

Nomenclature and taxonomy of *Dioon mejiae*

Standl. & Williams (Zamiaceae)

Dioon mejiae Standl. & Williams (1951) was accurately described from specimens grown in the garden of Dr. Isidoro Mejia h., in the town of Danli in central-southern Honduras. The seeds of these plants came from a dry rocky cañon in the Department of Olancho, Honduras, on the road between Pueblo Nuevo and Olanchito, the only locality at which this species has been found wild.

Specimens of *Dioon mejiae* are deposited in some American herbaria (EAP, F, GH, NY, US). The holotype, *Standley 16756*, is deposited in the Field Museum of Natural History, Chicago, U.S.A. (Tab. 1).

Upon examination of the *Dioon* specimens deposited in the most important herbaria of the world and of the literature concerning this genus, we were able to verify that specimens of *D. mejiae* had previously been described as *D. edule* β *latipinna* Dyer and *D. pectinatum*.

Dioon edule β *latipinna* (DYER, 1883) was described and illustrated (Tab. 2) from a specimen grown at Kew Botanic Gardens on the basis of the following diagnosis: « segmenta 5/8 pollice lata, inferiora apicem versus spinulosa. South Mexico? ». Examination of the description and of the type of *D. edule* β *latipinna* (Tabs. 3-4), deposited at Kew Herbarium, revealed that

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it is identical with *D. mejiae* on the basis of the following common characters: leaflets spineless in the apical and middle portion of the frond, 15 cm ca. long and 1.5 cm ca. wide; they are progressively decreasing towards the basis of the frond where they are spinulose at the tip and tooth-like in the lowest portion of the frond.

A few years later a microsporangiate *Dioon* specimen, grown in the Palm House at Kew Botanic Gardens, was described and illustrated as *D. pectinatum* in an anonymous article which appeared in *Gardener's Chronicle* (1893). Examination of the same specimen still living at Kew Botanic Gardens and of its description revealed that *D. pectinatum* is identical with *D. edule* β *latipinna* and *D. mejiae*. The identity, however, between *D. edule* β *latipinna* and *D. pectinatum* had already been established by DYER, as reported in a footnote by WITTMACK (1899): « Nach DYER (*D. pectinatum*) ist seine var. *D. edule* β *latipinna* ».

SCHUSTER (1932) reported *Dioon pectinatum* H. Wendl. in *herb.* as synonym of *D. edule* var. *latipinna*. According to our research, this herbarium specimen is the type of *D. edule* β *latipinna* on which there is an additional label: « *Dion pectinatus?* fide H. Wendl. » (Tab. 4). Other herbarium specimens of *D. pectinatum*, all coming from Kew Botanic Gardens, are deposited at Field Museum in the Chamberlain Cycad Collection and at Orto Botanico, Napoli (Italy).

In our opinion, STANDLEY & WILLIAMS rightly attributed their specimens to a specific taxon, probably more related to *Dioon spinulosum* Dyer (1883) than to *D. edule* Lindley (1843). C. H. CHAMBERLAIN had the same opinion: in a herbarium sheet of *D. pectinatum* (from the Royal Botanic Gardens, Kew 10 Sept 1920) he noted « a spineless mutant from *Dioon spinulosum* ». However, it is clearly different from *D. spinulosum* in its leaflets entire and revolute on the margin.

There is not a close morphological relationship between *Dioon mejiae* and *D. edule* from which it differs in its longer and wider leaflets and in the occurrence of leaflets spinulose towards the basis of the frond. Furthermore *D. mejiae*, the only

not Mexican species of the genus, lives about 1,200 Km south of the nearest station of *D. edule* (Colipa, Veracruz; SCHUSTER, 1932). Between these two stations there are in Mexico the stations of the other known species: *D. spinulosum* (Tierra Blanca, Veracruz; CHAMBERLAIN 1909), *D. purpusii* Rose (Santa Catarina, Tomellín cañon, Oaxaca; ROSE (1909), *D. califanoi* De Luca & Sabato (between Teotitlán del Camino and Huautla de Jimenez, Oaxaca; DE LUCA & SABATO 1979), *D. caputoi* De Luca, Sabato & Vázquez Torres (in the vicinity of San Luis Atolotitlan, Puebla; DE LUCA, SABATO & VÁZQUEZ TORRES 1979).

