Dark-eyed Junco *Junco hyemalis*

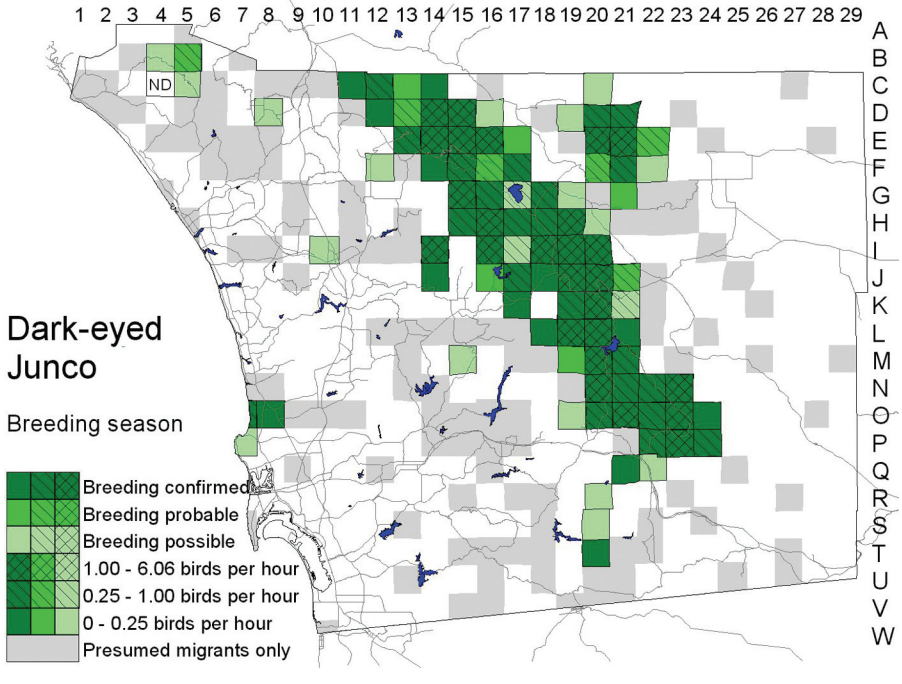
Photo by Anthony Mercieca

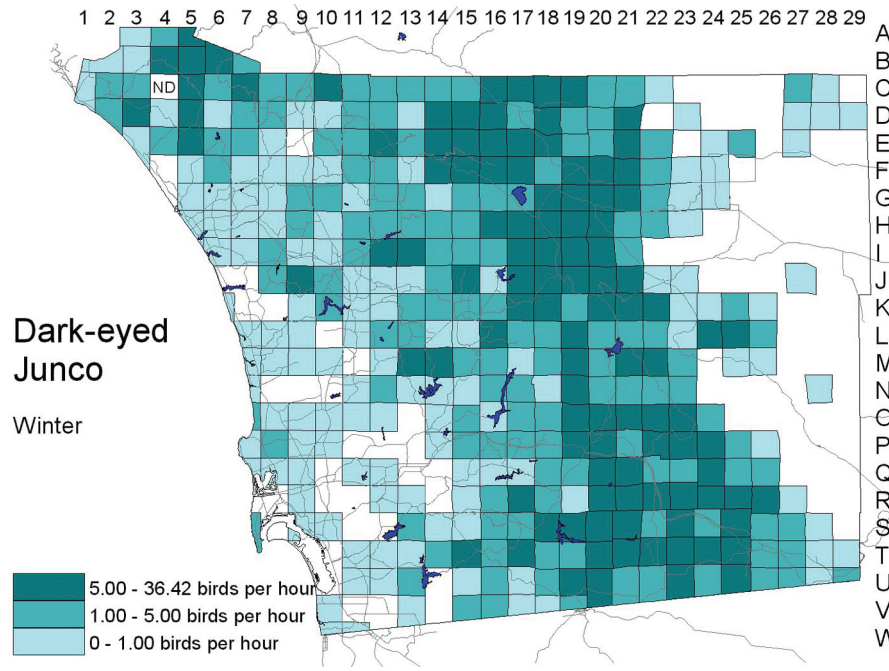
The Dark-eyed Junco is one of the most common breeding birds in the woodlands of conifers and black oaks in San Diego County's mountains. In winter, it is even more abundant, as visitors from much of western North America flock into the county. At that season they occur in oak woodland, chaparral, high-desert scrub, parks, and well-vegetated residential areas as well as coniferous woodland. Subspecies *J. h. thurberi* of the Oregon Junco dominates, but two more subspecies of the Oregon, two of the Slate-colored, the Pink-sided, and the Gray-headed all occur regularly, especially in the mountains. As a breeding species the junco is spreading to lower elevations in live oak groves and orchards. Its colonizing the University of California campus in La Jolla reveals its surprising potential as an urban adapter.

