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SUBSPECIES VS FORGOTTEN SPECIES: THE CASE OF GRAYSON'S ROBIN *(TURDUS GRAYSONI)*

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Anyone reading ornithological books and papers of the past 30–50 years must be confused about subspecies. On one side is the tendency to reduce all possible species to subspecies, as long as they are thought to be allopatric. Biological similarities or differences tend to be ignored, especially because we know so little about them in many tropical species. Once pronounced a subspecies, a bird is promptly forgotten by most ornithologists, field guides, bird watchers, etc.

On the other side, paralleling the anti-evolutionists of 100 years ago, we have the anti-"subspecies concept" drive, denying the reality of subspecies. In the recent summary of avian biology, edited by Farner and King (1971), we read that "many [unnamed] avian systematists are now convinced that the subspecies category is unsatisfactory if not worthless"; while a long chapter on "Geographic Variation" (Farner and King 1971:76–92) mentions none of the classic striking cases, e.g., *Motacilla* spp. wagtails or, in North America, *Otus* spp. owls (Marshall 1967), *Junco* spp., and various other emberizine sparrows, including *Pipilo* spp. towhees (Phillips 1959).

If there is actually a subspecies concept, it is that such very unlike birds interbreed more or less freely to form a single unit, the biological species. In other genera, on the other hand, much subtler differences separate full biological species, as in *Empidonax* spp. flycatchers and *Cisticola* spp. and *Phylloscopus* spp. warblers. In the tropics, there may well be a number of similar cases where our fragmentary data have led to hasty reduction of allopatric, or supposedly allopatric, species to subspecies. Let us examine one such case, that of Grayson's Robin (*Turdus graysoni*) of Nayarit, western México.

Mainland Rufous-backed Robin *(Turdus rufo-palliatus, above)* and Grayson's Robin *(T. graysoni, below)*. Painting by Anne Pulich.

This case is somewhat parallel to that of The Frantzius' (=Ruddy-capped) Nightingale-Thrush (*Catharus frantzii*); both *T. graysoni* and *C. frantzii* were swept into oblivion by Hellmayr (1934). Whereas some authors never accepted Hellmayr's dictum that the differences between *C. frantzii* and the Russet Nightingale-Thrush (*C. occidentalis*) were mere individual variations (see references in Phillips 1969), *Turdus graysoni* disappeared completely except as a subspecies in technical papers (omitted from field guides, as are most subspecies). Consequently, we still lack biological evidence, so ably presented for *Catharus* spp. by Rowley and Orr (1964) and Raitt and Hardy (1970). One present objective is to awaken interest in the biology of the 2 *Turdus*.

In recent years, ornithologists and bird-watching tours have flocked to San Blas, Nayarit, by the hundreds. Any robins seen were perforce listed as Rufous-backed (*T. rufo-palliatus*) or White-throated robins (*T. phaeopygus* of Phillips, unpubl. [=*assimilis*]). If a *T. graysoni* was seen, readers of Blake (1953:423) or perhaps Edwards (1972) might call it a female *T. rufo-palliatus*; others would have to force it into one of the above two forms or into the Clay-colored Robin (*T. grayi*), which does not really occur within hundreds of kilometers of Nayarit. This cost little strain; for now, as Robert O. Paxton (1979), president of the Linnaean Society of New York, wrote in reviewing recent bird books in a popular magazine: "No one 'sees' a bird in totality, feather by feather. One sees parts of it, and the mind fills in the rest by guesswork or (if one knows birds already) by memory." Thus, sightings of robins in coastal Nayarit are as worthless scientifically as are those of the much more similar kingbirds (*Tyrannus*) of the Caribbean slope of México and Guatemala (Traylor 1979).

Grayson's Robin was considered an insular form, limited to the Tres Marías Islands off Nayarit, until Nelson (1899) reported one taken at Santiago Ixcuintla, on the opposite mainland. Hellmayr (1934:356, footnote) questioned this, writing that *graysoni* "is merely a pale, large-billed race of the mainland bird [*rufo-palliatus*]. Certain individuals of the latter in worn breeding plumage closely approach it in coloration, and it is no doubt on such a specimen that Nelson's record of *T. r. graysoni* from Santiago, Nayarit, was based." He gave no measurements.

