primum $\pm 5 \times 2$ mm, sensim crescentia, margine spinulosa; foliola me-

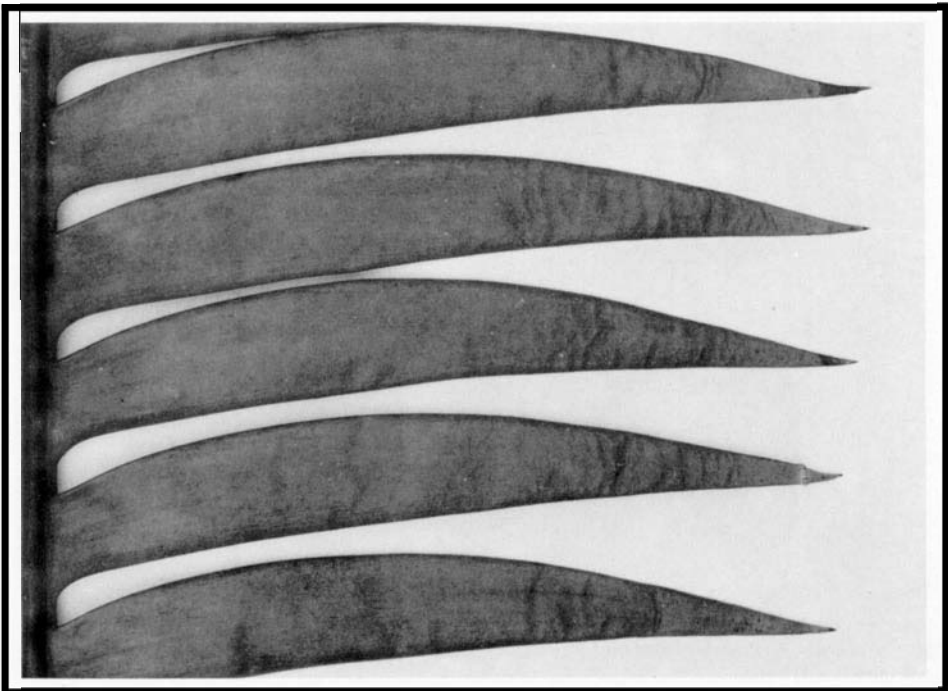


FIG. 1. Middle portion of frond of *Dioon rzedowskii* showing unequally tapering leaflets, deflected at tips $\times 0.8$.