Breeding distribution: Montane coniferous woodland remains the heart of the junco's range in San Diego County, and it is here where the species' numbers are highest: up to 175 in Matagual Valley (H19) 18 June 2000 (S. E. Smith), to 100 on Volcan Mountain (I20) 28 June 2000 (A. P. and T. E. Keenan). But field work for the atlas revealed considerable spread of breeding juncos into other habitats at lower elevations. As a result, at the scale of an atlas square, the distribution appears continuous from Palomar to the Laguna Mountains, though between 1500 and 3500 feet elevation the birds are confined to oak woodlands in canyons, largely in the northern half of the county. In Boden Canyon (J14) they descend as low as 1000 feet (two, one building a nest, 2 May 1997, C. R. Mahrdt). Breeding juncos are locally common in foothill canyons, with up to 25 at 2400–2600 feet elevation along Temescal Creek (G15) 1 June 2001 (K. J. Winter) and 20 at 1100–2000 feet in upper Boden Canyon (I14) 24 April 2000 (R. L. Barber). The southernmost site known, and thus the southern tip of the breeding range of subspecies *thurberi*, is Hauser Canyon (T20), elevation 1700–1800 feet (four on 18 May 2000, J. M. Wells).

The small isolated population in the Santa Margarita Mountains (B4/B5/C5) is in oak woodland (up to eight singing males around the Sky Ranch, B5, 19 May 2001, J. M. and B. Hargrove), as were three around Live Oak Park, Fallbrook (D8) 17 July 1999 (M. Freda) and occasional birds near Long's Gulch (M15) in summer 1999 (C. H. Reiser). But two in an avocado orchard 2.25 miles west-southwest of Pauma Valley (F12) 12 June 1999 (M. Sadowski, J. R. Barth) and one in northwest Escondido (I10) 5 June 1999 (E. C. Hall) suggest adaptation to nonnative habitats.

By far the most dramatic example of the junco's adapting to a new environment is its colonization of the campus of the University of California, San Diego (O7/O8). Here the birds live in the eucalyptus trees and ornamental shrubbery scattered among the buildings. The birds first colonized in 1983; by



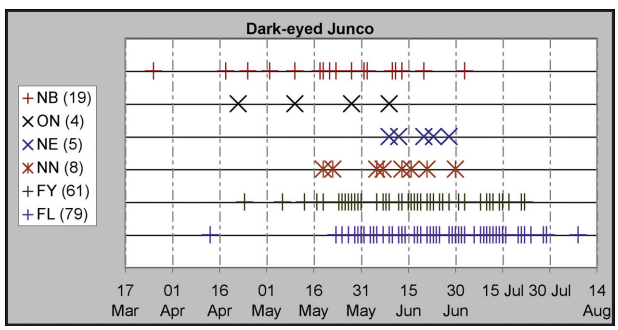


2000, the population reached a fairly stable level of about 130, covering an area of slightly less than 1 square mile (P. Yeh), east to the University Town Center shopping mall (O8, one singing 14 July 1998, D. G. Seay). The population barely extends into surrounding La Jolla (P7), where we recorded the species three times, including two individuals banded on the campus and seen 3.2 miles away 20 June 2000 (M. Hinton). An even more notable recovery of a junco banded on the UCSD campus was of a juvenile found 9.5 miles away in the neighborhood of Loma Portal (R8) 16 August 2000 (SDNHM 50446). A pair was feeding young in Torrey Pines State Reserve (N8) 22 July 1989 (J. R. Jehl, Jr., AB 43:1369, 1989), but the birds have not remained there, in spite of the site's nearness to UCSD and the resemblance of the Torrey pine groves to the species' typical habitat.

Nesting: The Dark-eyed Junco usually nests on the ground, the nest hidden by grass, herbs, ferns, low shrubs, or leaf litter. All nests that atlas observers described were in such situations. Elsewhere in the species' range, nests in trees or other elevated situations are known but rare (J. H. Phelps, Jr., in Austin 1968).

