

2003

Hummingbird Research Group Conference, July 2003 Kern River Preserve Kern County, California

North American Bird Bander

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With pride, pleasure, and no small amount of relief, we announce the arrival of WBBA's new web page. Our new website contains much of interest to WBBA members and, thanks to web designer Lisa Thompson, it is also attractive and fast-loading. On many pages you will find photos contributed by WBBA people you know, and there is a whole separate photo gallery to showcase the banding accomplishments of WBBA members. And here are other topics.

If you find a banded bird: link to the BBL
Contact Us

Contact info for officers / board members

Membership

Description of membership categories

Map of WBBA area

Distribution of WBBA members

Application form

Link to PayPal – to pay dues online

Meetings

Report on the most recent meeting

Minutes of the most recent board meeting

Announcement of next meeting

Listing of dates and locations of all previous
WBBA meetings

Hosting a meeting: suggestions

Banding Opportunities

Contact information for WBBA banders
willing to host visiting banders

North American Bird Bander

Sample cover

List of recent articles

Suggestions for authors

Grants

Annual Banding Report

History

By-laws

Photo Gallery: Pictures taken by WBBA members

Guest Book

If you have suggestions or corrections, please
advise Ken Burton or Kay Loughman.

Many thanks to Jim Steele who developed, hosted,
and maintained WBBA's first entry to the World
Wide Web. Jim, see what you started!



**HUMMINGBIRD RESEARCH
GROUP CONFERENCE, JULY 2003
KERN RIVER PRESERVE
KERN COUNTY, CALIFORNIA**

ABSTRACTS OF PAPERS

Range expansion of the sedentary form of Allen's Hummingbird (*Selasphorus sasin*) and methods for distinguishing it from other forms of Rufous/Allen's in the field. Donald E. Mitchell, Research Fellow, Dep. Fish., Wildl., & Conserv. Biol., 200 Hodson Hall, 1980 Folwell Ave., Univ. of Minn., St. Paul, MN 55108; mitc0167@umn.edu

The non-migratory form of Allen's Hummingbird (*Selasphorus sasin sedentarius*) is resident on a number of the California Channel Islands, as well as the Palos Verdes Peninsula of mainland Los Angeles County. Since its arrival on the mainland, it has expanded its breeding range rapidly, apparently as far south as San Diego County, and as far north as Ventura County. It is likely that its breeding range now overlaps the southernmost breeding range of the migratory form of Allen's Hummingbird (*Selasphorus sasin sasin*). Contact of the breeding ranges of these two previously allopatric taxa has interesting implications. One difficulty in studying this phenomenon, however, is the difficulty in distinguishing the two forms from each other in the field. Howell (2001) suggested that flank color may prove to be a reliable way to distinguish female and immature *S. s. sedentarius* (mottled green flanks) from both *S. s. sasin* and Rufous Hummingbird, *S. rufus* (rufous with little or no green). Preliminary results of a study of *S. s. sedentarius* captured on the Palos Verdes

Peninsula and Santa Catalina Island indicate that flank color offers a reliable method for separating only female (adult and immature) *S. s. sedentarius* from females of the other forms in the field. The few immature male *S. s. sedentarius* examined to date do not have the mottled green flank color typical of female *S. s. sedentarius*.

Rectrix 5 differences between females and hatch-year males in Costa's (*Calypte costae*) and Anna's hummingbirds (*Calypte anna*). Barbara A. Carlson, Motte Rimrock Reserve, Univ. Calif.-Riverside, P. O. Box 55419, Riverside, CA 92517; bacrcy@pe.net

Differences between Costa's (COHU) and Anna's hummingbirds' (ANHU) rectrix 5 (R5) have been confusing, based on the literature published to date. Baltosser indicated COHU R5 pattern could be used for ANHU, Wells, Baptista, & Horblit stated pattern for ANHU could be used for COHU. Pyle figure 103 on page 141 (1997 ed), is misleading, Williamson shows only a strong pattern for females and hatch-year (HY) males (probably due to limitations by publishers), and Howell uses Pyle's figure.

During a five-year study using constant-effort banding conducted on southward migration of hummingbirds in southern California, years 1998-2002 at three sites, data were collected on rectrix 5 patterns in Costa's and Anna's hummingbirds. Rectrix 5 patterns were recorded on HY males and HY females when first banded and sex was determined based on R5 pattern. The patterns are described by how the black goes into the white tip. Chevron patterns have the black on the web going up into the white, meeting at the rachis and thus forming a "chevron" pattern. Non-chevron patterns *do not* have the black on web going upward to rachis. The terms 'weak,' 'strong,' 'short,' and 'long' describe the rachis color going into the white tip. Patterns were designated as follows: 0=no black into white, 1=weak chevron, 2=strong chevron, 3=weak short non-chevron, 4=strong short non-chevron, 5=weak long chevron, and 6=strong long non-chevron. Data were collected from subsequent recaptures in following years where sex by plumage is definitive. The data show

that pattern no black into white (0) is female for both ANHU and COHU. The chevron patterns (1 and 2) are male in both ANHU and COHU. However, the non-chevron patterns 3 through 6 operate differently in ANHU and COHU. In ANHU, patterns 3 through 6 are female. On the other hand, in COHU, patterns 3 through 6 are male.

