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## New species of the cleptoparasitic bee genus *Stelis* (Hymenoptera: Megachilidae, Anthidiini) from the Nearctic Region

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### Abstract

Descriptions and diagnoses of ten new Nearctic species of *Stelis* subgenus *Stelis* are presented: *S. alta*, *S. anasazi*, *S. anthocopae*, *S. broemelingi*, *S. imperialis*, *S. joanae*, *S. lamelliterga*, *S. occidentalis*, *S. paiute*, and *S. shoshone*. Six of these species have been reared from trapnests. Host associations, all within the tribe Osmiini (Megachilidae), are provided.

**Key words:** Anthophila, new species, cleptoparasite, host associations, Nearctic

### Introduction

*Stelis* Panzer is a genus of cleptoparasitic Anthidiini whose known hosts are largely megachilids of the tribes Osmiini and Anthidiini. As currently defined it includes seven subgenera (Michener 2007) of which three are found in the Nearctic: *Dolichostelis* Parker and Bohart, *Heterostelis* Timberlake, and *Stelis s. str.* Nearctic *Stelis* are diverse; there are 49 species currently recognized in North America. The majority of the named species (36) belong in the nominate subgenus, with nearly as many additional undescribed species known, the bulk of these reared from trapnests by FDP. Here we describe several of these new species to make their names available for current phylogenetic studies. Biological notes of this poorly known group, including host associations, are provided.

### Material and methods

Morphological terminology for the descriptions follows Michener (2007). *Setose* is used for appressed hairs with branches minute or absent. *Pseudomargin* is used for the apparent apical margin of the sixth tergum; in *Stelis* the true margin is recessed below the apparent margin. The following abbreviations are used herein: IOD = interocellar distance, OOD = ocellular distance, OPD = distance from posterior ocular margin to preoccipital margin, LOPD = distance between lateral ocellus and preoccipital margin, LMOD = distance between lateral ocellus and mid ocellus, DLID = dorsal least interocular distance, BLID = basal least interocular distance, TIB = hind tibial length, BAT = hind basitarsal length, TAR = combined length of hind tarsal segments except the basitarsus. S1, S2, etc. and T1, T2, etc. represent metasomal sterna and terga respectively. Measurements were rounded to nearest tenth of a millimeter and were taken using an ocular micrometer on a Leica MZ12 stereomicroscope. Total body length was estimated by measuring the combined lengths of the head and mesosoma (from the clypeus to the propodeum, in profile) and the metasoma and adding the values. Forewing length was measured from the posterior border of the tegula to the tip of the forewing. Photomicrographs were taken using a Keyence® VHX-500F Digital Imaging System.

Label information from all specimens of *Stelis* described was captured and their localities georeferenced using Google Earth™ (<http://earth.google.com/>). Such information was then added to the National Pollinating Insect Database (NPID) housed at the Agricultural Research Service Pollinating Insect Research Unit in Logan, Utah, and can be found through the Global Biodiversity Information Facility (GBIF). Material from the following institutions