COYOTE CREEK RIPARIAN STATION

RiparianNews

Newsletter of the Coyote Creek Riparian Station

P.O. BOX 2019 ALVISO, CA 95002 (408)262-9204

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SWAINSON'S THRUSHES GET A HEAD START

by W. B. Quay

In the July 1987 number of RiparianNews, Dick Mewaldt gave an account of the wealth of information obtained about Swainson's Thrushes during the 1987 spring season at CCRS. The present report is about yet another feature of these birds that was revealed during the same season. This feature depends upon the taking of cloacal lavages from the birds during the measuring and banding process (Quay 1984, Lincoln 1987). Thirty-six of the Swainson's Thrushes (including captures and a few recaptures) processed at CCRS this spring were also lavaged, mostly by Dr. Max Lincoln, and a few by me.

The sperm (spermatozoa) of thrushes are very distinctive, but there is relatively little difference between species of thrushes in the morphology of their sperm. Figure 1 shows a typical example, which I photographed using my phase contrast microscope and a cloacal lavage that I made at Long Point Bird Observatory on May 20, 1985. The bright and shining sperm head is thicker and corkscrew-like, in contrast to the thin tapering sperm tail.

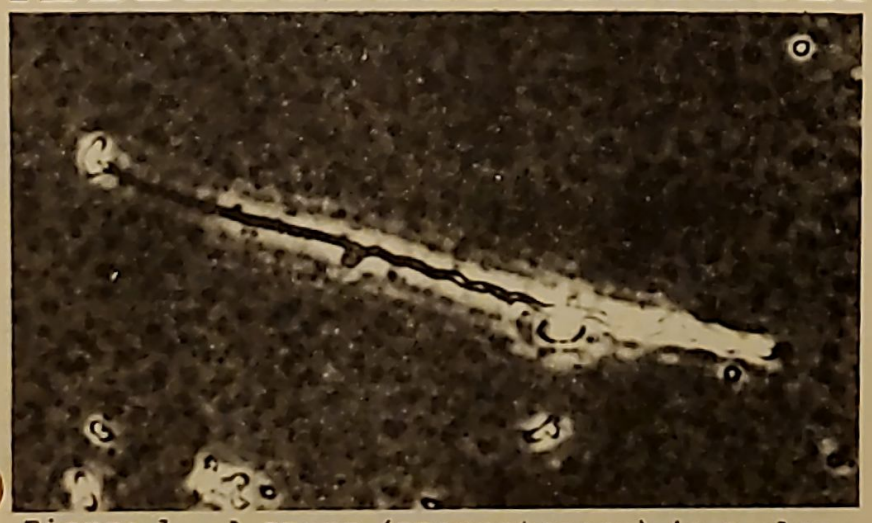

Figure 1. A sperm (spermatozoan) in a cloacal lavage from an SY male Swainson's Thrush, as seen with the aid of phase contrast microscopy.

In my previous lavaging of spring migrant Swainson's Thrushes in Texas, Missouri and Ontario, I discovered that some males, including some first nuptial (= SY) males, were releasing sperm into the cloaca when they were as yet far south of the southern limits of the breeding range of the species (Quay 1986b). The functional importance of this remains unknown. Does this early or precocious timing of sperm release confer any advantage to these males in successful matings? Or does this reflect some kind of sexual maturational phenomenon in the younger males? Perhaps the early start of sperm release is a physiological "excercise run" without significance directly in mating; or perhaps it reveals an as yet only coarsely tuned physiological "clock" for the timing of mating ability in these younger birds.

One way to try to obtain answers to these questions is to compare what occurrs in different populations of the same species. It is conceivable that the early sperm release noted in the midcontinental Swainson's Thrushes is related to the greater climatic extremes, longer migration routes, or other circumstances under which these populations live, and for which they may have become adapted. In comparison, well oriented spring Swainson's Thrushes migrating north along our California coastal vicinity may have an easier time of it, in relation to climatic variables, and distances to be traveled to the breeding-nesting grounds.

Therefore, it was exciting to discover that two of the thirty-six Swainson's Thrushes lavaged at CCRS this spring were releasing large numbers of cloacal sperm, and that both were first nuptial (SY) birds. One of these birds had progressed to "sperm release phase

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II" with sperm balls (Quay 1986a), and thus, probably had the physiological capacity for inseminating females. It is interesting also that this was a multicapture bird at CCRS this spring - in no apparent hurry to get to its breeding-nesting area. CCRS and environs lacks the kind of woodland habitat suitable for nesting Swainson's Thrushes. However, suitable habitat and known nesting of Swainson's Thrushes occurrs in Marin County and northward. This seemingly leisurely bird was first captured and banded at CCRS on May 19, 1987; then it was captured and studied again May 20, 21, 22, 29, and for the last time June 1. The body weight of this bird increased only a little (from 29.8 to 30.0 g) during this 13-day period, and was a little above the peak in the frequency curve of body weights in Swainson's Thrushes at CCRS during spring 1987 (Mewaldt 1987, p.4, Fig. 3). It would be interesting to know how much farther north this bird was destined to go before reaching its breeding territory, - Marin County, Oregon, Washington, western Canada or Alaska? Future recoveries of banded birds, and comparative studies of different populations of this species will gradually give us answers.

