NOTES

FIRST EVIDENCE SUGGESTING HYBRIDIZATION BETWEEN THE SUMMER TANAGER AND WESTERN TANAGER

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There are very few reported cases of hybridization among the four species of *Piranga* commonly found in North America north of Mexico, the Hepatic Tanager (*Piranga flava*), Summer Tanager (*P. rubra*), Scarlet Tanager (*P. olivacea*), and Western Tanager (*P. ludoviciana*). McCormick (1893) reported a bird presumed to be a hybrid between the Scarlet and Summer tanagers. Subsequently, Tordoff (1950) and Mengel (1963) described birds hypothesized to be products of hybridization between the Scarlet and Western tanagers. The one hybrid of *Piranga* regularly occurring in the United States is the Western Tanager × Flame-colored Tanager (*P. bidentata*) (Morse and Monson 1985, Rosenberg and Jones 2001, Williams 2007, Retter 2008, S. O. Williams pers. comm.). This hybridization is not unexpected, as the Flame-colored Tanager is at the extreme northern edge of its range in the United States (Arizona) and the two species are each other's closest relatives (Burns 1998). Rosenberg and Jones (2001) suggested that, in Arizona, these hybrids may be more frequent than pure Flame-colored Tanagers, particularly in the Huachuca Mountains (G. Rosenberg pers. comm.). There are no published reports of hybridization between the Summer and Western tanagers, in spite of large areas of the southwestern United States in which both the Western Tanager and the western subspecies (*cooperi*) of the Summer Tanager occur.

During the first week of May 2006 P. and L. Risser observed an adult male Summer Tanager on their property near Colfax, Placer County, California (39° 04′ N, 120° 55′ W; elevation 790 m), representing only the second record of the species for Placer County. This location is well outside the normal range of this species, the nearest area where Summer Tanagers regularly breed being over 400 km southeast of Colfax in the Kern River Valley in northern Kern County. The local habitat is low-density rural residential with mixed conifer and oak (*Quercus* spp.) woodland. This Summer Tanager mainly frequented an area of open pine (*Pinus* spp.)/oak woodland dominated by ponderosa pine (*Pinus ponderosa*) and black oak (*Quercus kelloggii*) interspersed with areas of chaparral and burned snags left over from a recent fire. The bird remained until late July and sang frequently during its stay. Many observers saw this bird, and many photographs were taken. On 5 May 2007 the (presumably) same bird returned to this site. On 4 June 2007 P. Risser observed the Summer Tanager feeding a female Western Tanager sitting on a nest in a ponderosa pine, approximately 8 m above ground and 2 m from the trunk. Over the next few days P. and L. Risser and other observers saw the Summer Tanager feed the female Western Tanager on the nest at least ten times. During the first week of July 2007, P. and L. Risser saw the Summer Tanager feeding the two, possibly three, nestlings. Both the Summer Tanager and the female Western Tanager fed these nestlings regularly over next two weeks.

During the third week of July, P. and L. Risser first observed two fledglings within 12 m of the nest. The fledglings were difficult to see, and observers were unable to obtain useful photographs. The fledglings were generally dull yellowish with noticeably darker wings, lacking evident whitish wingbars. However, the nature of the observa-

tions made it difficult to conclude with certainty whether wingbars were absent or not. These observations (at least four) were generally from more than 15 m away, and thick foliage often obscured the views and kept the fledglings largely in shadow. Both the adult Western and Summer tanagers brought food to the fledglings on at least 15 occasions. A fledgling pursued the Summer Tanager on 22 July and was fed. The fledglings were last observed in late July, and the Summer Tanager remained in the area until 16 September. The Summer Tanager returned for the third consecutive year on 6 May 2008. It sang frequently and remained until 13 July. There was no evidence of its attempting to breed during 2008. On 21 May 2009 the Summer Tanager returned for a fourth year and on 14 June was again seen feeding a female Western Tanager on a nest. P. and L. Risser observed the female being fed on the nest numerous times over the next week. On 23 June both birds appeared to be feeding nestlings as they flew to the nest and leaned in (photos taken), but nestlings were neither seen nor heard. We made plans to obtain blood samples once the presence of nestlings was confirmed. After 25 June neither bird visited the nest, and subsequently P. and L. Risser inspected the nest and found no signs of nestlings. The Summer Tanager returned for the fifth consecutive year on 4 May 2010.

We conclude that these observations constitute evidence of probable hybridization between these two species. In the absence of photographs or specimens we cannot rule out the possibility that the young observed were the offspring of a male Western Tanager. The apparent lack of visible wingbars on the young birds suggests that they were hybrids, as this feature should be obvious on fledgling Western Tanagers (Pyle 1997). However, the observations were insufficient to confirm this conclusion absolutely. Although Western Tanagers breed in the general vicinity of this location, observers never noted a male Western Tanager near the female or the young. However, it is possible that a Western Tanager fathered these birds and either abandoned the female or died. It is also possible that the male Summer and female Western Tanager were paired but the young were the result of an extra-pair copulation with a male Western Tanager. There are no confirmed reports of extra-pair copulation in the Western Tanager, but male Western Tanagers often follow females early in the breeding season, seemingly guarding them from extra-pair opportunities (Hudon 1999).

Given the large areas of general sympatry between Western and Summer tanagers, there should be ample opportunity for hybridization. Within the Summer Tanager's range in the southwestern U.S., significant numbers of Western Tanagers migrate in late April and May through riparian areas where Summer Tanagers of the subspecies *cooperi* are simultaneously present and singing on territory (B. Barnes pers. comm.). The species' different habitat preferences during the breeding season may limit the opportunities for hybridization. While the western-breeding subspecies *cooperi* of the Summer Tanager prefers deciduous riparian habitats at lower elevations for breeding (Robinson 1996), the Western Tanager uses mainly higher-elevation mixed conifer habitats (Hudon 1999). Differences between these two species in songs and calls may also provide an effective barrier to hybridization. The calls of the Western and Flame-colored tanagers are similar, and their songs are practically indistinguishable (G. Rosenberg pers. comm.), while the songs and calls of the Western and Summer tanagers are very different (Shy 1984, Shy 1985, Robinson 1996, Hudon 1999) . Thus the degree of difference in vocalizations between these species pairs is consistent with the observed high frequency of hybridization between the first pair of species and the lack of prior evidence of hybridization between the second. The combination of different preferences in breeding habitat and elevation, plus differences in songs and calls, may explain the lack of hybridization between Summer and Western tanagers, despite their sympatry.

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