south to San Mateo County, a range of 80 km (50 miles). Two populations are found in serpentine chaparral; the others occur in serpentine bunchgrass habitat. Six populations are known from Marin County, one from San Francisco County, and seven from San Mateo County. Populations fluctuate in size from hundreds to thousands of plants (Robison and Morey 1992a). The species is threatened with residential and recreational development, foot traffic, and competition with alien species.

Pentachaeta bellidiflora (white-rayed pentachaeta) was first collected in 1853–54 near Corte Madera by John Milton Bigelow, surgeon and botanist for a railway route exploration (Van Horn 1973). The plant was described as *P. bellidiflora* (Greene 1885). Keck (1958) transferred the entire genus to *Chaetopappa*. Van Horn (1973) studied *Chaetopappa* and *Pentachaeta* and concluded that the two genera are not closely related. Based on differences in floral and vegetative morphology and chromosome number, Van Horn reinstated the genus *Pentachaeta*.

Pentachaeta bellidiflora is a small annual plant of the aster family (Asteraceae) with one or a few branches that bear narrow, linear leaves. Each flower head has numerous yellow disk florets and 5 to 16 white to purplish ray florets. The fruits are tawny, coarsehaired achenes (dry one-seeded fruits). Related species in the San Francisco Bay area (*P. exilis* ssp. *exilis* and *P. alsinoides*) differ from *P. bellidiflora* in that they have no ray flowers.

Pentachaeta bellidiflora is known only from one location, in a serpentine bunchgrass community in San Mateo County. Historically, P. bellidiflora was known from at least nine sites in Marin, San Mateo, and Santa Cruz Counties. The other populations have been destroyed by urbanization, off-road vehicles, or highway construction over the past 50 years (Robison and Morey 1992b). As is common among annual plants, the size of this population fluctuates dramatically from year to year. Numbers have ranged from 10,000 to just under 100 million in the last 10 years, with about 1.5 million plants growing in each of the last 2 years (Zoe Chandik, Santa Clara Valley Chapter, California Native Plant Society, pers. comm., 1992). The species is threatened by recreational development.

## South Bay Species

*Ceanothus ferrisae* (coyote ceanothus) was collected in 1917 by LeRoy Abrams, professor of botany at Stanford University, on Madrone Springs Road above Coyote Creek, in Santa Clara County. The species was described in 1933 by Howard E. McMinn (McMinn 1933), professor of botany at Mills College and author of An Illustrated Manual of California Shrubs.

Ceanothus ferrisae is an erect evergreen shrub of the buckthorn family (Rhamnaceae) that grows 1 to 2 m (3 to 6 ft) high, with long stiff divergent branches. Its round leaves are dark green and hairless on the upper surface and lighter green with minute hairs below. The leaf margins have short teeth or sometimes no teeth at all; the leaf base is abruptly tapering or rounded. The small white flowers are borne in clusters 1.3 to 2.5 cm (0.5 to 1 in) long. The seed capsules are 7 to 9 mm (.3 to .35 in) in width and have three conspicuous apical horns. The related C. cuneatus has entire leaves with wedge-shaped (not rounded) bases and seed capsules only 5 to 6 mm (0.2 in)wide.

*Ceanothus ferrisae* grows on dry slopes in serpentine chaparral. It is known from only three locations, all within 6 km (4 miles) of each other, in Santa Clara County. Fewer than 6,000 plants are known to exist. It was thought at one time to occur in both San Mateo and Santa Cruz Counties as well, but these reports have been found to be erroneous (Corelli 1991). The existing populations are threatened by residential and recreational development, unauthorized dumping, and lack of natural recruitment.

The type specimen of Dudleya setchellii (Santa Clara Valley dudleya) was collected by Willis L. Jepson in 1896 on Tulare Hill in Santa Clara County. He described it as Cotyledon laxa var. setchellii (Jepson 1901). At the same time, he described Cotyledon *caespitosa* var. *paniculata*, which he had collected from Morrison Canyon near what is now Fremont. Britton and Rose (1903) elevated both taxa to full species and transferred them to the newly-created genus Dudleya. Subsequently, Dudleya setchellii was variously treated as Cotyledon setchellii (Fedde 1904), Echeveria setchellii (Nelson and Macbride 1913), and E. laxa var. setchellii (Jepson 1936). Reid Moran (1959) combined the material referred to as D. setchellii and D. paniculata in D. cymosa ssp. setchellii. Kei Nakai (1987) separated the two entities into D. cymosa ssp. paniculata and D. cymosa ssp. setchellii on the basis of leaf shape, inflorescence branching patterns, and pedicel length. According to Jim Bartel (U.S. Fish and Wildlife Service, pers. comm., 1992), D. setchellii should not be placed within D. cymosa and is, in fact, intermediate to D. cymosa and D. abramsii. His treatment of Dudleya retains Nakai's D.

*cymosa* ssp. *paniculata* and resurrects Britton and Rose's *D. setchellii* for the Santa Clara Valley dudleya (Bartel 1993).

Dudleya setchellii is a low-growing perennial of the stonecrop family (Crassulaceae) with fleshy, glabrous leaves. The oblong to triangular, slightly glaucous leaves are 3 to 8 cm (1 to 3 in) long and 7 to 15 mm (0.3 to 0.6 in) wide. Two or three flowering stems ascend to heights of 5 to 20 cm (2 to 8 in) in mid to late spring. The pale yellow petals are 8 to 13 mm (0.3 to 0.5 in) long. There are two related species in the area. D. cymosa ssp. cymosa has bright yellow to red petals rather than pale yellow and is, therefore, easily distinguished from D. setchellii with its pale yellow flowers. D. cymosa ssp. paniculata can be distinguished from *D. setchellii* by its oblong to oblanceolate leaves (in contrast to the oblong-triangular leaves of D. setchellii), its greater degree of rebranching of the inflorescence branches, and its longer pedicels.

Dudleya setchellii is restricted to rocky outcrops within serpentine grasslands in Santa Clara County. It is found only in the Coyote Valley area, from San Jose south about 30 km (20 miles) to San Martin, at elevations of 100 to 300 m (300 to 900 ft). D. cymosa ssp. paniculata ranges from Contra Costa County to Fresno and Monterey Counties: the reports of Moran's combination D. cymosa ssp. setchellii from Alameda, Contra Costa, and San Benito Counties (Munz 1959, Olson and Lake 1991) reflect the distribution of *D*. *cymosa* ssp. *paniculata* and do not refer to *D. setchellii*, as now recognized. Fourteen sites and a total of approximately 33,000 plants are known to exist. The plant is threatened by development, unauthorized dumping, and off-road vehicles.

Streptanthus albidus ssp. albidus (Metcalf Canyon jewelflower) was first collected in 1887 by Volney Rattan, a botany teacher and author of an early California flora, from hillsides a few miles south of San Jose. Edward Greene described S. albidus ssp. albidus in 1887 (Greene 1887); later he redefined the limits of Euclisia, formerly a subgenus of Streptanthus, treating it as a genus in its own right (Greene 1904). S. albidus ssp. albidus, as a member of the *Euclisia* group, was included in this change. Jepson (1925) returned Euclisia to subsection status, and later authors followed his treatment. Jepson (1925) also treated S. albidus ssp. albidus as a subspecies of S. glandulosus. Kruckeberg published a revision of the Streptanthus glandulosus complex in which he recognized the close relationships among S. glandulosus, S.