Our results at CCRS suggest that early sperm release, occurring in some first nuptial male Swainson's Thrushes, is not merely a peculiarity of midcontinent populations, but may be a species characteristic, and thus deserving of further study concerning its biological meaning and importance.

Acknowledgements

I am grateful to Dr. Max Lincoln for his collaboration in this project, and I am grateful for the careful collection of cloacal lavages and important data by him and by our coworkers at CCRS, including Penny Delevoryas, Maurice Wild and Blair Wolf. I thank Dick Mewaldt for making this work possible, and for his data collection and helpful discussions.

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WHAT IS THE WILDLIFE RESPONSE?

by L. Richard Mewaldt

In mid-August we began, on contract with the Santa Clara Valley Water District, to monitor wildlife use of the four-acre pilot riparian revegetation plot on our research area adjacent to Coyote Creek. Ground preparation and the planting of nearly 4,000 trees began during the 1986-87 winter season by Harvery & Stanley Associates on contract with the Water District (see "Coyote Creek Pilot Revegetation Project" in RiparianNews, Jan. 1987). Using mist nets, we began gathering base-line data on bird use of the project site for more than a year prior to ground breaking.

Our six contracted tasks include:

(1) Twice monthly variable radius circular plot censuses of birds and other vertebrates in (a) the revegetation plot, (b) the adjacent, already existing creekside riparian strip, and (c) the adjacent (upland side) high flow channel to be maintained as grassland, as part of the flood control strategy.

(2) Weekly mist net transects (three) from creekside through the riparian strip (1-2 nets), across the revegetation plot (3-4 nets), and into the high-flow channel (2-3 nets).

(3) Monthly breeding bird censuses of the three adjacent habitats (see 1 above) from March to July.

(4) Quarterly censuses of mammals, reptiles and amphibians in the three adjacent habitats.

(5) Computer assimilation of data from tasks 1 to 4 for tabular presentation.

(6) Production of quarterly progress reports and final report.

CCRS's contract ($19,954 for one year) permits us (on a very tight budget) to hire a biologist (Blair Wolf) one-half time and to purchase some supplies and services. More than 75% of the actual task-hours will be performed by CCRS volunteers. Our work benefits from project design, data management and analysis, report preparation assistance and oversight by Harvey & Stanley Associates on separate contract with the Water District.

This is a first-year contract on what we anticipate will be a series of contracts (hopefully performed by CCRS) scheduled to continue well into the next century. These activities support our long-term objectives of **RIPARIAN RESEARCH, RESTORATION AND MANAGEMENT.** The most exciting aspect of this new contract is its provision for the future. The anticipated continuance of these contracts can provide CCRS with the lead-time to establish well designed programs and to acquire the fiscal bases (including especially endowment) to support those programs into the distant future.

WHAT A DIFFERENCE A FLOOD MAKES?

by L. Richard Mewaldt

The peak capture period for young Song Sparrows on our Coyote Creek study area was later in 1986, a flood year, than in 1987, a non-flood year. In addition, the number juveniles captured during peak dispersal periods was higher in 1986 than in 1987. Was this a result of the flood? The flood was indeed real at CCRS in March of 1986 (Figure 1). But floods come and go in a few days. Does the effect linger on? Is there indeed a "cause and effect" relationship?

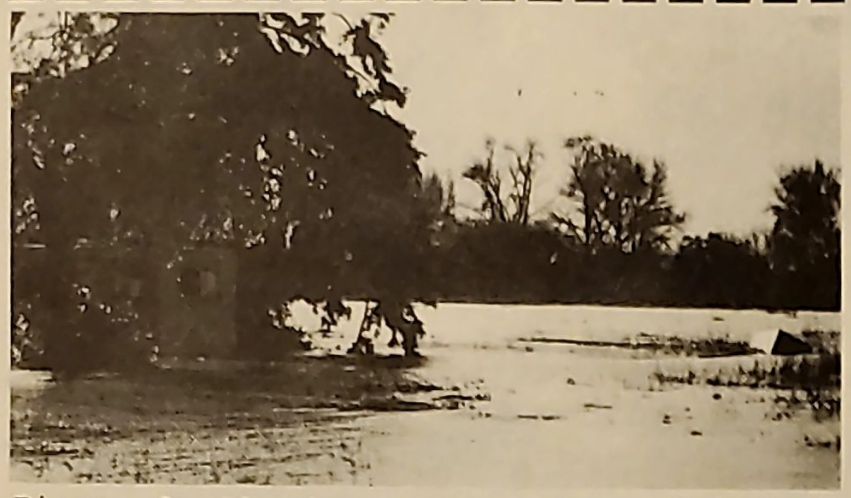

Figure 1. Flood waters envelope CCRS field laboratory. Photo by L. R. Mewaldt.

