

## DIOON CALIFANOI (ZAMIACEAE), A NEW SPECIES FROM MEXICO

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De Luca, Paolo and Sergio Sabato (Istituto di Botanica, Università di Napoli, via Foria 223, Napoli, Italy). *Dioon califanoi* (Zamiaceae), a new species from Mexico. Brittonia 31: 170-173. 1979.—A new Mexican species of *Dioon* has been found in Oaxaca, ***Dioon califanoi***, characterized by keeled fronds and leaflets inserted obliquely above the rachis. A key to the known species of *Dioon* is given.

In the course of botanical expeditions to Mexico, organized by the Accademia Nazionale dei Lincei (Italy), we visited some well-known stations of *Dioon* Lindley and looked for new ones. In one of the new stations, in the State of Oaxaca (Fig. 1), we found a *Dioon*, which upon examination of the material collected in the field and from the examination of the specimens transplanted in the Naples Botanical Garden, has turned out to be a new species.

### ***Dioon califanoi*** De Luca & Sabato, sp. nov. (Figs. 2-3)

Truncus cylindricus usque ad 3 m vel ultra altus, 20-30 cm diam. Cataphylla dense lanata, 9-10 cm longa, basi 2 cm lata. Folia carinata, recto angulo supra-concava, numerosa, rigide coriacea, adscendentia, in statu juvenili tomentosa, deinde glabra, 75-85 cm longa et ultra. Rachis sermiteres, prope apicem spiralter torta. Petiolus semiteres, 10-12 cm longus. Foliola 80-100 ca utroque latere, subopposita, lineari-lanceolata, acute pungentia, supra rachidem oblique inserta, 5 mm ca paribus intervallis separata. Foliola infima 2.5-3 cm longa, 3 mm lata, margine integerrima; foliola inferiora 20-30-juga, sensim crescentia, usque ad 6-7 cm longa et 7-8 mm lata, margine superiore integerrima vel dentibus 1, raro 2, spinosis 2-3 mm longis praedita, margine inferiore integerrima vel 1-spinosa; foliola mediana et superiora 50-70-juga, 6-7 cm longa, 7-8 mm lata, ad apicem decrescentia, utroque margine integerrima vel superiore 1-spinosa, nervis 12 ca, supra basin angustata, insertione basali 9-10 mm lata; foliola suprema 1 cm tantum longa, 1-2 mm lata, margine integerrima. Strobilus ferrineus ovoideo-cylindricus, 50 cm ca longus, 25 cm ca diam., squamae deltoideo-ovatae ca 8-10 cm longae et 4-5 cm latae, extus dense lanosae; semina ovoideo-subglobosa, 3-4 cm longa, 2-2.5 cm diam. Strobilus masculinus elongato-cylindricus, apice obtusus, ca 40 cm longus et 10 cm latus.

The peculiar characters of this species are keeled fronds, and 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. The leaflets are similar in size to those of *Dioon edule* Lindley (1843) and *D. purpusii* Rose (1909), and quite different from those of *D. spinulosum* Dyer (1883) and *D. mejiae* Standley & Williams (1951). The trunk is like that of *Dioon spinulosum* in the appearance and shape of leaf scars.

TYPE: MEXICO. OAXACA: [REDACTED]  
15 Oct 1974, De Luca & Sabato s.n. (HOLOTYPE: NAP; ISOTYPE: ENCB, F, FI,  
G, NA, MICH). [REDACTED]

Other specimens examined: MEXICO. OAXACA: [REDACTED]  
[REDACTED] 3 Aug 1961, C. E. Smith, Jr., F. A.  
Peterson & Narcisso Tejada 4183 (F, G); [REDACTED] 25 Mar

