

PTERIS SPECIES CULTIVATED IN CALIFORNIA

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A WIDE SELECTION of ferns is cultivated in California. The brake fern, *Pteris*, a large tropical and subtropical group, is represented in our ornamental flora by seven species with many cultivars. They are frequently encountered as dish garden or bedding plants. Most of the species are hardy to semi-hardy and while some require shade many can tolerate strong light with indirect sun and *Pteris vittata* and *P. tremula* can withstand some direct sun. The brakes are easy to cultivate and will grow in a fairly wide range of soils. They may be propagated by divisions.

The genus *Pteris* is terrestrial with a short, scaly rhizome. The fronds are clustered, pinnate or pinnately decompound, never finely divided, herbaceous to leathery, smooth and the veins free or united. The sori are narrow, linear, continuous

along the margin except at the ends of the segments and sinuses, and are covered by the reflexed leaf margin. The brake ferns may be distinguished from the bracken, *Pteridium*, by the absence of hairs on the rhizome and frond. They may be separated from the cliff brake, *Pellaea*, by having the sori borne on a continuous marginal vein rather than on free vein ends. The rarely cultivated *Histiopteris* has a wide creeping rhizome, and widely separated fronds which is distinctive from the *Pteris*.

The species are fairly easy to distinguish in their native environment but sometimes are difficult to recognize in cultivation with the many cultivars. The following key, based on vegetative characters, has been prepared to distinguish the species cultivated in California.

- Fronds simply pinnate throughout . . . . . *P. vittata*
- Fronds not simply pinnate throughout
  - Upper pinnae simple or with a few coarse lobes
    - Sterile segments elliptic, the tips rounded to blunt-acute . . . . . *P. ensiformis*
    - Sterile segments linear, the tips long-tapering
      - Rachis winged between upper 1st and 2nd pairs of pinnae, the segments usually more than 1/4 in. wide, cartilaginous-margined . . . . . *P. cretica*
      - Rachis winged between upper three or more pairs of pinnae, the segments usually less than 1/4 in. wide, not cartilaginous-margined . . . . . *P. multifida*
  - Upper pinnae regularly pinnatifid into many segments
    - Pinnae folded inward along the midvein . . . . . *P. dentata*
    - Pinnae not folded
      - Lowest pair of pinnae once-forked, the segments rounded . . . . *P. quadriaurita*
      - Lowest pair of pinnae bipinnate, the segments bluntly toothed . *P. tremula*

The species and the most commonly grown cultivars are described briefly in the following list. Hardy as applied here means the tolerance of plants to winter temperatures below 32°F. Information is often inadequate on cold tolerance but the plants listed as hardy withstood the cold winter of 1949 when temperatures reached 18°F in many areas of Los Angeles. Ferns listed as semi-hardy may withstand winter

temperatures near 40°-50°F. Tender ferns are those which display poor color and growth when temperatures drop below 50°-55°F. Few commercial ferns are in this category. The names of ferns have been frequently misapplied in the trade. These misapplied names and the common botanical synonyms are italicised in parenthesis following the correct names.



*Pteris cretica* L. Cretan brake. The common trade species with many cultivars. Fronds simply pinnate except for lower branched pinnae. Hardy to semi-hardy. To 1½ feet.

cv. *Albo-lineata*. Pinnae with a white variegation along the center. To 2 feet.

cv. *Alexandrae*. Like the preceding except crested.

cl. *Childsii*. Pinnae broad, fringed, the tips crested or forked. Sterile form. To 1½ feet.

cv. *Distinction*. Pinnae toothed, crested and somewhat congested. To. 2 feet.

cv. *Major*. Like cv. *Ouvrardii* except smaller. To 2 feet.

cv. *Ouvrardii* (as applied in California trade). Pinnae broader and without yellow-green of typical *P. cretica*. Better color and growth. To 3 feet.

cv. *Parkeri*. Fronds larger, dark green; the sterile fronds broad, the fertile fronds much contracted into linear pinnae. Slow grower. To 3 ft.

cv. *Rivertoniana*. Pinnae broad, coarsely pinnatifid to toothed. To 2 feet.

cv. *Wilsonii*. Pinnae narrow, much crested at the tips. To 2 feet.

cv. *Wimsettii*. Pinnae mostly toothed and crested at tips. To 2 feet.

*Pteris dentata* Forsk. (*P. flabellata*, *P. flaccida*). Toothed brake. Like *P. tremula* in habit except with folded pinnules. Hardy to semi-hardy. To 3 feet.

*Pteris ensiformis* Burm. cv. *Victoriae*. Victorian brake. Variegated. Sterile fronds with deeply lobed pinnae, the fertile fronds much contracted, taller. Semi-hardy to tender. To 1½ feet.

*Pteris multifida* Poir. (*P. serrulata*). Spider brake. Many cultivars. Similar to *P. cretica* except usually smaller and the pinnae more narrow. Hardy to semi-hardy. To 1½ feet.

cv. *Cristata*. Crested Spider.