As far as nomenclatural problems are concerned, having recognized a specific rank to this taxon, we cannot consider correct to conserve the infraspecific epithet *latipinna* on the ground of article 60 of ICBN (STAFLEU, 1972), which says that in no case an epithet has priority outside its own rank. Furthermore *D. pectinatum* is to be considered *nomen nudum* as it was published in an anonymous article and therefore not validly published. Consequently the binary combination *Dioon mejiae* must be acknowledged as the only legitimate one even if it is the last attributed to the species.

Dioon mejiae herbarium specimens examined:

HONDURAS: cultivado en Tegucigalpa. Dept. of Morazan, Alt. 936 m, 7 Mar 1945; *F. Valerio* R. 3805 (EAP); planted in garden of Dr. Isidoro Mejia h. Dept. El Paraiso: vicinity of Danlí, permanently humid region of Atlantic watershed, the mountains mostly with pine forest. Alt. 700-800 m; 11-23 Feb 1949, *Paul C. Standley* 16522 (F, US); scales from plant in garden of Doña Maria Luisa Gamero. Dept. El Paraiso: vicinity of Danlí, permanently humid region of Atlantic watershed, the mountains mostly with pine forest. Alt. 700-800 m, 11-23 Feb 1949, *Paul C. Standley* 16755 (F); Garden of Dr. Isidoro Mejia h. Dept. El Paraiso: vicinity of Danlí, permanently humid region of Atlantic watershed, the mountains mostly with pine forest. Alt. 700-800 m, 11-23 Feb 1949, *Paul C. Standley* 16756 (F, NY); in patio in Danlí. Said to have been introduced from Olancho by Dr. Mejia about 40 years ago. Dept. El Paraiso. Alt. 730 m, 24 Feb 1949,

E. D. Merrill & Louis Williams 15717 (EAP, GH); planted in dooryard. Dept. Olancho: vicinity of Juticalpa. Alt. 380-480 m, 5-16 Mar 1949, *Paul Standley 18034* (F); planted in hotel patio. Dept. Olancho: vicinity of Juticalpa. Alt. 380-480 m, 5-16 Mar 1949, *Paul C. Standley 18035* (F); planted in finca. Dept. Olancho: between Catacamas and El Hatillo, west of Catacamas, near Rio de Catacamas. Alt. 450 m, 27 Mar 1949, *Paul C. Standley 18836* (EAP, F); planted in patio. Dept. Choluteca: vicinity of Choluteca. Alt. 20 m, 31 Oct - 9 Nov 1949, *Paul C. Standley 24375* (F);

NICARAGUA: cultivated in hotel patio. Said to have been brought from Managua. Dept. Esteli: vicinity of Condega. Alt. 550 m, 10-11 June 1949, *Paul C. Standley 20377* (F).

Other herbarium specimens examined:

Dioon edule Lindl. Cult. Palm House. Kew Botanic Gardens. 27 Nov 1959 (BR, K); *Dioon edule* var. *latipinna* Dyer. Hort. Kew. 1881 (K); *Dioon pectinatum*. Kew. 1912 (F); *Dioon pectinatum*. From the Royal Botanic Gardens, Kew. 10 Sept. 1920 (F); *Dioon pectinatum* H. Wendl. From Sir Arthur Hill. Kew Gardens. 1937 (F); *Dioon pectinatum*, Kew Botanic Gardens, Feb 1979 (NAP).

ACKNOWLEDGMENTS

The authors are indebted to the herbaria and institutions listed below for their courtesy in providing herbarium specimens or photographs: Jardin Botanique National de Belgique, Meise, Belgium (BR), Escuela Agricola Panamericana, Tegucigalpa, Honduras (EAP), Field Museum of Natural History, Chicago, U.S.A. (F), Gray Herbarium, Harvard University, Cambridge, Massachusetts, U.S.A. (GH), Royal Botanic Gardens, Kew, U. Kingdom (K), New York Botanical Garden, New York U.S.A. (NY), U.S. National Herbarium, Smithsonian Institution, Washington D.C., U.S.A. (US). Special thanks are due to James L. S. Keesing who guided in 1977 the authors during their visit to Kew Botanic Gardens.