Clearly, Hellmayr (1934) should have examined Nelson's bird. Not only is it very dull, but it is larger than *rufo-palliatus*; my minimum measurements may be compared in Table 1. While most of these are possible for either form, the tarsus agrees only with *graysoni*, supporting Nelson's (1899) identification. The longer tarsus of *graysoni*, overlooked by Hellmayr (1934), had been carefully explained by Ridgway (1907:106–107), who gave it as 33–35 mm (vs 30.5–34 mm in mainland males, 30.5–32 mm in females). He gave the exposed culmen as 22–23 mm (vs 19–22.5 mm),

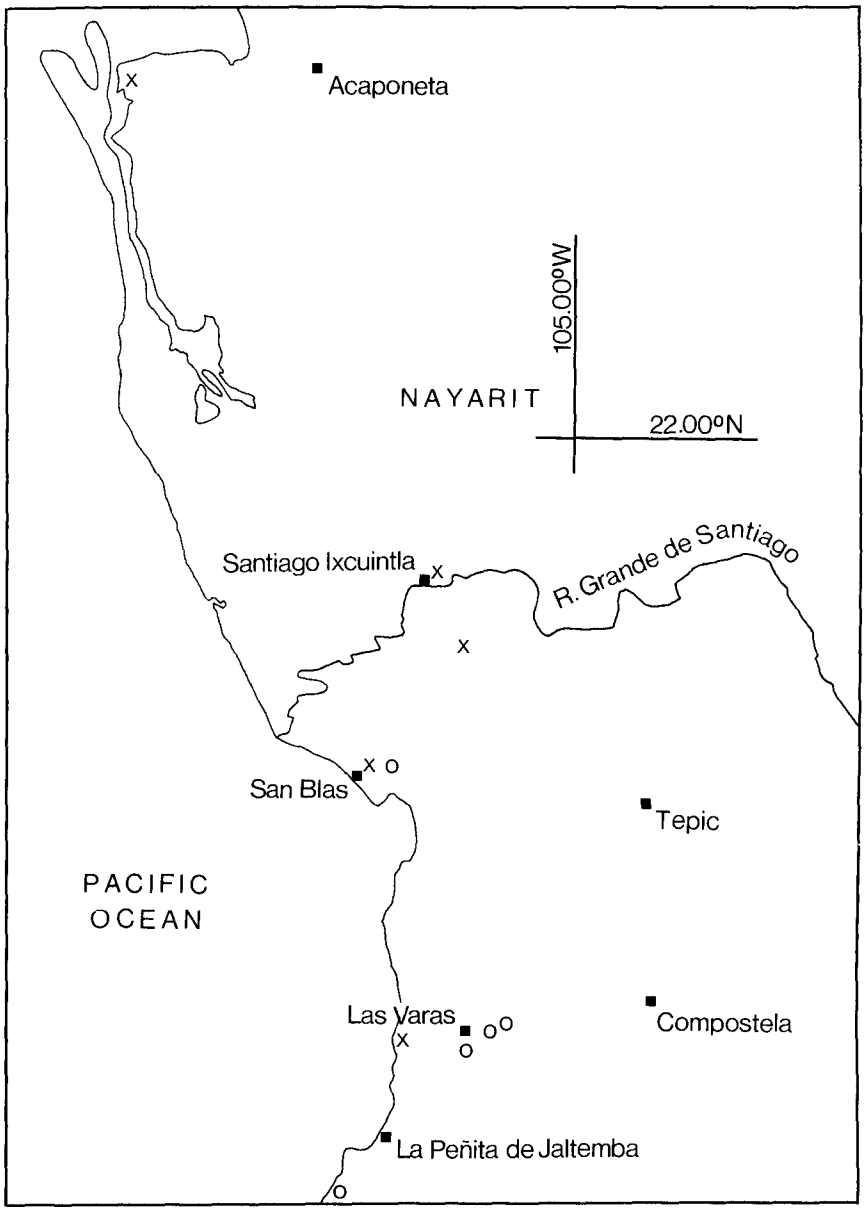

FIG. 1. Records of Grayson's (crosses) and White-throated robins (circles) in the lowlands of western Nayarit. Upland records are not mapped, but upland cities (Tepic, Compostela) are shown for orientation. (Upper limit of mapping records is 500 m elev.) Rufous-backed Robins probably occur throughout the lowlands, and are not mapped.

TABLE 1

MEASUREMENTS OF *TURDUS* SPP., FROM NAYARIT (EXCEPT AS NOTED)

	Wing (chord) (mm)	Tail (mm)	Exposed culmen[a] (mm)	Bill[b] (mm)	Tarsus (mm)
T. graysoni					
Tres Marías Is., ♂♂ (Grant 1965) (N = 20–22)	121.9–132.7 ($\bar{x}$ = 127.17)	95.4–107.9 ($\bar{x}$ = 102.49)	22–23 ($\bar{x}$ = 22.6)	13.3–16.2 ($\bar{x}$ = 15.18)	33.0–36.3 ($\bar{x}$ = 34.8)
Sauta, ♂ (Grant 1965)	123.6	99.6	—	13.9	31.6