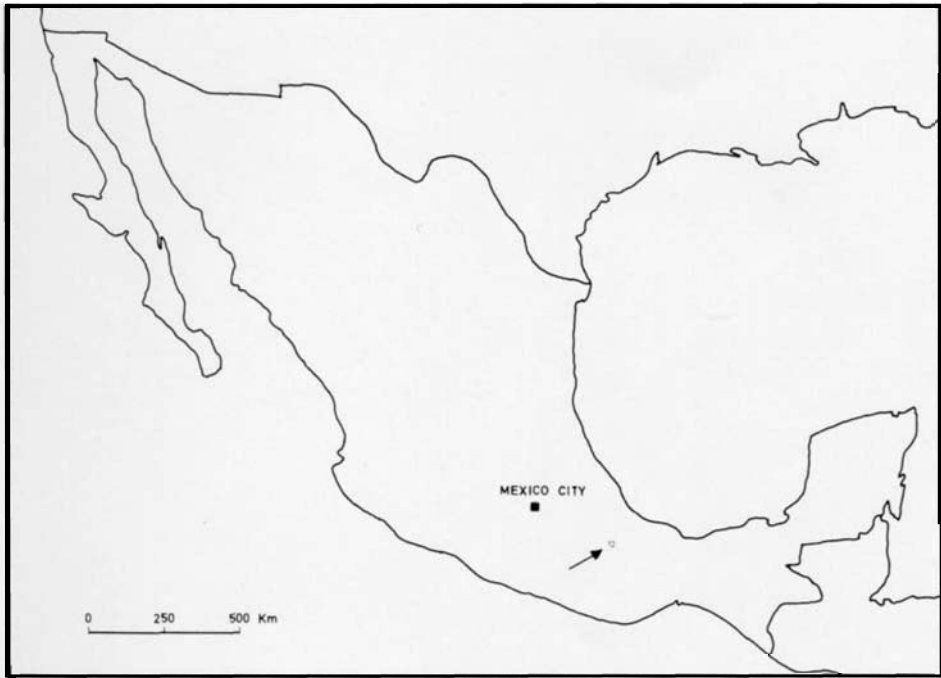


Fig. 1. Distribution of *Dioon califanoi*.

1966, C. E. Smith, Jr. & N. Tejada 4469 (NA); [redacted] 22 Nov 1966, W. R. Anderson & C. L. Laskowski 4287 (ENCB, MICH). [redacted]

The authors dedicate this species to the memory of Prof. Luigi Califano of the Italian Accademia Nazionale dei Lincei, who guided them in Mexico during their visits to the stations of *Dioon* and stimulated them in this research field.

We give here a key to the known species of *Dioon*, based on those of Standley (1920) and Schuster (1932).

Key to the species of *Dioon*

- 1 Middle leaflets no wider than 10 mm.
  - 2 Frond keeled ..... *D. califanoi*
  - 2 Frond flat or lightly keeled.
    - 3 Leaflets entire ..... *D. edule*
    - 3 Leaflets entire on the lower margin, with few teeth on the upper one ..... *D. purpusii*
- 1 Middle leaflets much more than 10 mm wide.
  - 4 Leaflets entire ..... *D. mejiae*
  - 4 Leaflets spinulose-denticulate ..... *D. spinulosum*

Acknowledgments

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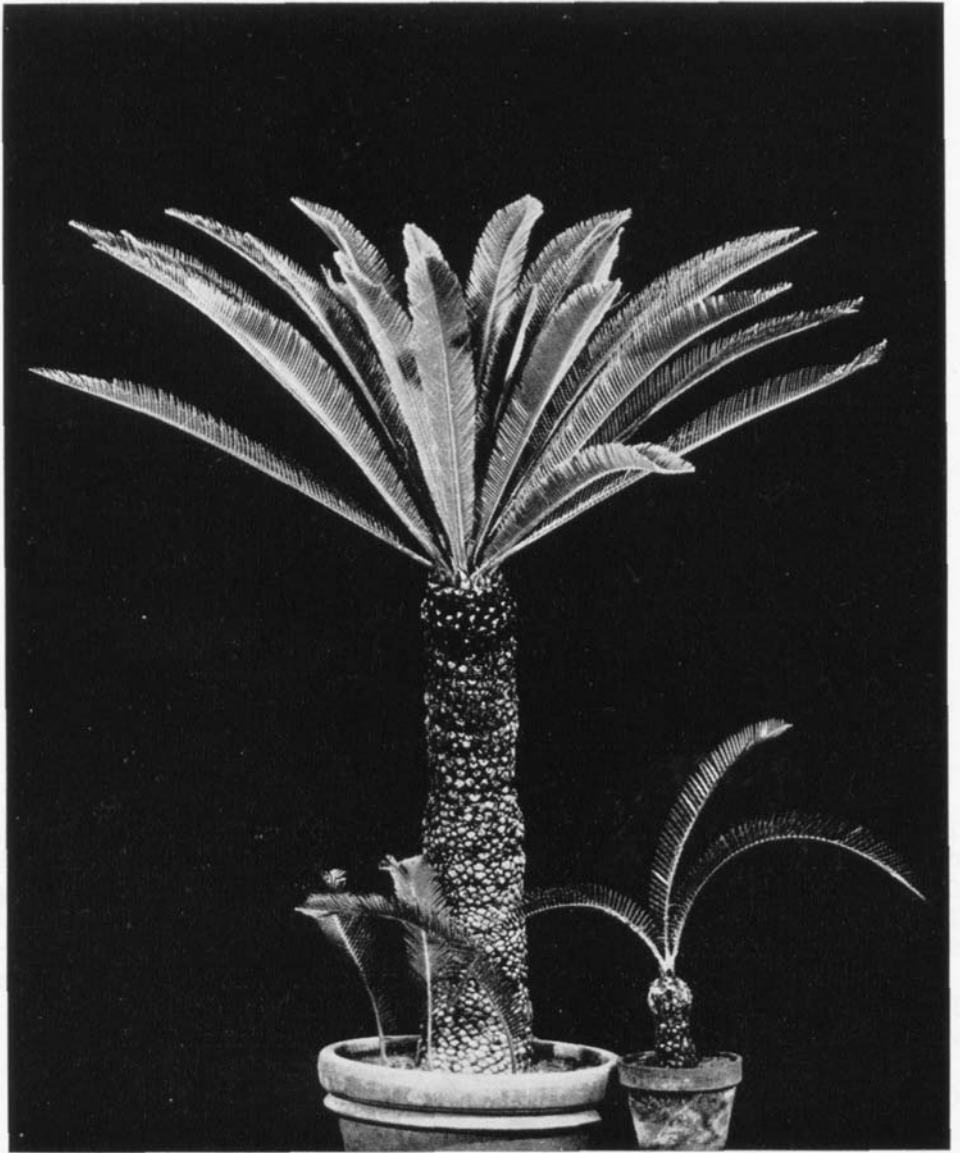