SUMMARY

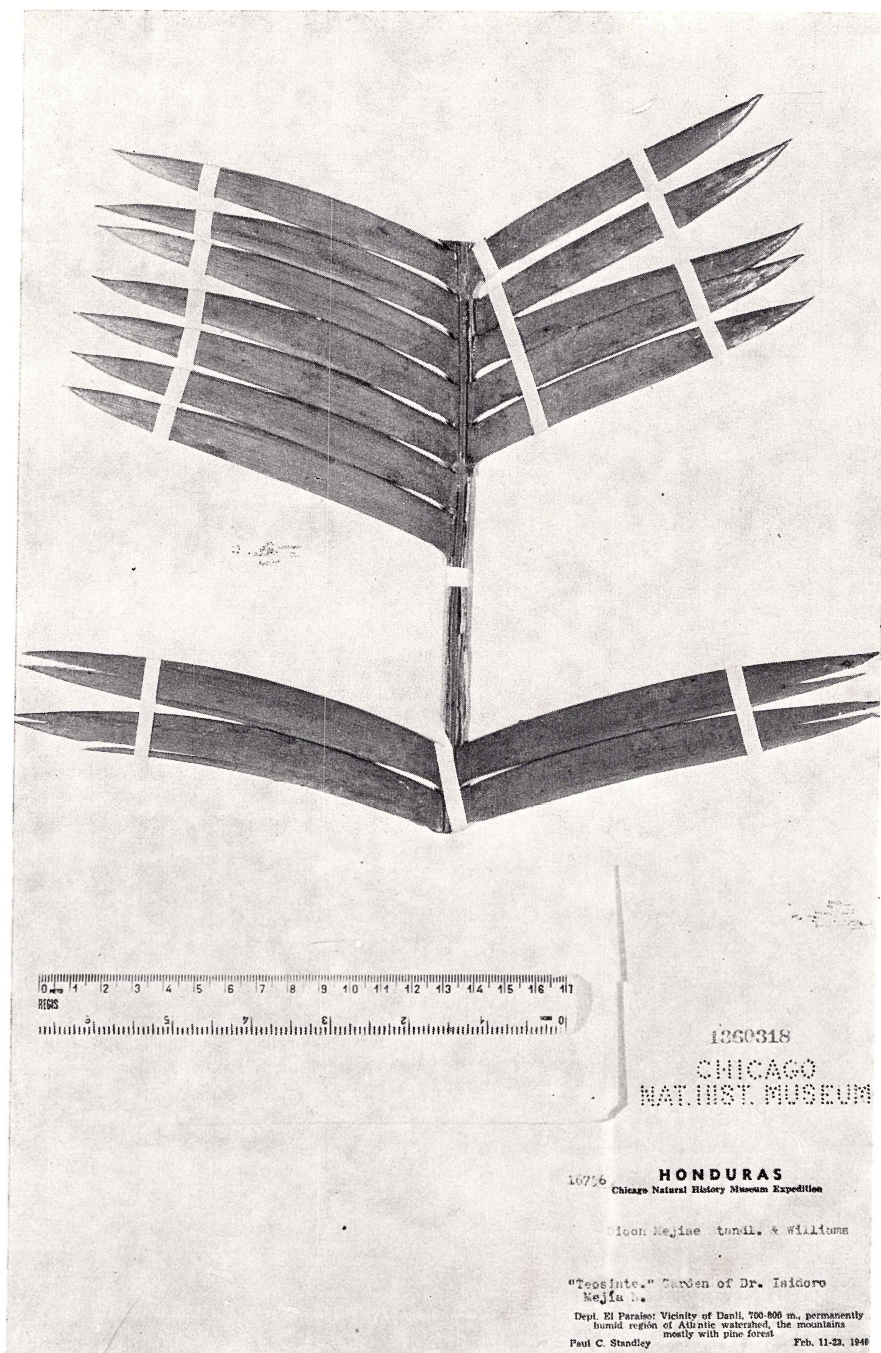
Studying the taxonomy of *Dioon mejiae* Standl. & Williams (1951) the authors have found that this taxon had already been described previously and named *D. edule* β *latipinna* Dyer (1883) and *D. pectinatum* (1893). The authors confirm a specific rank to this taxon and consider not correct to conserve the infraspecific epithet *latipinna*. They consider not valid the binary combination *D. pectinatum* because this is a *nomen nudum* as it was published in an anonymous article. The authors hold the binary combination *Dioon mejiae*.

