Sedges of Marin County: a digital guide

Eric Wrubel¹, and Timothy Jones²

1. National Park Service, San Francisco Bay Area Network 2. Biodiversity Data Consultant

Slough sedge (*Carex obnupta*)
Ledum Swamp, Point Reyes National Seashore



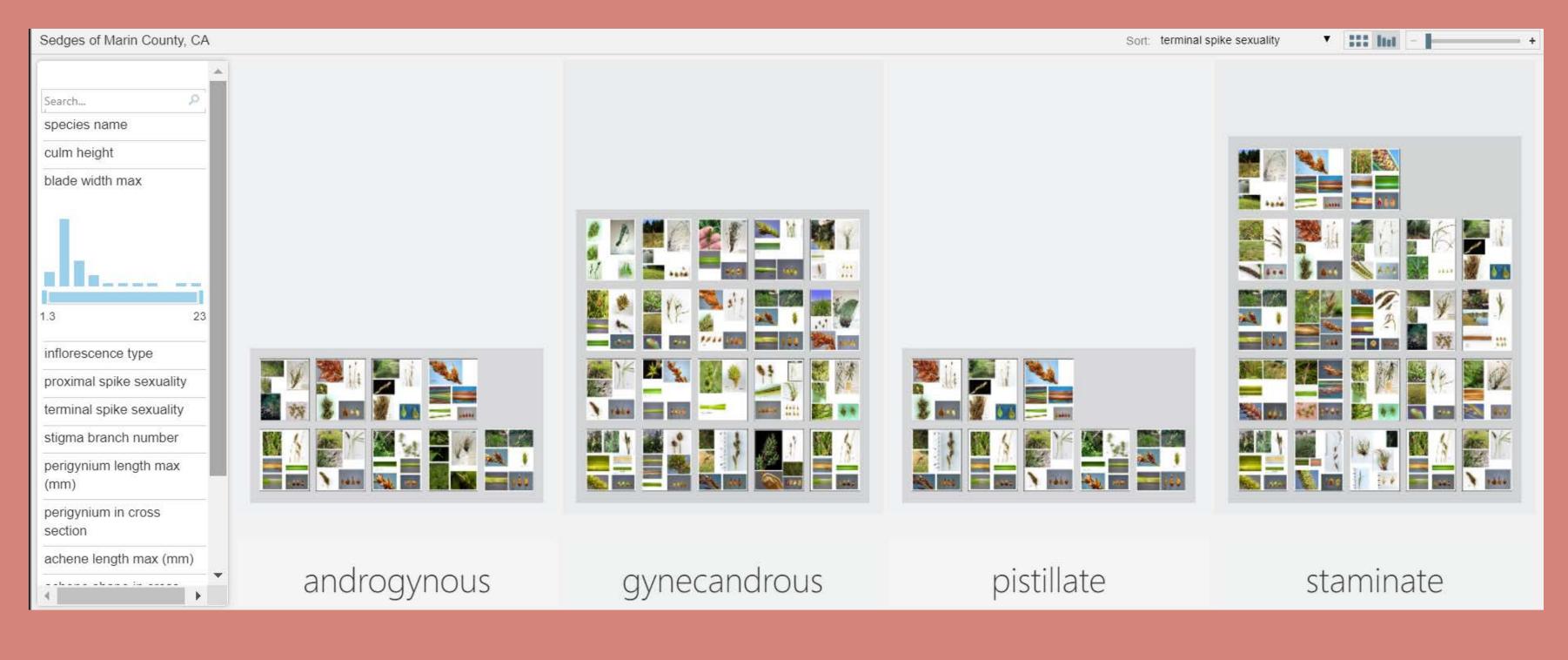
Sedges of Marin is an online diagnostic tool which harnesses the power of digital imagery to aid identification of the 37 sedge species (*Carex* L., family Cyperaceae) known to occur in Marin County, California. *Carex* is the largest genus of flowering plants in California (156 spp.), and one of the largest, most widespread, and ecologically important genera of vascular plants worldwide. Yet comparatively little is known about the distribution, status, and ecology of many sedge species due in large part to taxonomic difficulty. While species diversity is high in *Carex*, many taxa are morphologically similar, differing by minute characters. The Sedges of Marin digital guide enables caricologists of all skill levels to compare cryptic character states between *Carex* species using visual and text-based keys, improving our understanding and appreciation of the fascinating world of sedges.







C. hassei



Multi-access key. Chose multiple morphological characters to ID by process of elimination.