FIG. 2. *Dioon califanoi*. Specimens grown in the Naples Botanical Garden (Italy). The largest specimen trunk is 1 meter high. 1

nique, Genève, Switzerland (G), Departamento de Botánica de la Escuela de Biología de la Universidad Autónoma de Guadalajara, Mexico, Field Museum of Natural History, Chicago, U.S.A. (F), Herbarium of the Escuela Nacional de Ciencias Biológicas, México, Mexico (ENCB), Herbarium of the University of Michigan, Ann Arbor, U.S.A. (MTCH), Herbarium of the United States National Arboretum, Washington, U.S.A. (NA). Special thanks are due to Prof. Aldo Merola, Director of Naples Botanical Garden, Italy, for the assistance and to M. Scala, C. Napolitano, C. Di Prisco and A. Formisano who attend to the Cycad collection.

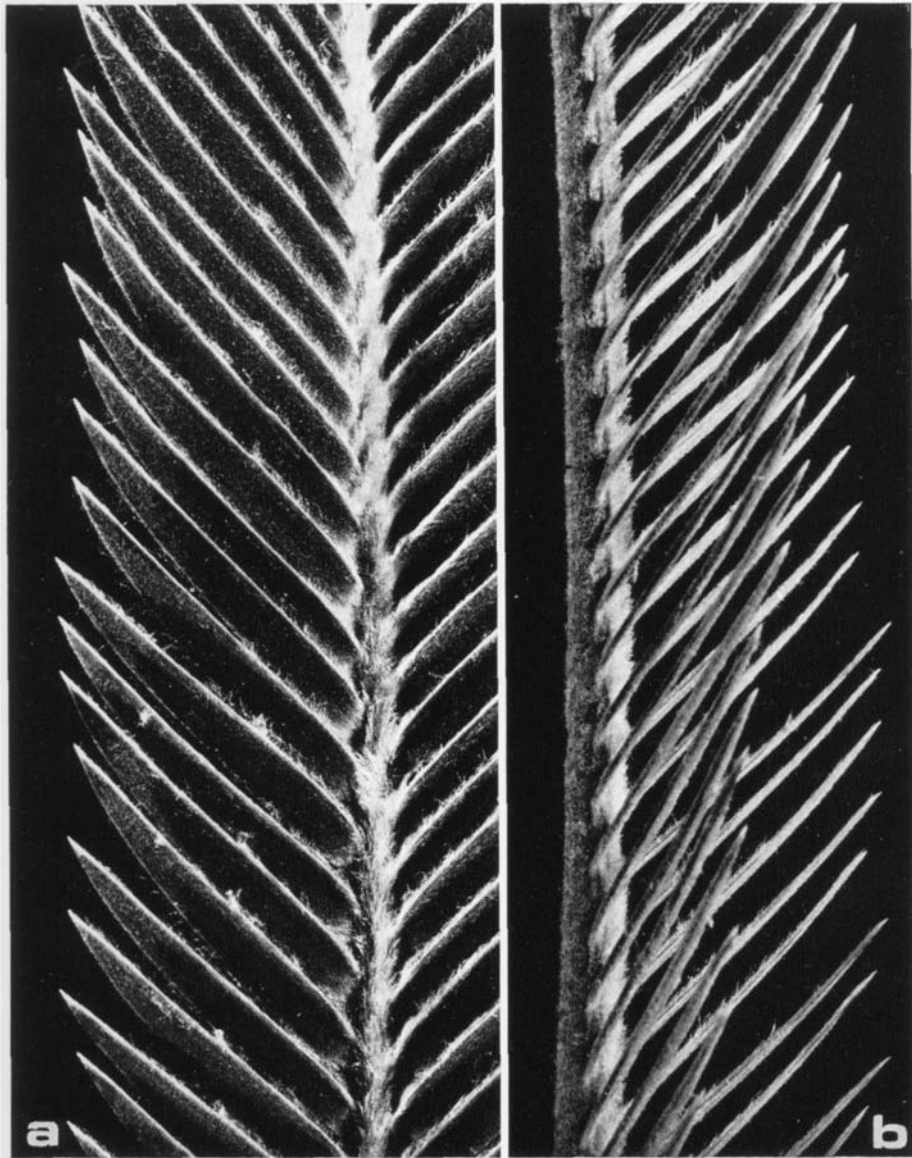


FIG. 3. *Dioon califanoi*. Middle portion of leaf. A. Upper surface. B. Side view,  $\times \frac{3}{4}$ .

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