Tres Marías Is., ♀♀ (Grant 1965) (N = 34–39)	118.5–131.2 ($\bar{x}$ = 124.97)	84.4–105.7 ($\bar{x}$ = 99.6)	22–22.5 ($\bar{x}$ = 22.3)	14.2–17.4 ($\bar{x}$ = 15.42)	31.9–38.1 ($\bar{x}$ = 34.67)
Novilleros, ♀ (McKitrick)	121	89	25.6	14.9	35.1
Santiago, ♀	119.9[+]	96.7[+]	20.5[+?]	14.4	34[+?]
Chacala and Sauta, ♀♀ (Grant 1965) (N = 3)	118.9–123.4 ($\bar{x}$ = 121.17)	94.9–100.3 ($\bar{x}$ = 97.43)	—	13.8–15.2 ($\bar{x}$ = 14.53)	32.2–34.5 ($\bar{x}$ = 33.17)
San Blas, ♀ (MVZ only)	121, 126[−?]	95, 95	20.5, 21	15.6, 15.8	32.7, 32.8; or 33.9, 34.5
Total mainland, ♀♀ (N = 7)	118.9–123.4, 126[−?] ($\bar{x}$ = 121.4)	89–100.3 ($\bar{x}$ = 95.4)	20.5–21, 25.6	13.8–15.8 ($\bar{x}$ = 14.9)	32.2–35.1 ($\bar{x}$ = 33.4[+?])
T. rufo-palliatus					
Mainland, ♂♂ (Grant 1965) (N = 30–32)	117.3–128.2 ($\bar{x}$ = 123.19)	91.8–105.4 ($\bar{x}$ = 99.29)	19–22.5 ($\bar{x}$ = 20.5)	12.2–14.6 ($\bar{x}$ = 13.26)	29.4–33.8 ($\bar{x}$ = 31.48)
San Blas, ♂♂ (N = 7)	—	—	17.2±–19.2±, 21	12.2–14, 14.8	29.7–32.7, 33.5

TABLE 1
CONTINUED

	Wing (chord) (mm)	Tail (mm)	Exposed culmen[a] (mm)	Bill[b] (mm)	Tarsus (mm)
Guerrero (and SW Oaxaca), ARP[c], ♂♂ (N = 24)	—	—	16.7, 17.5–19.5, 20.3	—	29.7–33, 33.6
Mainland ♀♀ (Grant 1965) (N = 20–22)	115.7–123.4 ($\bar{x}$ = 120.42)	90.4–101.9 ($\bar{x}$ = 95.85)	19–22.5 ($\bar{x}$ = 20.7)	12.5–14.7 ($\bar{x}$ = 13.80)	29.3–33 ($\bar{x}$ = 31.19)
San Blas, ♀♀ (N = 3)	—	—	18.7–19.1	13.5–14.2	30.5–32.2± (or 32.45)
Guerrero (and to SW Oaxaca, Colima), ♀♀ ARP[c] (N = 14)	—	—	17.3–19.5	—	29–31.8, 32.8

