

THELYPTERIDACEAE MARSH FERN FAMILY

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Perennial herbs with branched or unbranched rhizomes, these scaly, the scales not to somewhat clathrate (“resembling latticework”). ROOTS adventitious, usually branched. AERIAL STEMS absent. LEAVES closely or widely spaced along the rhizome, monomorphic in ours, the vernation circinate. BLADES variously pinnately compound, usually herbaceous in texture, the pubescence various but at least in part of short bristly needle-like hairs. VENATION free or anastomosing, commonly with opposing veinlets fusing into 1 or more chevron-like areoles below the sinus between 2 adjacent pinna lobes, the veinlets usually unbranched. SORI on the abaxial leaf surface, surficial, discrete, positioned along the veinlets on either side of the costules, circular in outline in ours. INDUSIA circular-reniform in ours, pseudopeltate (attached at the notch). PARAPHYSES absent or if present attached to the sporangial stalks, club-shaped. SPORANGIA with a stalk usually 3 cells wide, with a vertical ring-like annulus. SPORES usually 64 per sporangium, monomorphic, monolete, bean-shaped, usually brown. GAMETOPHYTES surficial, cordate, green, often hairy or glandular, potentially bisexual. —1–30 genera, ca. 900 spp., nearly worldwide.

Generic delimitation in the *Thelypteridaceae* has remained controversial, with most American authors lumping all of the species into a single genus, *Thelypteris*, and most authors working in the Old World splitting the family into about 30 genera. More recently, compromise treatments have been advocated in which 3–6 main groups are recognized as genera. Regrettably, new combinations await publication for many species under these newer classifications.

Thelypteris Schmidel Marsh Fern

RHIZOMES slender to stout, short- to long-creeping, densely scaly toward the tip, the scales strongly bicolorous, somewhat clathrate. LEAVES closely to relatively widely spaced, evergreen in ours. PETIOLES shorter than to about as long as the blade, usually grooved adaxially. BLADES herbaceous to somewhat papery, ovate to ovate-triangular, pinnate-pinnatifid. PINNAE linear, acuminate at the tip, with numerous lobes, the margins otherwise entire, hairy, sometimes also

inconspicuously scaly. VENATION free or with opposing veinlets fusing into 1 or more chevron-like areoles below the sinus between 2 adjacent pinna lobes, sometimes meeting at the sinus. SORI positioned along the veinlets, appearing in ours as a single row on either side of the costules, circular in outline. INDUSIA circular-reniform in ours, often withering or shed prior to soral maturity. SPORANGIA with the capsule glabrous or pubescent with needle-like trichomes. $X = 27-36$ [$X = 36$ in the segregate *Cyclosorus*]. —860–900 spp., nearly worldwide. (Greek for “female” and “fern”).

Thelypteris puberula (Baker) C. V. Morton (minutely hairy). —RHIZOMES 4–8 mm in diameter, short- to more commonly long-creeping, usually unbranched, the scales 3–7 mm long, lanceolate, acuminate at the tip, monomorphic, brown, the margins ciliate, the surface minutely hairy. LEAVES closely to relatively widely spaced, 50–130 cm long. PETIOLES longitudinally grooved adaxially, straw-colored, sparsely scaly toward the base, at least when young, the scales similar to those of the rhizome, sparsely to moderately pubescent distally with minute spreading needle-like hairs. RACHISES similar to petioles, moderately to densely hairy. BLADES 15–45 cm wide, triangular-ovate, with numerous lateral pinnae, the basal 1 or 2 pairs of pinnae slightly reduced, the pinnae evenly or more commonly abruptly reduced toward the elongate pinnatifid tip. PINNAE mostly 7–22 cm long, 10–22 mm wide, lobed 1/2–4/5 of the way to the costa, the acroscopic basal lobe of proximal pinnae often slightly longer than the adjacent lobes, the basiscopic basal lobe of distal pinnae often fused to the rachis, the costae and costules minutely hairy and with sparse minute scales abaxially (Fig. 2). LOBES with the margins often somewhat curled under, minutely hairy on both surfaces or the surface glabrous adaxially. SORI more or less medial. INDUSIA withering prior to soral maturity, densely pubescent with minute needle-like hairs. PARAPHYSES absent. SPORANGIA glabrous. SPORES 35–55 mm long, the surface rugose, dark brown. $2n = 144$. [*Thelypteris augescens* (Link) Munz & I. M. Johnst. var. *puberula* (Baker) C. Chr., *Christella puberula* (Baker) Á. Löve & D. Löve]. —2 vars., 1 in AZ.

This taxon has been treated variously as one of ca. 900 spp. of a broadly circumscribed *Thelypteris*, among the ca. 580 species of a broadly circumscribed *Cyclosorus* Link (but no combination is available there) when an intermediate number of genera are recognized, or one of 60 or more mostly Old World species of *Christella* Lév. in the most finely dissected classification.

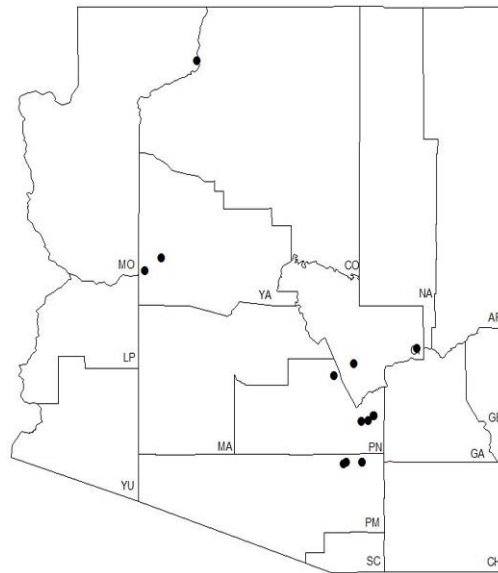
Var. ***sonorensis*** A. R. Sm. (of Sonora; Fig. 3). Sonoran Maiden Fern. —Blades hairy adaxially. —Along streams and/or bases of boulders in mesic canyon bottoms: Gila, Mohave, Pima, Pinal, Yavapai cos. (Fig. 1); 800–1100 m (2700–3600 ft); CA, AZ; Mex.

LITERATURE CITED

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Thelypteridaceae Figure 1. Distributions of: *Thelypteris puberula* var. *sonorensis*



Thelypteridaceae Figure 2. *Thelypteris puberula* var. *sonorensis*, pinnae.



Thelypteridaceae Figure 3. *Thelypteris puberula* var. *sonorensis*, habit.