In the mountains, the junco's nesting season extends from late April to mid July. With observations of nest building 18 April, feeding young 13 May, and fledglings 23 May, egg laying evidently begins about 10 days earlier than the 5 May–13 July spread of nine collected egg sets. At UCSD, however, the junco enjoys a much longer breeding season. There the birds start singing in January, build nests in February, and fledge their last chicks in August and September (P. Yeh). The scattered early records visible on the chart of the species' breeding schedule are all from UCSD.

Migration: The juncos breeding in San Diego County are presumably nonmigratory, and this has been confirmed by studies of banded birds for the population at UCSD (P. Yeh). The local population is greatly augmented in the winter by migrants from the north, which begin arriving between mid September and mid October. In spring, wintering birds remain fairly common until the third week of April, then depart quickly. The latest records of apparent migrants are of one near Melrose Ranch (I13) 9 May 2001 (O. Carter) and one near Harper Flat (K26) 10 May 2000 (D. C. Seals). A couple of individuals in extreme northwestern San Diego County later in the spring could have been pioneers of the local population: one at San Onofre (C1) 26 May 2001 (M. Lesinsky) and one in San Mateo Canyon, elevation 500 feet (B3), 28 May 2001 (P. Unitt). On rare occasions migrants are seen in sparsely vegetated desert unsuitable for wintering birds (e.g., one near the Elephant Knees, M29, 1 May 2001, J. R. Barth).



Winter: In winter, juncos are abundant throughout San Diego County's mountains and foothills. Flocks of dozens and daily counts over 100 are frequent. Counts run as high as 700 north of Julian (J20) 27 December 1999 (E. Post) and 551 in Cañada Verde (F20) 12 December 2000 (M. Bache). The junco's pattern of winter abundance resembles that of resident birds of oak woodland: common near the coast in northwestern San Diego County, then decreasing, with the zone of abundance retracting inland, toward the south. Nevertheless, juncos can be common at favored spots even in south-coastal San Diego County, with up to 75 at Fort Rosecrans Cemetery, Point Loma (S7), 18 December 1999 (M. W. Klein) and 61 on the west side of Lower Otay Lake (U13) 19 January 2001 (M. and B. McIntosh). In high-desert scrub (juniper, Mojave yucca, desert apricot, desert scrub oak, etc.) the junco is irregularly common too, with up to 55 on the east slope of Whale Peak (L26) 15 February 2001 (J. R. Barth) and 45 in the Santa Rosa Mountains (C27) 9 January 2002 (P. Unitt). Numbers high as 225 one to two miles north of Vallecito (L25) 22 January 1998 and 115 in Little Blair Valley (L24) 20 February 1998 (both

R. Thériault) occurred only in the one wet winter of the atlas period. In the low desert, the junco is much scarcer, occurring mainly in the cultivated parts of the Borrego Valley (maximum 30 at Roadrunner Tree Farm, E25, 17 December 2000, L. J. Hargrove).

Conservation: The lack of reports of breeding juncos from low to moderate elevations before the 1980s suggests that the spread is recent and the species is doing well. It was first noted summering in Boden Canyon in 1994 (C. R. Mahrdt). Though parks, college campuses, and well-vegetated residential areas offer the junco foraging habitat, its nesting on the ground is a strike against it as a prospective urban adapter.

Taxonomy: The juncos breeding in San Diego County, including those at UCSD, are *J. h. thurberi*, with black-headed males, gray-headed females, and the back tinged pinkish in both sexes. *Junco. h. thurberi*, whose breeding range stretches from San Diego County north through the Sierra Nevada, is also the dominant wintering subspecies in San Diego County, accounting for 80 of 116 winter specimens in the San Diego Natural History Museum. Two other subspecies of Oregon Juncos, differing from *thurberi* mainly in back color and not readily identifiable in the field, reach San Diego County as winter visitors in smaller numbers. *Junco. h. simillimus* Phillips, 1962 [= *J. h. shufeldti* Coale, 1887, of Miller (1941) and AOU (1957)], has a darker chocolate-brown back than *thurberi* and originates in the Pacific Northwest. It is apparently uncommon but probably regular, represented by six specimens collected on dates ranging from 9 October (1993, Volcan Mt., SDNHM 48585) to 23 March (1944, Point Loma, SDNHM 18855). Two further specimens are apparently intergrades between *simillimus* and *thurberi* or *shufeldti*. *Junco h. shufeldti* Coale, 1887 [= *J. h. montanus* Ridgway, 1898, of Miller (1941) and AOU (1957)], differs from *thurberi* and *simillimus* by having the back a drab grayish-brown and the male's head being dark slaty-gray rather than black. It breeds in the northern Rocky Mountains. In San Diego County it is uncommon or fairly common, represented by nine specimens collected between 6 November (1984, Cibbets Flat, Q23, SDNHM 43474) and 1 March (1931, 4 miles southwest of Ramona, L14, SDNHM 14143). *Junco h. shufeldti* may be more prevalent in the Anza–Borrego Desert, as it is the most numerous subspecies of junco in the Salton Sink (Patten et al. 2003).

