

Confounding prickly pears

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I have been trying to identify species of *Opuntia* (L.) Mill. in the southwest US by wandering deserts, studying field guides and monographs, corresponding with experts, and visiting herbaria. I am getting better at not making major gaffes regarding identification, as well as learning what characters are diagnostic. But I still get confused. *Opuntia* plants have lots of phenotypic plasticity, varying their overall look when grown in different environments. *Opuntia* plants also have lots of developmental plasticity, where overall look of the plant can be radically different when an individual plant grows new pads. The plant shown here exemplifies my frustration (Fig. 1). Alluvial fans between the Organ Mountains and downtown Las Cruces in south-central New Mexico contain many prickly pears like the one herein, with very thick vivid green pads, plants that are only slightly upright, and only a few yellow to white spines per areole that are all either porrect or deflexed (Figs. 1 and 2). I identified this plant as *Opuntia phaeacantha* Engelm., even though it does not form the long chain-like sequence of cladodes typical of this species. The most confounding part is the pad growing out of the plant in background of the photo that has vivid blue epidermis and many stout black spines per areole that are pointing in all directions, including straight up. Also pictured is a cutting of the same plant (Fig. 3), a photo I took later that same day. The glaucous pad (Fig. 1 and Fig. 3) closely resembles herbarium specimens of *Opuntia wootonii* Griffiths, which is usually considered a synonym of *O. phaeacantha* or sometimes as *Opuntia engelmannii* Salm-Dyck ex Engelm. var. *wootonii* Fosberg. All three figures are of the exact same plant, which may not be as impressive as radically altered leaf shape of *Boquila trifoliolata* (DC.) Decne. (Lardizabalaceae) that mimics surrounding vegetation, but still makes for difficult prickly pear identification. Plants like the one pictured help make me a taxonomic lumper when it comes to *Opuntia*.



1. A plant identified as *Opuntia phaeacantha*



2. A detail of a pad on the same plant as in Fig. 1.



3. Another pad on the same plant as Figs. 1 and 2 showing remarkably different morphology.