[a] Exposed culmen from Ridgway (1907), for first (main) series of each sex; his *rufo-palliatus* not from Nayarit.
[b] From just inside anterior edge of nostril.
[c] All ARP are in author's private collection and were taken from October–January except 2 ♂♂, 1 on 4 March and on 8 July (the longest exposed culmen—worn).

[although, as has sometimes been noted, linear extreme measurements may give but a poor idea of differences in bill size (easily distorted by slight differences in calipers or in techniques; cf. for example, the careful analyses of Knox 1976).] The accompanying plate (frontispiece) of *graysoni* was painted directly from Nelson's specimen, which is worn but not excessively so.

Nevertheless, Hellmayr's (1934) classification has been followed ever since, even by Miller et al. (1957), with Nelson's specimen right before one of the co-authors (Friedmann). Grant (1965) identified 4 other mainland specimens as *graysoni*, also from coastal Nayarit (Sauta and Chacala); but he considered all these to be stragglers of the island subspecies. He reported no intermediates, nor have I identified any.

Grant (1965:33) also cast doubt on Ridgway's (1907) reported differences in dorsal colors, writing that mainland females, on the back, "are indistinguishable from all island birds" and males only "slightly more rufous." But Ridgway (1907:105) seems to me quite correct in calling mainland females "often not distinguishable, but usually [?] very slightly duller in color" than mainland males, which are usually strikingly reddish-backed, quite unlike *graysoni*. There is a certain range of variation in both sexes; I suspect that adult males are more consistently bright (reddish) dorsally than other age/sex classes. Nevertheless, all these overlap greatly, and all *rufo-palliatus* seen by me show at least some cinnamon-rufous or chestnut dorsally. In dull extremes, this may show only on the scapulars.

I have, however, found 4 more *T. graysoni* from the mainland coast (San Blas and west of Acaponeta). That all nine are stragglers from the islands is hardly believable, for they show a definite distribution. The only somewhat parallel case, where the island race has been taken repeatedly on and near the mainland, is in the *Parula* warblers. Here it seems clear that the "Tres Marías form" (*P. americana* [=*pitiayumi*] *insularis*) completely replaces the migratory mainland Tropical Parula (*P. americana* [= *pitiayumi*] *pulchra*) in the breeding season in the coastal mangroves and islands; the 2 races are allopatric in summer. *Turdus*, on the other hand, is not regularly migratory. *T. rufo-palliatus* occurs, and appears to be irregularly common, at most or all of the mainland points where *T. graysoni* has been taken. If it alone were of normal occurrence, it should far outnumber *graysoni* in random collecting. But in fact, along the immediate coast, the difference is not very great (9 *rufo-palliatus* to 6 *graysoni*; Table 2). Furthermore, collecting is not all random; collectors may prefer pretty or distinctive specimens. When I first visited Nayarit, in the 1950's, I wanted chiefly distinctive representatives of the species: either clearly white-throated or definitely reddish birds. If in fact I ever saw any *T. graysoni*, I did not want them, being quite unaware of the problems.

