APPARENT BREEDING BY ANNA'S HUMMINGBIRD IN IDAHO

CARL RUDEEN, 1125 N. 9th E. Mountain Home, Idaho 83647; sagegrouse21@gmail.com

FRED BASSETT, 1520 Katrina Place, Montgomery, Alabama 36117; fhound@aol.com

Before the 1960s, Anna's Hummingbird (*Calypte anna*) nested only in California and northwestern Baja California (Clark and Russell 2012). Today, the species has expanded its breeding range dramatically north into Oregon, Washington, and Vancouver Island, British Columbia, as well as eastward into southern Arizona, with one instance of breeding recorded in west Texas (Williams 1976). Clark and Russell (2012) attributed the range expansion over the last 80 years to adaptation to human habitation, specifically to gardens and the "widespread use of feeders." The breeding range now appears to be expanding eastward into Idaho, as evidenced by Bassett's documentation of gravid Anna's Hummingbirds there.

The species' reproduction cycle does not parallel the timing typical of other North American hummingbirds. Male Anna's Hummingbirds select breeding territories in November and December, when the winter rains arrive in the chaparral of California, and maintain them through April (Grinnell and Miller 1944). Most females lay eggs between December and May (Clark and Russell 2012). Birds depart the chaparral in June, but their migration is not latitudinal, to the subtropics, like that of most other North American hummingbird species. Rather, the direction of Anna's dispersal from breeding areas seems random. It can be elevational and is often to the southeast, but may be in any compass direction, with the birds moving from a few to several hundred miles (Grinnell and Miller 1944, Zimmerman 1973). Only a fraction of the population undertakes a post-breeding migration. Robertson (1933) hypothesized that dispersing individuals are seeking available forage.

Since 1976 increasing numbers of Anna's Hummingbird have been confirmed in Idaho in winter (October–February; www.idahobirds.net/ibrc/ibrc.html). Since 2011 the Idaho Bird Records Committee has discontinued compiling winter records and archives only summer records of the species. From October 2015 to February 2016 the Intermountain Bird Observatory recorded over 50 instances of Anna's wintering in Idaho (Heidi Ware pers. comm., 2016). Since Anna's breed in winter in California, "wintering" can be a challenging concept. Winter reports in Idaho have ranged from a single observation to multiple observations of banded birds with no signs of breeding.

Prior to 2015 Idaho observations of the species from February to May were few. The first summer report was in 1985, but observations were isolated and inconsistent until 2014 (www.eBird.org; www.idahobirds.net/ibrc/ibrc.html). There were no Idaho nesting reports before 2015. Until then all Anna's Hummingbirds in Idaho were thought to be post-breeding dispersers or wintering birds. On 16 August 2014, however, at a home 2 km south of Featherville, Elmore Co., Rudeen banded two juvenile females with the extensive bill corrugations of recent fledglings. It is likely that these two juveniles had fledged nearby, but local breeding could not be proved. On 13 August 2015 Rudeen banded another juvenile, this time a male, at the same location. Elsewhere, Francine Rudeen banded a juvenile female 15 km southeast of American Falls, Power Co., on 7 August 2015.

Although Anna's Hummingbirds typically breed from December to May, nests as late as July have been reported in the northern part of the range (Clark and Russell 2012). The strongest evidence of breeding in Idaho is Bassett's capture on 29 May 2015 of an adult female (Figure 1) 11.2 km north of Council, Adams



Figure 1. Adult female Anna's Hummingbird captured 11.2 km north of Council, Adams Co., Idaho, 29 May 2015.

Photo by Fred Bassett



Figure 2. Abdomen of same Anna's Hummingbird as in Figure 1, showing egg ready to be laid visible through abdominal skin.

Photo by Fred Bassett



Figure 3. Head of apparent hybrid Anna's \times Calliope Hummingbird captured 11.2 km north of Council, Adams Co., Idaho, 30 May 2016.

Photo by Fred Bassett



Figure 4. Tail of same bird as in Figure 3, showing rufous edges of the central and next-to-central rectrices typical of the Calliope Hummingbird but absent in Anna's.

Photo by Fred Bassett

Co., at a residence at 1959 m elevation in open mountain meadows with stands of Douglas Fir (*Pseudotsuga menziesii*) and Ponderosa Pine (*Pinus ponderosa*). The homeowners were maintaining 12 hummingbird feeders and feeding numbers of Calliope Hummingbirds (*Selasphorus calliope*) as well as a few Black-chinned Hummingbirds (*Archilochus alexandri*) and Rufous Hummingbirds (*S. rufus*). The Anna's Hummingbird was identified, aged, and sexed by the criteria of Pyle (1997) and Ortiz-Crespo (1972), and banded with a numbered aluminum band issued by the U.S. Bird Banding Laboratory. Because female Anna's Hummingbirds do not have brood patches (Clark and Russell 2012), banders use a straw to blow back the feathers on the abdomen to check for the presence of an egg, which can be seen through the skin. Examination of the abdomen revealed that the bird was gravid (Figure 2). The cloaca was slightly enlarged, but the legs did not appear swollen. The bird's mass was 4.8 grams.

The following year, on 29 May 2016, Bassett recaptured the same female at the same location. The bird had a wrinkled belly and an extended cloaca indicating recent laying. Early formation of a second egg was visible. At this time the bird's mass was 5.1 grams.

Bassett made no attempt to find a nest in either 2015 or 2016 because of the large numbers of hummingbirds present and because female hummingbirds make frequent forays away from their nest sites to feed (Pitelka 1942), so we do not know if nesting was successful. It is possible that the eggs were unfertilized or, as we suspect, that the female might have mated with a male of one of the other species nearby (see Banks and Johnson 1961).

The morning after the second capture of the female Anna's in 2016, Bassett captured a probable adult male Anna's × Calliope hybrid (Figure 3). Its parentage was not verified by molecular study, but its intermediate combinations of colors and morphology pointed to mixed parentage (see Banks and Johnson 1961). The gorget color was closer to that of a Calliope than to that of an Anna's. The gorget extended to the crown as in Anna's but had the lateral elongation, sometimes referred to as a "fu manchu," typical of a Calliope. Rectrices 1 and 2 showed russet margins along the base as found in the Calliope but not in Anna's (Figure 4). Table 1 compares this bird's measurements with those of male Anna's and male Calliope hummingbirds. It seems reasonable to suggest that the Anna's × Calliope hybrid was not an unrelated coincidence but rather the offspring of the female Anna's banded in 2015.

The apparent colonization of Idaho by Anna's Hummingbird seems to follow the pattern outlined by Zimmerman (1973) in Arizona. Bassett's observations appear to represent the forefront of the establishment of Idaho breeding and hybridization in the absence of a conspecific mate. Given the mounting direct and anecdotal evidence, additional documentation of Idaho breeding can be expected in the next few years.

Table 1	Measurements	of Male	Calliope	and An	na's H	ummingbira	ls and
a Probable	2 Hybrid ^a						

	Calliope	Anna's	Hybrid
Wing chord Tail	37.2–41.3 mm 19.6–22.1 mm	46.2–51.3 mm 29.1–33.9 mm	43.8 mm 26.5 mm
Culmen	12.8–15.7 mm	15.3–19.5 mm	17.4 mm
Mass	2.2-3.3 g	3.0 - 0.3 g	5.5 g

^aSources: Pyle (1997), Russell and Monson (1998), Rudeen unpubl. data.

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