SOMMARIO

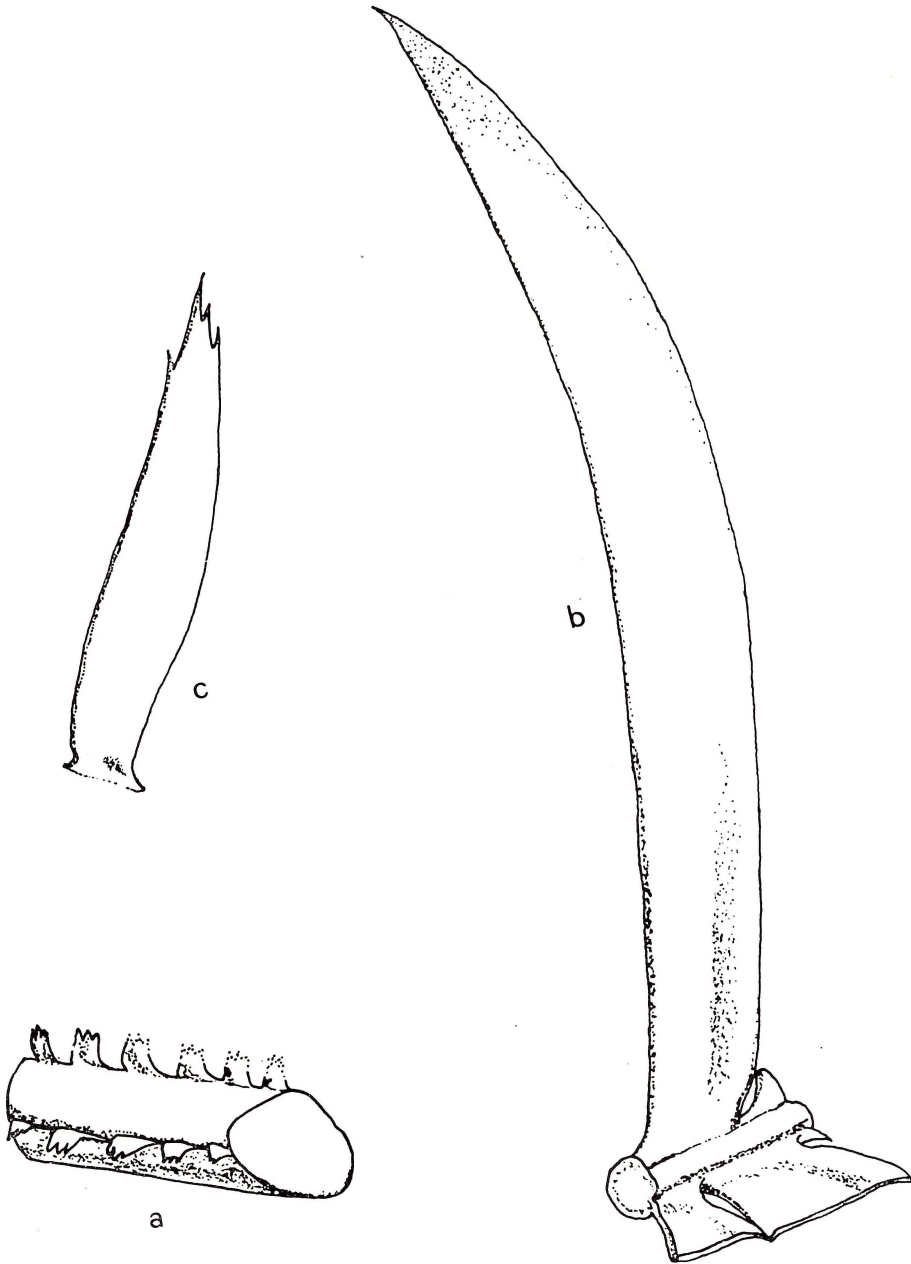
Gli autori studiando tassonomicamente *Dioon mejiae* Standl. & Williams (1951), hanno trovato che questo taxon era stato descritto precedentemente ed indicato come *D. edule* β *latipinna* Dyer (1883) e *D. pectinatum* (1893). Gli autori confermando a questo taxon un rango specifico hanno ritenuto non corretto conservare l'epiteto infraspecifico *latipinna* e non valido il binomio *D. pectinatum*, essendo questo un *nomen nudum* pubblicato in un articolo anonimo. Gli autori hanno quindi ritenuto legittimo il binomio *Dioon mejiae*.