The Pink-sided Junco, *J. h. mearnsi* Ridgway, 1897, has a back even grayer than in *shufeldti* but a gray head in both sexes (black lores in the male) and broader cinnamon-pink on the sides, often extending across the breast. Immature females, though, are readily distinguished from *shufeldti* only in the hand. Only two specimens have been collected (18 December 1930, 4 miles southwest of Ramona, SDNHM 14117; 6 November 1984, Troy Flat, Laguna Mountains, Q23, SDNHM 43452), but sight records imply the subspecies occurs annually in small numbers. It is rare along the coast but more numerous in the mountains, with maximum counts possibly as high as seven (near Julian, J20, 27 December 1999, E. Post; upper San Felipe Valley, H20, 17 December 2001, A. P. and T. E. Keenan). More specimens are desirable to support numbers this high.

The Gray-headed Junco, *J. h. caniceps* (Woodhouse, 1853), with its bright rufous back and gray sides, differs grossly from the Oregon and Pink-sided Juncos, though intergrades are known and have even been given a subspecies name of their own. The Gray-headed Junco breeds in the mountains of the Great Basin and in the Rockies from southern Wyoming to northeastern Arizona. In San Diego County the status of the Gray-headed is similar to that of the Pink-sided: rare along the coast, rare to uncommon in the mountains. The Gray-headed may be somewhat more frequent than the Pink-sided, or the apparent difference may be due to the Gray-headed's being more conspicuous in the field. Maximum counts are five near the San Luis Rey Day Use Area (G16) 22 January 2001 (W. E. Haas) and eight in Thing Valley (Q24) 2 February 1999 (P. Unitt). There are now five specimens, and sight records extend from 25 September (1960, one at Palomar Mountain State Park, D14/E14, AFN 15:78, 1960) to 19 April (2001, one in the middle fork of Borrego Palm Canyon, F22, J. R. Barth). Completely unprecedented in coastal southern California was a summer sighting of the Gray-headed Junco, of an apparent pair on Volcan Mountain 16 June 2000 (A. P. and T. E. Keenan). Parallel records must be sought among other species, such as the Red-naped Sapsucker that hybridized with the Red-breasted on Palomar Mountain or the Plumbeous Vireos colonizing the San Bernardino and San Jacinto mountains.

Two subspecies of the Slate-colored Junco also reach San Diego County, *J. h. cismontanus* Dwight, 1918, and *J. h. hyemalis* (Linnaeus, 1758). With six county specimens each in SDNHM they appear to be of roughly equal abundance—both uncommon. Sight records are a poor guide because in the field males of *hyemalis* stand out conspicuously while females of *cismontanus* could be overlooked among female Oregon Juncos. *Junco. h. cismontanus* has the concave border of the hood that distinguishes the Slate-colored from the Oregon Junco but the flanks have a variable amount of brown and the back is distinctly browner than the head. It breeds mainly in the interior of British Columbia. In *J. h. hyemalis* (Linnaeus, 1758) the males are all gray and white; the females may be brownish but no more so on the back than on the head. This subspecies has a transcontinental breeding range in the taiga from Alaska to Newfoundland. In San Diego County, seldom are more than three or four Slate-colored seen in a single large flock of juncos, but an exceptional 21 were in northeast Ramona (K15) 30 December 2000 (D. and C. Batzler). Sight records of Slate-colored Juncos in San Diego County extend from 19 October to 2 April (Unitt 1984).

Rea (1967) reported *J. h. oreganus* (Townsend, 1837) from San Luis Rey (G6) 17 January 1962, but the specimen (SBMNH 127), which I reexamined, is actually *simillimus*; the back is not dark and rusty enough for

oreganus, and the flanks are not as extensively dark as in most specimens of *oreganus*.

There appears to be no difference in winter biology among the many subspecies of the Dark-eyed Junco; the rarer subspecies are usually found among the commoner ones in mixed flocks.