remaining individuals and populations (HHP 1994y9, 1994z1; C. Russell, pers. comm. 1994).

Hillebrand (1888) described and named Habenaria holochila based on his collections and on material sent to him by J.M. Lydgate and V. Knudsen. Subsequently, F.W. Kraenzlin transferred the species to the genus Platanthera, resulting in the new combination Platanthera holochila; this name is accepted in the current treatment of Hawaiian members of the family (Kores 1979, Wagner et al. 1990). C.A. Luer (1975) published the combination *Platanthera* hyperborea var. viridiflora, now considered synonymous with Platanthera holochila (Wagner et al. 1990). The specific epithet refers to the undivided lip of the flower.

Platanthera holochila, a member of the orchid family (Orchidaceae), is an erect, deciduous herb. The stems arise from underground tubers and are 15 to 60 cm (6 to 24 in.) long. The pale-green leaves, generally 4 to 12 cm (2 to 5 in.) long and 1 to 3 cm (0.4 to 1 in.) wide, are lance to egg-shaped. The greenishyellow flowers occur in open spikes. The back sepal is inversely egg-shaped and hooded and the lateral sepals are erect and elliptic. The lateral petals, 2 to 2.5 cm (1 in.) long, are irregularly eggshaped and enclosed by the sepals. The lowest petal is strap-like, about 3 mm (0.1 in.) long, with a 3 to 5 mm (0.1 to)0.2 in.) long spur at the base. The fruit is an ellipsoid capsule with six ribs. This is the only species of this genus that occurs in the Hawaiian Islands (Wagner et al. 1990).

Historically Platanthera holochila was known from the Alakai Swamp and Kaholuamano area and the Wahiawa Mountains on Kauai, the Koolau Mountains on Oahu, scattered locations on Molokai, and various locations on Maui (HHP 1994k1 to 1994k17) Currently Platanthera holochila is known from five locations on Kauai, Molokai, and Maui. Before the devastation of Hurricane Íniki on Kauai in September 1992, two populations were known from the Alakai Swamp within the Alakai Wilderness Preserve on State land (HHP 1994k4, 1994k8). One population, last seen in 1977, was not seen when the location was revisited in 1989. The other population comprised 100 plantlets representing 3 clones before Hurricane Iniki, but only 10 immature plantlets representing 1 clone over a year after the hurricane (Perlman 1995). On Molokai, a single population of fewer than ten plants occurs on private land in TNCH's Kamakou Preserve (HHP 1994k3). On Maui, three populations are known-

Hanaula, on State and private land, and TNCH's Waikamoi and Kapunakea Preserves (HHP 1994k9, 1994k12, 1994k17). The 5 current populations comprise fewer than 35 individuals-1 individual on Kauai; fewer than 10 on Molokai; and between 15 and 20 on Maui (HHP 1994k3, 1994k4, 1994k8, 1994k9, 1994k12, 1994k17). Platanthera holochila is found in óhiá-Dicranopteris linearis (uluhe) montane wet forest or óhiá mixed montane bog between 1,050 and 1,870 m (3,450 and 6,120 ft) elevation. Associated plant taxa include Cibotium sp. (hapuú), Coprosma ernodeoides (kukaenene), Oreobolus sp., Styphelia sp. (pukiawe), and Vaccinium spp. (óhelo) (HHP 1994k3, 1994k4, 1994k8, 1994k9, 1994k12, 1994k17)

The primary threats to *Platanthera holochila* are habitat degradation and/or destruction by ungulates such as cattle and feral pigs, competition with alien plant taxa, overcollection, and a risk of extinction from naturally occurring events due to the small number of remaining populations and individuals (HHP 1994k4, 1994k9, 1994k12, 1994k17; C. Russell, pers. comm. 1994).

While hiking the Schofield-Waikane Trail on Oahu, St. John collected a plant that he and Edward Hosaka described in 1935 as *Sanicula purpurea*. Other published names considered synonymous with this species include *S. lobata* and *S. sandwicensis* (Constance and Affolter 1990). The specific epithet refers to the purple petals.

Sanicula purpurea, a member of the parsley family (Apiaceae), is a stout perennial herb, 8 to 36 cm (3 to 14 in.) tall, arising from a massive stem. The basal leaves are numerous and leathery in texture. Two to 8 cm (0.8 to 3 in.) wide, the leaves are kidney-shaped or circular to egg-heart-shaped, with three to seven lobes. The small flowers are purple or cream-colored with a purple tinge and occur in branched terminal clusters, each of which contains six to ten flowers. Each flower cluster contains one to three perfect flowers and five to seven staminate flowers. The nearly spherical fruits are covered with prickles. This species is distinguished from others in the genus by the number of flowers per cluster and by the color of the petals (Constance and Affolter 1990)

Historically *Sanicula purpurea* was known from six scattered locations along the Koolau Mountains of Oahu and from four locations on West Maui (HHP 1994L1 to 1994L10). This species is currently known from one population in Oahu's Koolau Mountains on the boundary of State land and the federally owned Schofield Barracks Military Reservation; another population, last seen on the summit between Aiea and Waimano in 1985, was not seen during a 1987 survey and may no longer be extant. On West Maui, three populations are currently known on State land, including West Maui NAR, and one population is known from private land (HHP 1994L1 to 1994L10). The total number of plants of this species is estimated to be between 130 and 210 individuals. This species typically grows in open óhiá mixed montane bogs between 700 and 1,625 m (2,300 and 5,330 ft) elevation. Associated plant taxa include pukiawe, Argyroxiphium grayanum (greensword), Lagenifera sp., Machaerina sp. (úki), and Oreobolus furcatus (HHP 1994L1, 1994L6 to 1994L9).

Habitat degradation by feral pigs and a risk of extinction from naturally occurring events and/or reduced reproductive vigor due to the small number of existing populations are the major threats to *Sanicula purpurea*. On Oahu, the Kaukonahua-Kahana Divide population is additionally threatened by competition with an alien grass, *Axonopus fissifolius* (narrow-leaved carpetgrass), and potentially by military activities (HHP 1994L1, 1994L9).

Schiedea hookeri was first described by Gray in 1854 based on a specimen collected on Oahu by Archibald Menzies of the U.S. Exploring Expedition (Wagner *et al.* 1990). Later, Earl Sherff described *S. hookeri* var. *acrisepala* and *S. hookeri* var. *intercedens*, considered synonyms of *S. hookeri* (Sherff 1944, 1945; Wagner *et al.* 1990).

Schiedea hookeri, a member of the pink family (Caryophyllaceae), is a sprawling or clumped perennial herb. The stems, 0.3 to 0.5 m (1 to 1.6 ft) long, curve slightly upward or lie close to the ground and often produce matted clumps. The thin, opposite leaves, 3 to 8 cm (1.2 to 3.2 in.) long and 0.4 to 1.5 cm (0.2 to 0.6 in.) wide, are narrowly lance-shaped to narrowly elliptic. The petalless, perfect flowers are borne in open branched inflorescences, which are hairy, somewhat sticky, and 5 to 22 cm (2 to 9 in.) long. The lance-shaped sepals are green to purple and 3 to 4.5 mm (1.2 to 1.8 in.) long. The fruit is a capsule about 3 mm (0.1 in.) long. This species is distinguished from others in this endemic Hawaiian genus by its open, hairy, and sometimes sticky inflorescence, and by the size of the capsules (Wagner et al. 1990).

Historically *Schiedea hookeri* was known from the Waianae Mountains of Oahu and Haleakala on Maui (HHP 1994m1 to 1994m17). Currently this species is known from 11 populations in