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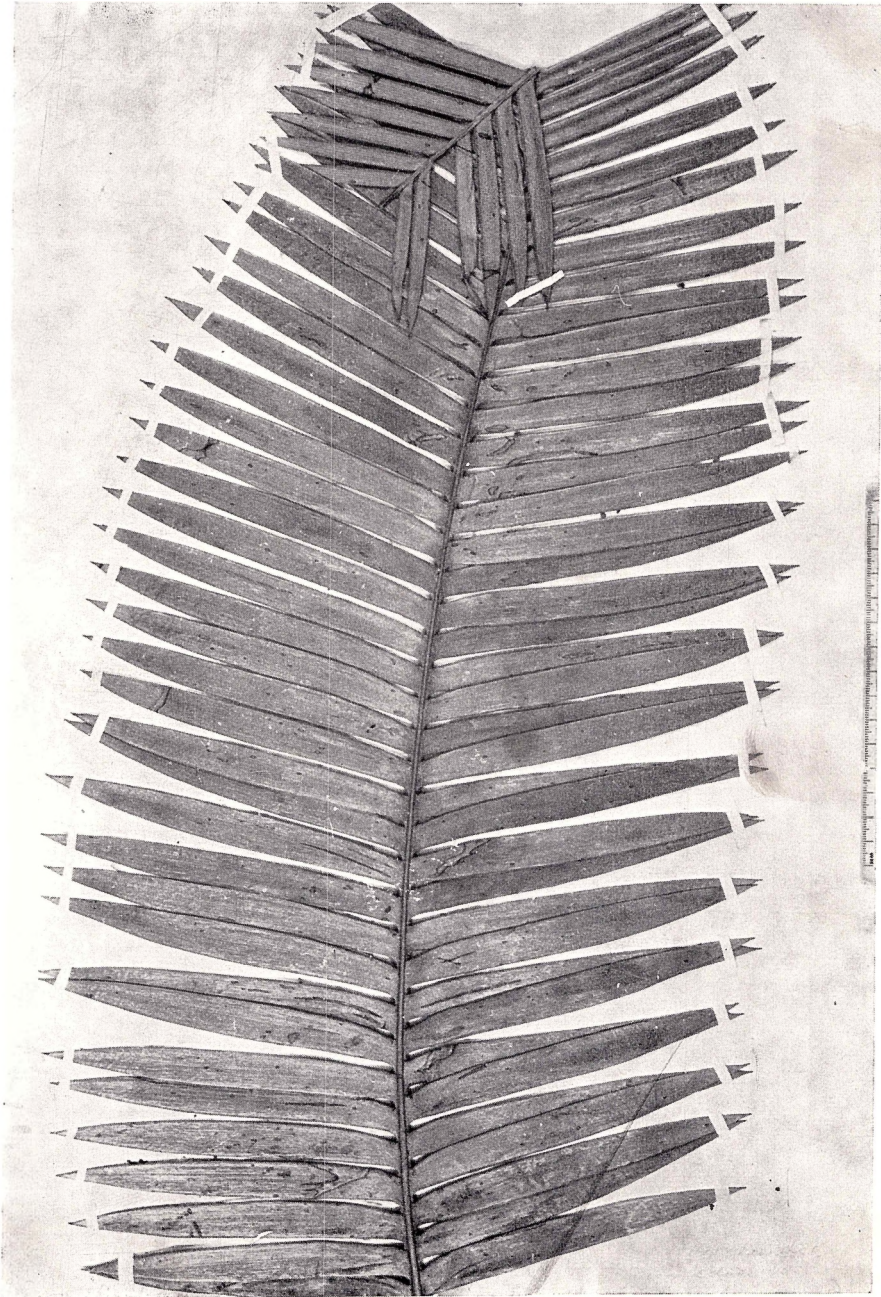
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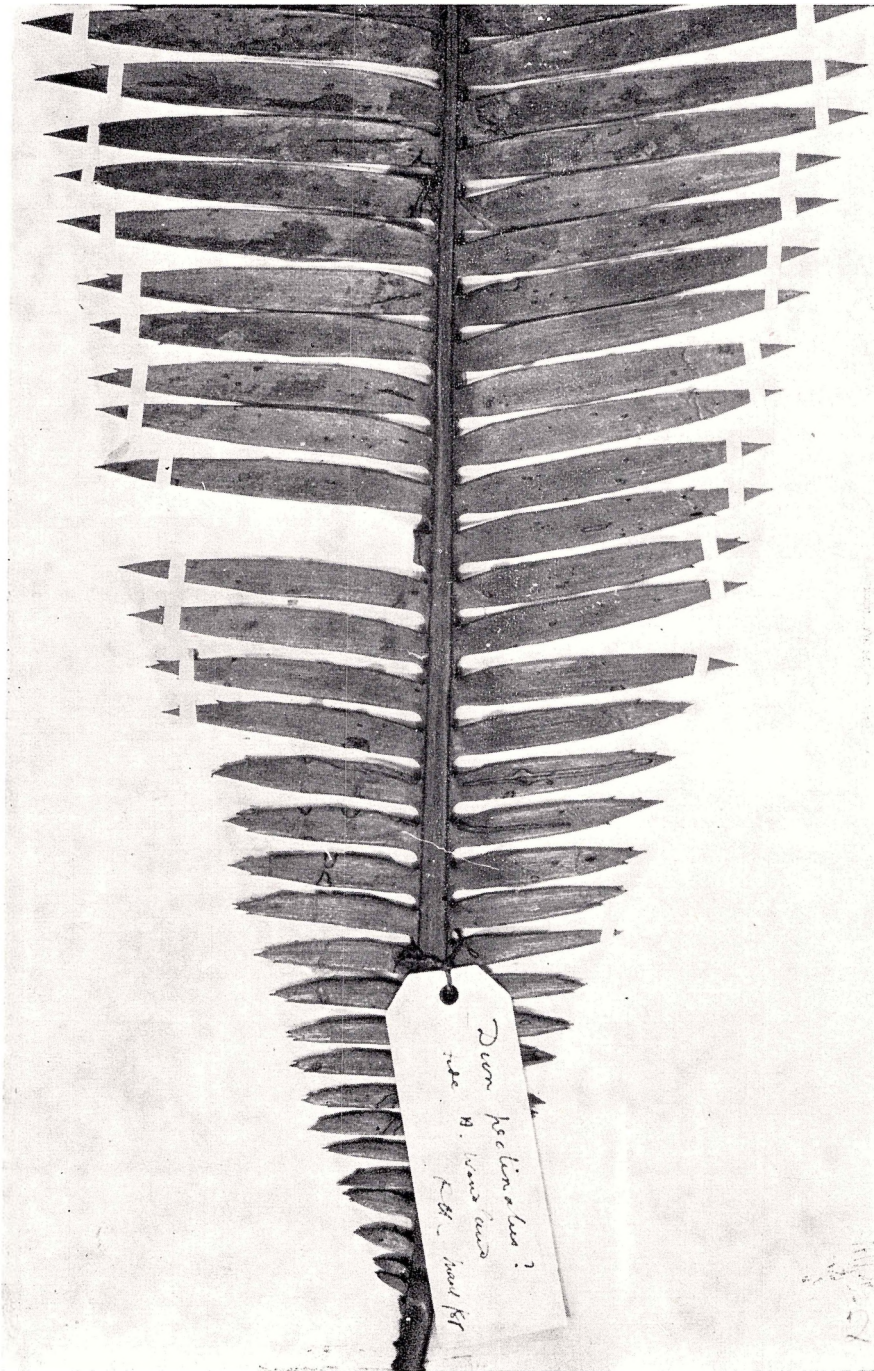
Holotype of *Dioon mejiae* Standl. & Williams.



Icon of *Diono edule* β *latipinna* Dyer. a) basal portion of rachis of leaf, showing dentate reduced segments; b) segment from middle part of leaf, with spinulose apex; c) segment from lower part of leaf.
(Reproduction of table 81, figs. 1, 2, 3 from *Biologia centrali - americana*, Botany 3: 190-195, 1883; in the original icon the reference numbers are wrong). X 1.



Type of *Diono edule* β *latipinna* Dyer, 1st sheet.



Type of *Dioon edule* β *latipinna* Dyer, 2nd sheet. Note the additional label: *Dion pectinatus?* fide H. Wendl. X 2/5.