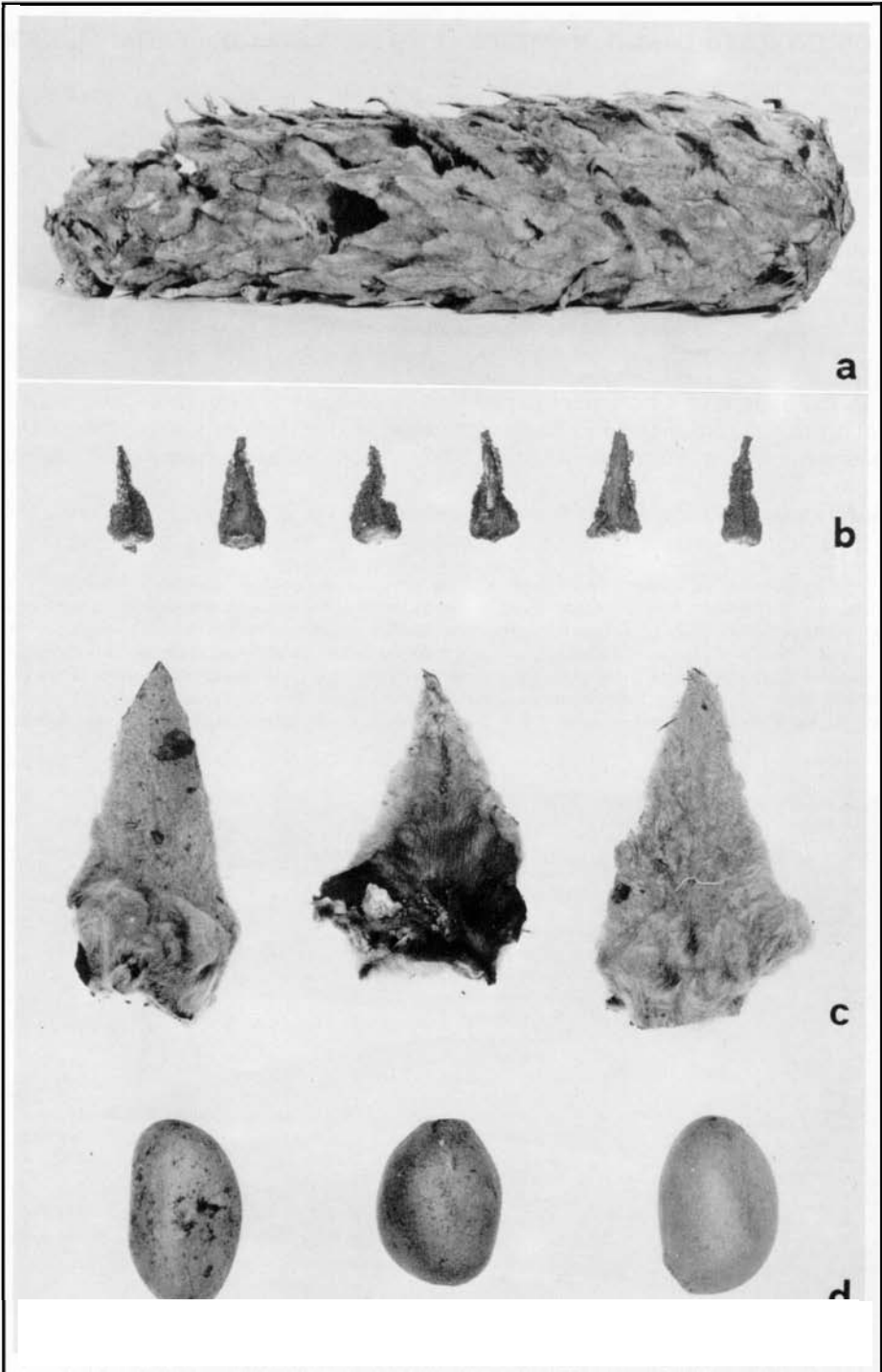


FIG. 2. *Dioon rzedowskii* showing (a) megasporangiate cone $\times 17$, (b) microsporophylls, (c) megasporophylls, (d) seeds $\times 12$



diana 14–19 x 1.8–2.1 cm, nervis \pm 30–35, margine integerrima: foliola superiora sensim decrescentia usque ad 15 x 4 mm, margine integerrima vel dentibus 1 raro 2 spinosis praedita. Strobilus ♀ ovoideo-cylindricus, 60–75 x 20–25 cm, apice obtusus: squamae deltoideo-ovatae 10 x 5 cm, extus dense lanosae; semina ovoideo-cylindrica, 5–6 x 3 cm. Strobilus ♂ cylindricus, usque ad 30–50 cm vel ultra longus; microsporophylla deltoidea, \pm 3 x 1.5 cm.

TYPE: MEXICO. [REDACTED]

[REDACTED] 22 May 1979, Vázquez Torres 2300
(HOLOTYPE: XALUV; ISOTYPES: ENCB, FI, MEXU, NAP, NY).

Other specimens examined: MEXICO. [REDACTED]

[REDACTED] 26 Sep 1973, Steven R. Hill 1768 (NY).

The authors observed *Dioon rzedowskii* growing in small groups on limestone cliffs (Fig.3) in the canyon of the Rio Santo Domingo one hour's walk from the village of San Bartolome Ayautla. Young plants have spinulose leaflets. The spines diminish with age and disappear completely in adult plants. Older plants often have reclining stems. This species is commonly called tush-kju by native Mazatec people. The habitat is the bosque tropical subcaducifolio of Rzedowski (1978). The more common associated plants are *Beaucarnea* sp., *Luehea speciosa*, *Plumeria alba*, *Pseudobombax ellipticum* and *Randia* sp. The San Pedro Teutila station, reported by Steven R. Hill, is located on the opposite side of the canyon at a short distance from the type locality (Fig. 4).

The unique characters of this species are the leaflets: over 1 cm wide at the middle portion of the frond, lanceolate but unequally tapering toward the apex, entire, and deflected at the tip. The size of the median leaflets suggests (De Luca & Sabato 1979a) that *Dioon rzedowskii* is related to *D. spinulosum* Dyer (1883)

and to *D. mejiae* Standl. & Williams (1951), a species endemic to Honduras. *D. rzedowskii* is easily distinguishable from *D. spinulosum* since the latter has spinulose leaflets throughout its life history (Chamberlain, 1909). It can be distinguished from *D. mejiae* (= *D. edule latipinna* Dyer and *D. pectinatum* hort. De Luca & Sabato 1979b) because its median leaflets taper unequally toward the apex and its lower leaflets are well separated.

It must be pointed out that the distribution of *Dioon rzedowskii* and *D. spinulosum* are contiguous (Fig. 4) but their habitats differ. *Dioon spinulosum* lives in lowlands and hills at the foot of the Sierra de Oaxaca (0–300 m) in a habitat related to the bosque tropical perennifolio of Rzedowski (1978). *Dioon rzedowskii* lives in the low mountains (650–850 m) of Sierra de Oaxaca in the bosque tropical subcaducifolio. Furthermore, on the basis of our observations, *D. rzedowskii* prefers more open areas while *D. spinulosum* is in the understory of the forest.

This species is dedicated to Dr. Jerzy Rzedowski, to honor his remarkable contribution to knowledge of the flora and vegetation of Mexico.

Acknowledgments

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