Comparing hummingbird diversity, abundance and productivity in Aravaipa Canyon, a mature riparian forest with the surrounding mesquite grasslands. Susan M. Wethington, Arizona-Sonora Desert Museum, P.O. Box 1125, Patagonia, AZ. 85624; swething@dakotacom.net

In 2002, Barbara Carlson, George West, and I began a hummingbird monitoring project with the following goals: to determine the best long-term monitoring sites for hummingbirds in southwestern USA, to learn how to sample their population size effectively, and to use the resulting information to preserve and protect hummingbirds. To accomplish these goals, we use geographic factors and vegetation types to locate potential sites. Bird banding is used to quantify populations, and patterns of diversity, levels of breeding activity and stopover use during migration are used to evaluate their monitoring value. We compared the effect of vegetation type on hummingbird populations at Aravaipa Canyon, a mature riparian forest with a site in the surrounding mesquite grasslands. Five feeders were maintained at each site, which are about five miles apart. No other feeders were within two miles of either site and few flowers bloomed due to the drought. We banded hummingbirds once every two weeks from May through September. Eight species occurred at both sites and there was no significant difference in abundance per banding day between the sites. However, the number of species per banding day differed significantly with an average of 3.9 ± 1.1 SD species at Aravaipa and 2.6 ± 1.3 SD in the mesquite grasslands. Four species bred at Aravaipa but only one in the mesquite grasslands. Because we banded a gravid female, we extended our knowledge of the breeding range of the Violet-crowned Hummingbird northward to Aravaipa. We also banded an individual, which looked like a hybrid between Black-chinned and Broad-billed

hummingbirds. These data suggest that the northern range edge for both Violet-crowned and Broad-billed Hummingbirds is likely near Aravaipa Canyon and that Aravaipa Canyon should be considered for long-term monitoring.

Hummingbird conservation: discovering diversity patterns in the southwest USA.

Susan M. Wethington, Arizona-Sonora Desert Museum, Tucson, AZ.; *Barbara A. Carlson*, Nature Reserve System, Univ. Calif.-Riverside CA, *George C. West*, Institute of Arctic Biology, Univ. Alaska-Fairbanks, Fairbanks, AK.

In 2002, we began a hummingbird research project with the following goals: to determine the best long-term monitoring sites for hummingbirds in southwestern USA, to learn how to sample their population sizes effectively, and to use the resulting information to assist in their preservation and protection. To accomplish these goals, we use geographic factors (elevation, latitude, and longitude) and vegetation types to initially locate potential monitoring sites. Bird banding techniques are used to quantify the populations. Patterns of diversity, levels of breeding activity and stopover use during migration are used to evaluate the monitoring value of each site. The American Southwest is the ideal location for research focusing on hummingbird conservation since this is the area of highest diversity in North America. In 2002, our first year of the project, we had nine study sites in Arizona and two in California. Fourteen species and over 6000 individuals were banded. We extended longevity records for two species, Broad-billed and Magnificent hummingbirds, to over nine years and extended our knowledge of the northern limit of the breeding range of a rare species, Violet-crowned Hummingbird. The migrant Rufous Hummingbird arrived at all the study sites at approximately the same time but they were significantly more abundant at the mid- and high-elevation sites. The percentage of adults versus juveniles varied significantly among sites. Abundance patterns differed for Black-chinned and Anna's hummingbirds among the sky islands of Arizona suggesting definition of range and migration corridor boundaries. Additionally, species richness patterns among the Arizona sky

islands were consistent with general species diversity patterns with respect to elevation and latitude.

Hummingbird feeder number effect on wintering species. *Brent Ortego*, 202 Camino Drive, Victoria, TX 77905; brent.ortego@tpwd.state.tx.us

Hummingbird density and diversity were studied in relation to the number of feeders available for eight winters (1 Nov to 28 Feb) for the years 1995 thru 2003. The study area was a rural subdivision consisting of about 50 two-ac lots bordering a creek about 30 mi inland from the central Texas Coast of the Gulf of Mexico. Hummingbirds were captured by traps or nets, banded and released as they were observed from 1995 thru 1999, and by bi-weekly mist netting in subsequent winters.

