

WINTER DISTRIBUTION OF HERMIT THRUSH SUBSPECIES IN THE SIERRA DE LA LAGUNA, BAJA CALIFORNIA SUR

PHILIP UNITT, San Diego Natural History Museum, P. O. Box 1390, San Diego, California 92112

RICARDO RODRIGUEZ ESTRELLA, Centro de Investigaciones Biológicas del Noroeste, Apdo. Postal 128, La Paz, Baja California Sur 23000, México

The Hermit Thrush (*Catharus guttatus*) winters commonly in Baja California Sur. Specimens we collected of this species in the Sierra de la Laguna, however, reveal new details and clarify misunderstandings concerning the distribution of its subspecies in this region.

STUDY AREA AND METHODS

In January 1990 we made a 2-week expedition across the Sierra de la Laguna, the forested mountains of the Cape district of the peninsula of Baja California and now a biosphere reserve. The sierra, consisting mainly of Cretaceous granites, reaches altitudes of 2200 m. Ornithologists have seldom visited these mountains in winter. We ascended the east slope of the sierra, beginning from Santiago, then climbed the Cañon de la Zorra, passed at Palo Extraño and La Laguna, and finally descended to La Burrera at the west base of the mountains.

This route enabled us to cover both vegetation zones of the sierra: tropical deciduous woodland and oak-pine forest. The more diverse tropical deciduous forest covers 170,500 ha at elevations between 300 and 1500 m and is dominated by *Pachycereus pecten*, *Ferocactus* spp., *Lysiloma divaricata*, *Plumeria acutifolia*, *Euphorbia* spp., *Erythrina flabelliformis*, *Cassia emarginata*, *Pithecellobium mexicanum*, and *Yucca* spp. (Arriaga and León 1989). The mean annual rainfall in this zone is 400 to 700 mm; the mean monthly temperature, 23.3° C (Coria 1988). The oak-pine forest covers 20,000 ha at elevations over 1500 m and is dominated by *Quercus devia*, *Pinus lagunae*, *Arbutus peninsularis*, and *Nolina beldingii* (León de la Luz and Domínguez 1989). The mean annual rainfall exceeds 700 mm, and the mean monthly temperature is 14.7° C. Late summer, mainly August and September, is the rainy season, and the area is subject to hurricanes.

We remained 2 days at most camp sites, observing and collecting birds via mist nets at a wide range of elevations. Unitt prepared the specimens collected as study skins, now stored at the Centro de Investigaciones Biológicas del Noroeste, La Paz (CIB). In 1992 Rodríguez brought some of the specimens to the San Diego Natural History Museum (SDNHM), where we studied them.

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RESULTS

We collected nine specimens of the Hermit Thrush (Table 1), at elevations ranging from 430 m (in Cañon La Zorra) to 1650 m (at La Laguna). When preparing the specimens, we were struck by their variation in body mass, the largest being 45% heavier than the smallest, although none was fat and all but one were males. Comparing them with each other and with the substantial collection at SDNHM revealed that these differences in size corresponded with differences in plumage color and pattern and that the nine specimens represented at least three subspecies.

The four smaller specimens, weighing from 18 to 21 grams, all have the breast lightly spotted, conforming to the subspecies *slevini* and *jewetti*. The specimen from La Burrera is slightly paler dorsally than the other three and likely represents *slevini*, which breeds at least in the Coast Ranges of central and northern California (possibly farther north). The other three match a specimen identified by the late A. R. Phillips as *jewetti*, a slightly darker and browner form that breeds from the Olympic Peninsula of Washington south an undetermined distance (Phillips 1991). These two subspecies are very similar, and Aldrich (1968) did not distinguish them. We have not seen fresh-plumaged specimens from the breeding ranges of both so cannot confirm their differences.

The four intermediate specimens, weighing from 22 to 24 grams, have the moderately heavy breast spots and rather dark gray-brown upperparts typical of *Catharus g. guttatus*. This form breeds in southwestern and south-central Alaska (at least) and winters commonly in San Diego County, Upper California, so an ample supply of suitable comparison specimens was available to us in SDNHM. Two of the four specimens from the Sierra de la

Table 1 Hermit Thrushes Collected in the Sierra de la Laguna, 21–31 January 1990

Specimen	Sex	Locality	Elevation (m)	Wing Chord (mm)	Bill from Nostril (mm)	Weight (g)
<i>C. g. slevini/jewetti</i>						
A006	M	Cañon de la Zorra	865	81.6	63.2	18.8
A031	M	La Burrera	500	88.2	67.8	19.7
A003	M	Cañon de la Zorra	430	90.4	71.3	20.4
A009	M	Cañon de la Zorra	1275	86.7	65.3	20.8
<i>C. g. guttatus</i>						
A026	F	La Laguna	1650	86.8	66.4	22.3
A025	M	La Laguna	1650	86.8	67.9	22.3
A019	M	La Laguna	1650	89.2	68.5	23.0
A015	M	Palo Extraño	1625	89.9	68.5	23.2
<i>C. g. auduboni/polinotus</i>						
A020	M	La Laguna	1650	101.6	75.2	27.3

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Laguna are completely typical of *guttatus*; two have slightly darker backs, more as in *vaccinius*, but they lack the extensively dark gray flanks, deeper buff background color on the breast, and very heavy breast spotting of the latter subspecies.