TABLE 2
SPECIMENS OF *TURDUS* EXAMINED FROM LOWLAND NAYARIT[a]

T. phaeopygus (=*assimilis*)	
15 km E, San Blas, 10 Feb. 1956	1 ♀, LSU[b]
8 km E, 6 km S, San Blas, 15 Apr. 1965	1 ♂, UNM
10 km E, Las Varas, 26 Mar. 1941	1, RTM
15 road km E to Las Varas area, 12–17 Nov. 1852, 17 June 1970	1 ♂, 2 ♀♀, ARP, MEXU
Lo de Marcos (S side), 5 Apr. 1955	2 ♂♂, 2 ♀♀, ARP
Total, 12 Nov.–17 Jun.	4 ♂♂, 5 ♀♀ & 1?
T. graysoni	
Novilleros, 4 Feb. 1966	1 ♀ im., ARIZ
Sauta, 12 May 1940, 25 Apr. 1946	1 ♂, 1 ♀, RTM
Santiago Ixcuintla, 20 June 1897	1 ♀, US
San Blas, 20, 25 Mar. 1948	3 ♀♀, MVZ RTM
Chacala, 15–21, Mar. 1941	2 ♀♀, RTM
Total, 4 Feb.–20 June	1 ♂, 8 ♀♀
T. rufo-palliatus	
8 km S of Acaponeta	6, RTM
Sauta, 1–17 May	2 ♂♂, 2 ♀♀, RTM
Santiago Ixcuintla, 1889	1 ♂, BM
San Blas and vicinity, 10–19 Oct., 27 Dec., 4 May (1889, 1925, 1955, 1963)	5 ♂♂, 3 ♀♀, BM, CAS, CM, MVZ
15 km E, San Blas, 8–23 Feb.	3 ♂♂, 1 ♀, LSU
15 km E to Las Varas area,	5, RTM, ARP
11 km W, Mazatán, E Las Varas (lowlands?), 26 Dec.	1 ♀, DEL
Chacala, 9 Mar. 1941	1 ♀, RTM
Total	11 ♂♂, 8 ♀♀ & 11 (+?)

[a] West of Tepic area, excluding extreme south.
[b] See acknowledgments for abbreviations; ARP, author's private collection.

If so many *graysoni* were conspecific stragglers, we should expect an influence of their characters in coastal *rufo-palliatus*. But neither Grant (1965) nor I found clear evidence of this, though a few specimens (Moore Lab. of Zoology) approach *graysoni* slightly in color, being duller than average *rufo-palliatus*. A regular migration from and to the islands is most unlikely; and such a theory is not favored by the date (20 June) of Nelson's Santiago specimen.

Thus, available data point to a mainland coast population of *T. graysoni*, apparently not crossing freely (if at all) with the sympatric *T. rufo-palliatus*. The logical conclusion is that *Turdus graysoni* is a good species. However, additional specimens and biological data should be sought; stud-

ies of breeding pairs would be most valuable, as well as nests, eggs, juveniles, vocalizations, etc.

Once we open our eyes to the problem and abandon our preconceived idea that mainland Grayson's Robins must, perforce, be strays from the islands, it becomes unimportant whether or not they coincide exactly with island birds in color and measurements. Slight divergences between distant, well-isolated populations are only to be expected, unless one or the other has populated its present habitat within the past few centuries. (See Table 1, in which differences in technique of different workers may also be noted.)

I propose, therefore, to recognize 3 species of robins in the coastal lowlands of Nayarit: (1) Grayson's Robin, mostly along the immediate coast and poorly known, occurs inland at least to Sauta and Santiago Ixcuintla, in open country below 500 m elevation; (2) Rufous-backed Robin, widespread but apparently most numerous in woods back from the coast, the most common robin in the lowlands; and (3) White-throated Robin, abundant in the mountains and fairly common (at least formerly) in the tall forests from Compostela west and south in the lowlands, to sea-level, possibly only an irregular visitor (in small numbers?) to the woods near San Blas; recognized by the sharp line of demarcation of the clear white, unmarked lower edge of the throat against the olive-brown to grayish chest.

SUMMARY

Supposed subspecies should not be overlooked; some will later prove to be good species, when properly studied. This appears to be true of *Turdus "rufo-palliatus" graysoni*, which widely overlaps the range of *T. rufo-palliatus* in coastal Nayarit without known hybridization. Apparently 3 species are present, at least seasonally, along the coast. Field studies are badly needed.

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COLOR PLATE

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