Twelve 8-oz feeders were initially offered at 5-10 yard intervals scattered in shrubbery to hummingbirds in the vicinity of a home in a typical landscaped yard that was surrounded by 12 ac of vacant lots for four winters from 1995-1999. These feeders were used by an average of 14 individuals of four species. Feeders were dispersed in the same manner in subsequent years and the size of area with feeders expanded with the number of feeders and the expanded area included a vacant lot of dense shrubs and vines. During the winter of 1999-2000, 30 3-oz feeders were offered to hummingbirds and 29 individuals of five species used those feeders. Fifty 8-oz feeders were offered at the same location and were used by 62 individuals of seven species during the winter of 2000-2001. Finally, during the two winters from 2001-2003, 70 8-oz feeders were offered. An average of 97 hummingbirds from seven species used the feeders.

A total of 144 Buff-bellied Hummingbird winters (sum of total individuals for a species, for each of eight winters) and 84 recaptures (total number of individuals recaptured from previous seasons, summed each winter) were recorded. Rufous Hummingbird was the second in abundance with 121 winters and 18 recaptures, and Black-chinned Hummingbird had 32 winters and 10 recaptures. Ruby-throated Hummingbird was mostly a late

migrant with a few individuals lingering to December and none known to have survived the winter with 18 being captured during the study. Broad-tailed and Anna's hummingbirds were sporadic in occurrence, with 17 and six individuals banded, respectively. The Allen's and Calliope hummingbirds did not start using the study site with regularity until 2000. Recorded were 11 Allen's winters with one recapture, and seven Calliope winters with no recaptures.

There is an obvious relationship between number of feeders and the number of hummingbirds wintering in the study area. Uncontrollable variables that may have influenced numbers of hummingbirds captured, included feeders maintained outside the study area by others, survival and return rates, and range expansion of the Buff-bellied Hummingbird. There was a progressive increase in birds just from survivors returning, but newcomers also increased in proportion to larger number of feeders. The last variable was a range expansion of the Buff-bellied Hummingbird during the eight-year study. The species averaged only two over-wintering prior to 1999, increased to a high of 51 during 2002-2003.

HUMMINGBIRD BANDING SUMMARY

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Thirteen banders and their subpermittees banded 687 hummingbirds at the 2003 NABC certification session and 5th biennial Hummingbird Banders Conference held at Kern River Preserve in Kern County, California, from 27 Jul - 3 Aug.

The Saturday conference banding session involved a group research project organized by Don Mitchell in which banders compared age and sex composition of *Selasphorus* hummingbirds mist netted at wild *Penstemon* patches (three sites) at the summit of the nearby Greenhorn Mountains with that of hummingbirds captured in "Russell Traps" surrounding established feeding stations (three sites) set up in nearby areas away from flower sites. Formal results of this study will be presented at a later

time (D. Mitchell, pers. comm.), but the 271 hummingbirds banded during this session are included in this conference summary.

In addition to individual birds banded, participants also reported capturing 90 hummingbirds already wearing bands; 82 of these encounters were banded originally during the conference period, including two same-day recaptures which traveled between mountain banding sites on the morning of the Greenhorn Mountain study. When unresolved discrepancies in reported age/sex occurred between the initial and recapturing banders' reports, the details provided by the initial bander were used arbitrarily in this compilation. Many banders lack experience with Allen's Hummingbird, which may explain the discrepancies between hatch year (HY) males and females reported for that species. It is conceivable that some HY-F Allen's were unrecognized as such and instead were recorded as HY-F Rufous. This would still result in a further sex-bias with HY Rufous, which already showed slight skewing towards male in this age group. Regardless, the resulting 1:10 ratio of Allen's to Rufous is slightly better than expected based on past banding at that site (D. Mitchell and B. Barnes, pers. comm.).

Don Mitchell has banded hummingbirds in and around the Kern River Preserve for three summers; eight recaptured birds originally banded by Mitchell prior to the conference are as follows:

ANHU banded 7/23/00 as AHY-M
ANHU banded 6/10/02 as AHY-F
ANHU banded 8/06/00 as HY-M
ANHU banded 8/03/00 as HY-F
BCHU (3) banded 6/29/00 as AHY-F
BCHU banded 8/04/02 as HY-M

Hummingbird Banding Summary

	ahy-m	ahy-f	hy-m	hy-f	unkm	TOTAL
Anna's	30	27	55	36	14	162
Costa's	0	1	2	0	0	3
Black-chinned	29	31	20	19	0	99
Calliope	0	1	15	4	0	20
Allen's	1	2	32	2	0	37
Rufous	4	55	160	147	0	366