The ninth specimen, from La Laguna, weighed 27.3 grams and much exceeds the other specimens in linear measurements, too. These measurements exclude any coastal subspecies of the Hermit Thrush and identify it as either *C. g. auduboni* or *polionotus*, breeding in the Great Basin/Rocky Mountain region. With its very large breast spots and upperparts paler and grayer than in *guttatus* it conforms with *auduboni* in plumage as well as in size. The subspecies *auduboni* and *polionotus* are very similar; neither Phillips (1962) nor Aldrich (1968) recognized them as distinct, though in 1991 the former reversed his opinion. We have not seen specimens that would allow us to distinguish them.

Our specimens of *slevini* (*sensu lato*, including *jewetti*) differed strikingly in elevation and habitat from those of *guttatus* and *auduboni* (*sensu lato*, including *polionotus*). The four specimens of *slevini* all came from elevations below 1300 meters in tropical deciduous woodland variously dominated by *Tecoma stans*, *Lysiloma divaricata*, *Dodonaea viscosa*, *Jatropha vernicosa*, and *J. argentea*. The five specimens of *guttatus* and *auduboni* all came from elevations above 1600 meters in oak-pine woodland with an understory of *Helianthus similis*, *Lepechinia hastata*, *Mimosa xantii*, and *Calliandra brandegeei*. Both *Catharus g. guttatus* and *slevini* have been reported previously from the Cape region of Baja California Sur, but this difference in elevation and habitat preference has not. The difference in habitat, however, corresponds well to the subspecies' known distributions. *Catharus g. guttatus* winters mainly in woodland and chaparral in Upper California, and the latitude of the Sierra de la Laguna is near the southern extreme of its main winter range (AOU 1957, Phillips 1991), so it should be expected there at higher elevations. *Catharus g. slevini*, on the other hand, winters mainly in northwestern mainland Mexico, extending north only slightly across the international frontier. It occurs at low to moderate elevations in Arizona (Monson and Phillips 1981) and apparently in Sonora and Sinaloa as well, as far as can be inferred from the localities listed by van Rossem (1945) and Miller et al. (1957). At 700 meters, Cumpas is the highest locality listed by van Rossem (1945).

To the extent that elevations can be inferred from the often vague localities on specimens from early collectors, the difference in elevations occupied by the two subspecies is apparent in the previous literature (Grinnell 1928, Miller et al. 1957). Apparently both forms may be found at an elevation of about 1220 meters, the elevation of El Sauce, where C. C. Lamb collected one *slevini* and two *guttatus* in November and December 1928 (specimens in the Museum of Vertebrate Zoology, University of California, Berkeley).

Although the AOU (1957) listed *slevini* as occurring only "casually" in Baja California Sur, that state is clearly part of its normal winter range, as specified by Miller et al. (1957).

Catharus g. auduboni has been reported previously from Baja California Sur only on the basis of six specimens collected in the Sierra de la Laguna by

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M. A. Frazar from 11 May to 8 June 1887 (Brewster 1902) and still in the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts (R. A. Paynter, Jr., pers. comm.). Although Frazar found the Hermit Thrush "not numerous, but . . . seen [and heard singing] almost daily," no subsequent observer has reported Hermit Thrushes in these mountains during the breeding season, and the species has not been confirmed as nesting anywhere in Mexico [summer sightings only in the Sierra San Pedro Mártir, Baja California (Norte); Howell and Webb 1992]. The subspecies *auduboni* and *polionotus* winter mainly in pine-oak forests in mainland Mexico (Phillips 1991), so our specimen from La Laguna was in typical habitat.

SUMMARY

At least two subspecies of the Hermit Thrush winter commonly in the Cape region of Baja California, *Catharus g. slevini/jewetti* at lower elevations (up to at least 1275 meters) in tropical deciduous forest, and *C. g. guttatus* at higher elevations in oak-pine forest (down to at least 1200 meters). On the basis of one specimen, *Catharus g. auduboni* and/or *polionotus* also winters at least rarely in montane oak-pine forest.

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