

## COMMENTARY

### SUBSPECIES OF THE LEAST TERN IN MEXICO<sup>1</sup>

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Debate about the validity of the subspecies of the Least Tern (*Sterna antillarum*) has been contentious and confusing, and a recent paper by García and Ceballos (1995) describing Least Terns nesting in Jalisco, Mexico, has further confused the issue. Although their article makes a valuable contribution in documenting nesting of the Least Tern in Jalisco (cf. Grant 1964), their taxonomic treatment is misleading. Not only did they extend the known breeding range of *S. a. browni*, the California Least Tern, hundreds of kilometers to the south of its described range (AOU 1957, and below), they called the subspecific status of *S. a. browni* "well-defined," yet called *S. a. mexicana* and *S. a. staebleri*, the only two subspecies known to breed in mainland Mexico, "uncertain" (presumably with regard to taxonomy). We strongly question their taxonomic assignment of the breeding Least Terns in Jalisco, which seems to be based only on their dismissal of *mexicana* and *staebleri* as valid taxa.

Based on known range, the Least Terns breeding in Jalisco are probably referable to *S. a. mexicana* and should be assumed to be such until a formal taxonomic revision is accomplished. Indeed, recent records of summering/breeding Least Terns in Nayarit (L. R. Hays and S. N. G. Howell, pers. comm.) and Colima (S. N. G. Howell, pers. comm.), along with earlier reports from Nayarit (Alden 1969) and Jalisco (Grant 1964), suggest that *mexicana* is distributed coastally from Sonora south through Colima. Without specimen evidence, we strongly question the taxonomic treatment employed by García and Ceballos (1995) as unfortunately conflating the taxonomic status of several heretofore valid subspecies.

The taxonomy of the Least Tern has had a storied history. The Least Tern was formerly considered conspecific with the Little Tern (*S. albifrons*) of the Old World, but analysis of morphology and especially vocalizations (Massey 1976) led to its treatment as a full species by the AOU (1983). Given that Massey analyzed only three taxa in the complex (4-7 species and up to 11 additional subspecies worldwide), we believe that her study was incomplete and that the significance of her results has been exaggerated regarding the dis-

tinctness of Little and Least Terns. To that end, the British Ornithologists' Union is currently evaluating records of the Least Tern in Britain and comparing vocalizations of the west African subspecies of the Little Tern *S. a. guineae* to those of nominate Little Tern and of the Least Tern (Scott and Dickson 1996).

There are five described subspecies of the Least Tern: *athalassos*, *antillarum*, *browni*, *mexicana*, and *staebleri*. A brief synopsis of each follows, ordered by date of description. A summary of Old World forms of *S. albifrons* was presented by Cramp (1985). The character diagnoses we provide are based mainly on the original descriptions of the subspecies. No quantitative data exists that would allow assessment of reliability of these characters or their degree of overlap with other taxa.

*S. a. antillarum* (Lesson). This coastal subspecies was originally described by Lesson (1847). It ranges as a breeder locally along the Atlantic Coast from Massachusetts south through the Caribbean to Venezuela, and westward along the Gulf of Mexico to Texas. It apparently winters coastally from eastern Mexico and Central America south through northern Brazil (Friedmann et al. 1950, Blake 1977). Least Terns recorded from Panama may be of this subspecies, *S. a. athalassos*, or *S. a. browni* (Wetmore 1965), or perhaps *S. a. mexicana* or *S. a. staebleri*.

*S. a. browni* Mearns. This subspecies breeds along the Pacific Coast from central California through Baja California. Wilbur (1987) considered all Least Terns breeding in Baja California to be *browni*, although he provided no reasons or diagnosis; Palacios and Mellink (1996) considered the subspecific identity of terns breeding in the northern Gulf of California to be unclear. The winter range of *browni* is largely unknown, but the AOU (1957) suggested that this subspecies winters from the Gulf of California south to Guatemala, with definite records of banded birds from Colima and Guatemala (Massey 1981). Examples of *browni* are said to differ from nominate birds in being smaller-bodied, with more black on the outer primaries, but are otherwise similar in plumage (Mearns 1916). Neither morphometric nor genetic differences could be found by Burleigh and Lowery (1942), Massey (1976), Thompson et al. (1992), or Olsen and Larsson (1995), leading the first three to question the validity of this subspecies.

