## Vascular Plants of Williamson County <br> Cheilanthes horridula - PRICKLY LIP FERN [Pteridaceae]

Cheilanthes horridula Maxom, PRICKLY LIP FERN. Perennial herb, rhizomatous, fibrousrooted, rosetted, with ascending leaves, in range $<15 \mathrm{~cm}$ tall; shoot with only basal leaves, foliage monomorphic, initially sterile later forming sporangia on lower surface, pubescent, especially short-hirsute, lacking glandular hairs; emerging leaves hooked at growing tips (not coiled, i.e., vernation not circinnate); rhizome compact to short-creeping, $4-7 \mathrm{~mm}$ diameter, densely covered with scales, scales persistent, the common form loosely appressed, long-acuminate or more slender and difficult to distinguish from hairs, mostly $1.5-3 \times 0.1-0.4 \mathrm{~mm}$, initially colorless aging first with brown cell outlines and then uniformly brown, lacking darker central stripe, with several minute teeth on margins below midpoint. Leaves (fronds): helically alternate, odd-2-pinnately compound, with 6-10 primary leaflets per side in subopposite pairs below midblade, petiolate; petiole (stipe) cylindric, to 60 mm long, brittle, initially glossy dark red-purple aging black, initially with persistent scales mixed with shorter hairs; blade $\pm$ oblong, in range $35-120 \times 15-30 \mathrm{~mm}$, lateral primary leaflets $\perp$ to rachis, terminal lobe triangular and ca. 5 mm long with a couple short sublobes; rachis cylindric, glossy dark red-purple aging black, lateral primary leaflets spaced $<15 \mathrm{~mm}$ apart, with hairs and persistent scales; petiolule ca. 1 mm long, glossy dark red-purple aging black; lateral primary leaflets $\pm$ triangular in outline, in range to $12 \times 7 \mathrm{~mm}$, mostly with 6-9 secondary leaflets alternate along rachilla; rachilla shallowly channeled, green or red-purple next to petiolule; secondary leaflets, sessile to subsessile, obtuse-ovate with margins inrolled (revolute) to under side (rounded at tip), mostly $3-4 \times 2.5 \mathrm{~mm}$, veins inconspicuous, upper surface with scattered, ascending shorthirsute hairs having thickened base, lower surface with longer hairs and lacking scales. Sori: submarginal on lower surface, appearing continuous except at tip, each secondary leaflet with many sporangia in $\pm 2$ rows partially concealed by down-curved, nongreen, minutely crenate lobes of leaf margin (false indusium), each tooth with a short hair.
Sporangia: spheroid, ca. 0.25 mm , red and translucent aging with darker spores, the dehiscence mechanism (annulus) ringlike, each sporangium with 64 spores.
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