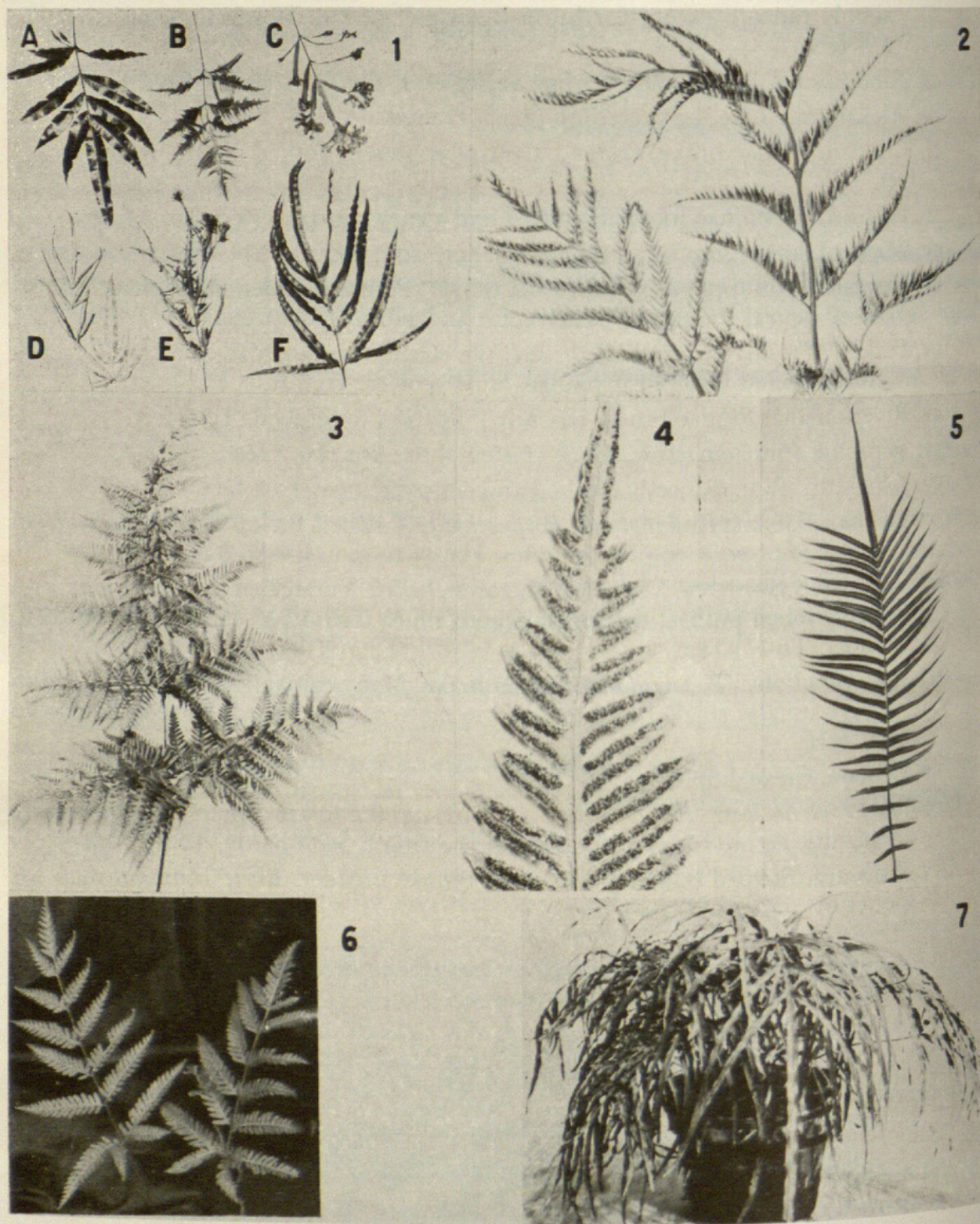
*Pteris quadriaurita* Retz. (*P. flabellata*). Bipinnate, the lower pinnae forked, making four distinct divisions at the base of the frond. Semi-hardy. To 2½ feet.

cv. *Argyraea*. Striped brake. Variegated. Pinnae broader. More common than the species in cultivation. To 3 feet.



*Pteris quadriaurita* 'Argyraea' or Striped Brake showing a variegated form.





1. Fronds of cultivars of *P. cretica*: A) 'Parkeri', B) 'Rivertoniana', C) 'Wilsonii', D) 'Albo-lineata', E) 'Distinction', F) 'Ouvrardii'; 2. Fronds of *P. dentata*; 3. Habit of *P. tremula*; 4. Pinule (3x) of *P. tremula* showing nature of sori and indusia; 5. Frond of *P. vittata*; 6. Frond habit of *P. quadriaurita*. Note forked lower pinnae. 7. Habit of *P. multifida*. Photos by the author



*Pteris tremula* R. Br. Australian brake. Fronds to 6 feet long, tripinnate, appearing like the common bracken except finer in texture and more confined in growth. Hardy to semi-hardy. To 5 feet.