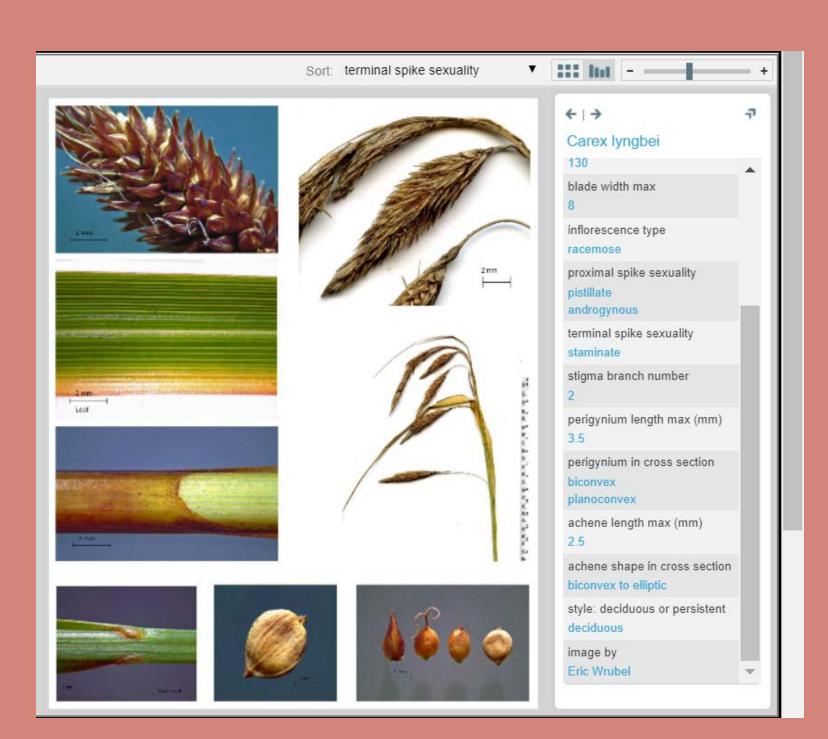
C. obnupta

Visual key. Matrix of zoom-able imagery, grouped by multi-access queries.

Species descriptions. Habitat, distribution, rarity, and ID tips.

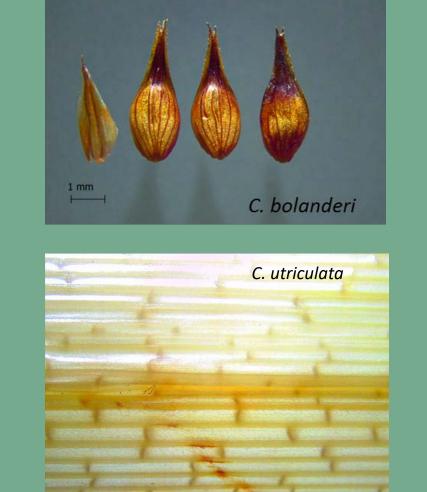
Visual glossary. Image-based glossary of botanical nomenclature for sedges and graminoids.

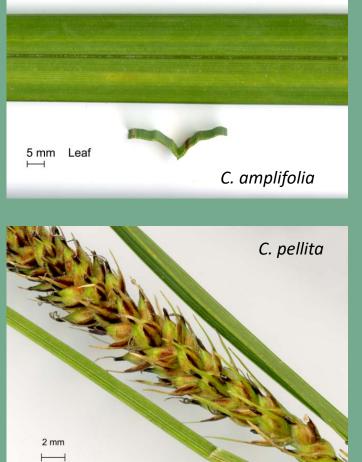
Tutorial. Sedge ID lessons.

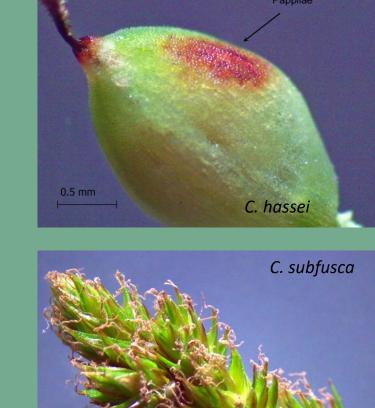


Why sedge ID is important

Sedge habitats in California, especially wetlands, have been disproportionately impacted by human activities. Of the 37 sedge species in Marin County, three are listed as rare or endangered by CNPS, and 13 are rare in the county (<5 known occurrences). Sedges provide important ecosystem services such as soil stabilization, wildlife forage, habitat, flood control, sediment filtration, and carbon sequestration. *Carex* also has unrealized potential as a model system for diversification and niche differentiation. Improved identification tools are necessary for a better understanding of the status, conservation and ecology of sedges.











Questions or comments: eric_wrubel@nps.gov