*S. a. mexicana* van Rossem and Hachisuka. This subspecies breeds from northern or central Sonora southward along the Pacific Coast of Mexico through at least Sinaloa (van Rossem and Hachisuka 1937, Friedmann et al. 1950), although birds in northwestern Sonora (Mellink and Palacios 1993) and northeastern and southern Baja California may pertain to this subspecies, and not to *S. a. browni* (Palacios and Mellink 1996); further taxonomic work is needed (either more specimens or a thorough reevaluation of existing material). Its winter range is unknown. Palacios and Mellink (1996) suggested that this subspecies be reassessed

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because its description was based on only seven specimens from one locality. This subspecies is said to differ from *S. a. antillarum* primarily in being darker, showing more black on the outer primaries, and having less black on the bill, and it is smaller than *browni* (van Rossem and Hachisuka 1937, Brodkorb 1940).

*S. a. staebleri* Brodkorb. This subspecies breeds on the Pacific coast of Oaxaca and Chiapas (Brodkorb 1940, Binford 1989). Like *browni* and *mexicana*, its winter range is unknown, but this subspecies may account for winter records of Least Terns from Peru, although *browni* may be the most likely if a traditional leapfrog pattern of distribution is shown. *S. a. staebleri* is similar to *mexicana*, but is said to differ in being larger, having less black in the outer primaries, and in showing more black on the bill (Brodkorb 1940).

*S. a. athalassos* Burleigh and Lowery. This subspecies is darker above than birds of the nominate subspecies, but is similar in size and other plumage characters (Burleigh and Lowery 1942). *S. a. athalassos* breeds along major river systems in the eastern Great Plains and Midwest of interior North America (AOU 1957). It winters along the coast from southern Texas south along the Gulf of Mexico (Friedmann et al. 1950, Oberholser 1974). Although Oberholser (1974) attributed this subspecies to Oaxaca, Binford (1989) indicated, aside from examples of *staebleri* showing some intergradation with *mexicana*, that "Oaxaca specimens cannot be identified to race." Monroe (1968) considered *athalassos* to be a synonym of *antillarum*, and suggested that *staebleri*, *mexicana*, or *browni* accounted for the single Honduran specimen record. As with *browni*, Thompson et al. (1992) could not find consistent morphological or genetic evidence distinguishing *athalassos* from *antillarum*, but Cardiff and Remsen (1994) noted that their methodology was flawed in that they failed to consider age, seasonal plumage wear, and seasonal movements of the taxa under study.

As noted by Friedmann et al. (1950) and Thompson et al. (1992), the subspecific taxonomy of the Least Tern is confused, and given the extreme difficulty in assigning winter specimens to a described subspecies, delineation of winter ranges will likely remain a mystery without continued banding efforts. Breeding ranges have been described for the five subspecies, although there is some contention about the southern limits of *browni* and the northern limits of *mexicana*; likewise, the southern limits of *mexicana* and the northern limits of *staebleri* are not known. Nevertheless, in spite of the uncertainty about exact breeding distribution, to our knowledge no authors have provided data to question the validity of either *mexicana* or *staebleri* (cf. Thompson et al. 1992, Palacios and Mellink 1996). Indeed, if anything it is *S. a. browni* that has fallen under the most severe taxonomic criticism (Willett 1933, Burleigh and Lowery 1942, Massey 1976, Thompson et al. 1992).

Lapses in the treatment of subspecific taxonomy are, unfortunately, not uncommon. Witness the State of California's listing of "*Colaptes auratus chrysoides*" as endangered (see Thelander 1994); *C. a. [=chrysoides] mearnsi* is actually the Gilded Flicker known from California, as nominate *chrysoides* is endemic to southern Baja California. Other recent examples include Veit

and Petersen's (1993) and Small's (1994) misuse of trinomial for several species (Marantz 1995, Patten 1995), Lehman's (1994) misuse of *Junco hyemalis oregonus* as the only subspecies of the Oregon Junco in Santa Barbara County, California (rather than up to three additional subspecies that occur there), and the failure of Carey et al. (1994) to understand subspecific taxonomy in the Field Sparrow (*Spizella pusilla*) when they stated that there are "No currently recognized subspecies (AOU 1983)." We acknowledge that many species and species groups are in need of modern taxonomic analyses, and the small terns discussed herein are an excellent example. Nevertheless, we implore authors and editors to exhibit a renewed collective rigor in adhering to existing norms of taxonomy and nomenclature in their work, unless they can demonstrate solid reasons to do otherwise.

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