*Pteris vittata* L. (*P. longifolia*). Chinese brake, Rusty brake. Coarse, erect, pinnate fronds. Hardy to semi-hardy; endures sun in coastal areas. To 4 feet.

Other species reported to be cultivated elsewhere are *Pteris denticulata* Sw., *P. semipinnata* L., *P. tripartita* Sw., and *P. umbrosa* R. Br. These species may be suitable for California culture.

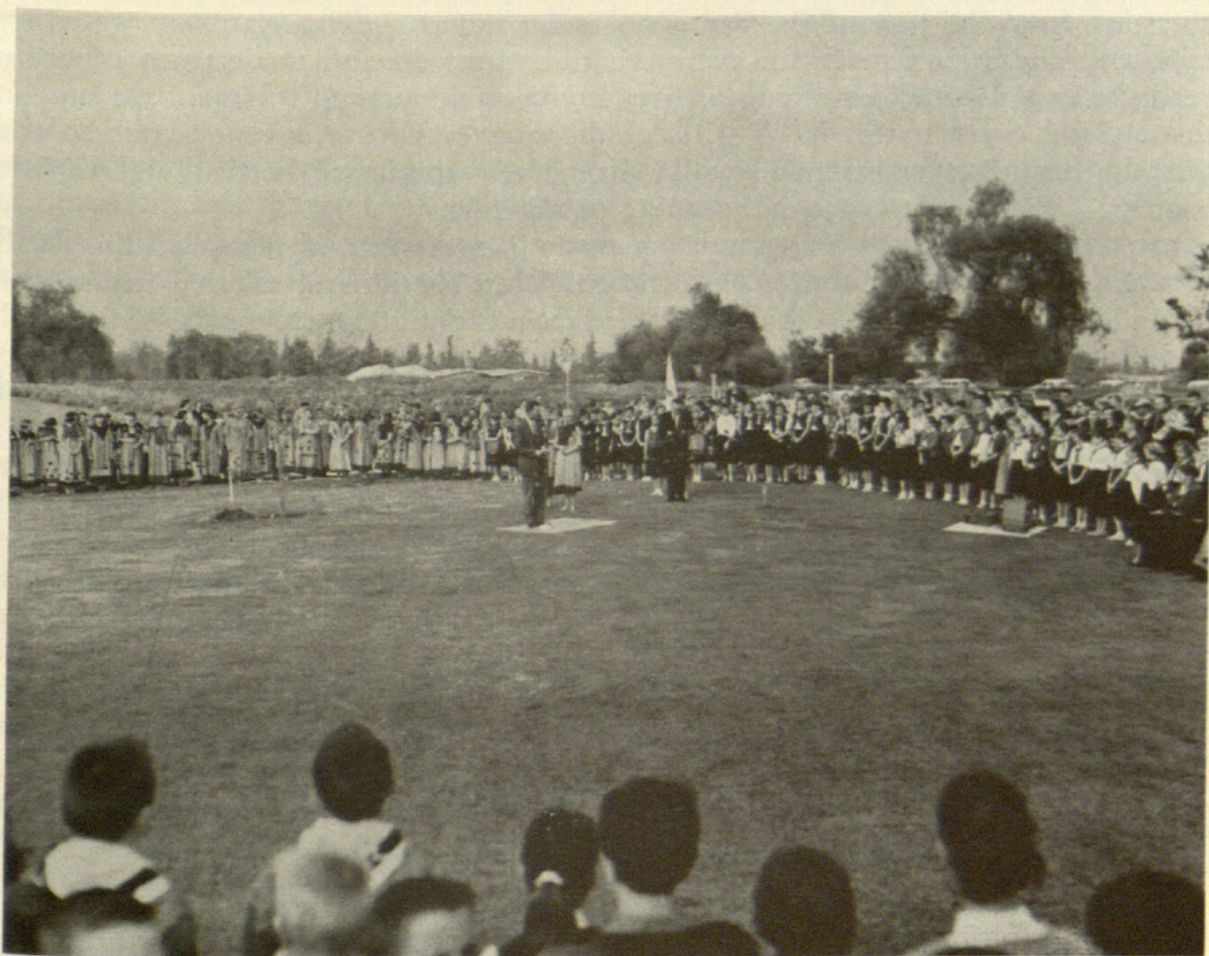
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| Joe, Barbara. 1953. Cultivated ferns of Southern   | Morton, C. V. 1957. Observations on cultivated ferns. American Fern Journal 47(1), p. 7. |

#### COVER

A design to arouse the interest, our cover picture illustrates fronds of *Pteris ensiformis* 'Victoriae' (Victorian Brake). The center figure is the fertile frond.

#### ARBOR DAY



Arbor Day, March 7, 1958. A portion of the more than 500 children and adults attending Arbor Day ceremonies at the Arboretum. The Camp Fire Girls of Arcadia planned and presented this year's program in cooperation with the Arboretum. Dr. Stewart, Arboretum Director, is at the microphone. Arboretum Staff Photo





Hoshizaki, Barbara Joe. 1959. "Pteris species cultivated in California." *Lasca leaves* 9, 26–29.

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