Let's look first at some of the "effects", and then do some speculation on the possible "causes". In both years, the first young birds appeared in our nets in the last three days of April (Figure 2). But there the similarity ends. There were two conspicuous differences in capture patterns between 1986 and 1987:

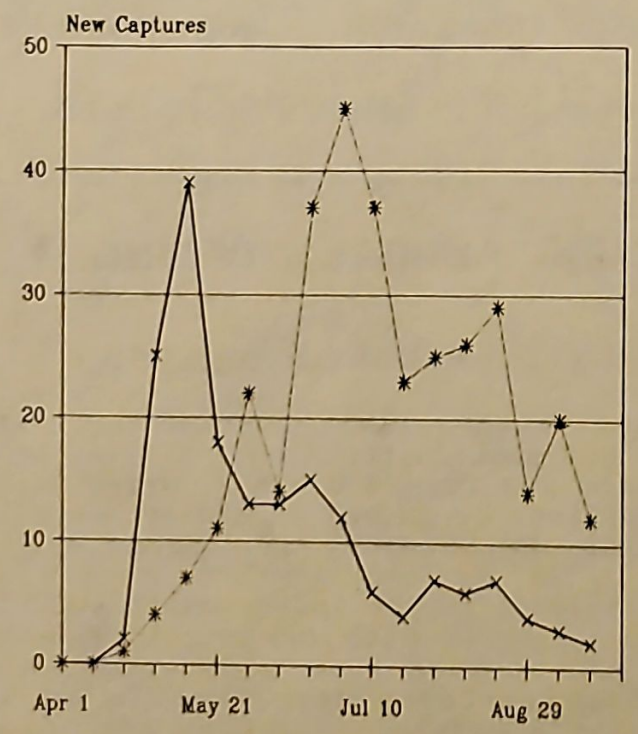

Figure 2.

(1) Whereas the 1987 peak capture of young (39) was in the second ten days of May, in 1986 the peak (45) was not until the first ten days of July. Peak reproduction seems to have been fifty days later in the flood year of 1986.

(2) Although our hours of mist net operation were greater in 1987, our catch of young birds was only 174 compared to 327 in the comparable period (April to September) in 1986. Thus, productivity was approximately 88% greater following the spring flood of 1986.

It seems plausible to conclude, tentatively, that the flood of 1986 caused the differences -- yes, in contrast to no flood in 1987 -- for some of the following reasons:

(1) The 1986 flood waters had sufficient force to scour the floodplain. Little "old growth" vegetation cover was available for nesting Song Sparrows.

(2) There was, however, an unusually bountiful growth of "weeds" in 1986. This portion of our study area had been a pear orchard until 1982, when it was cleared and left to revegetate. In 1986, this growth of weeds provided excellent cover for Song Sparrows nesting in late May.

(3) The late winter and spring of 1987 was relatively dry. There was no scouring flood. The rank growth of weedy vegetation from 1986 remained to provide suitable old growth nesting cover in April, May and June.

These observations really just open the issue for further study. Some of the answers may lie in our existing data bank -- some can come only from new studies. For example, were males equally prepared to breed (based on cloacal protuberance data) in March-April of both years? Were the more "conservative" females "far-sighted" enough in 1986 to delay nesting because of the lack of cover? In spite of male readiness? What were the effects of prospective food availability? Were rainfall differences in the two years important, aside from the mechanical effects of the flood? What might we learn from doing cloacal lavages on males and females under these contrasting conditions? (see articles by Drs. Quay and Lincoln in this and the April 1987 issues of RiparianNews).

Our outdoor laboratory at Coyote Crrek is available. I trust there are those among us with the curiosity to look for some of the answers. Why? Certainly there are wildlife managment implications that should be examined. There can also be great satisfaction seeking the real underlying mechanisms which make the Song Sparrows' world turn.

A HALF DOZEN RARE ONES

by L. Richard Mewaldt

In the last few months we have been treated to more than our share of "candy birds" (for those of you who are not avid birders, these are species found out of their normal range or habitat). Each bird was captured, "oh'ed" and "ah'ed" over by excited volunteers, banded, weighed, photographed and then released to continue their errant journey. Here are some of the more notable species:

1. **Northern Waterthrush**, 7 May, adult, wing 72 mm, wt. 17.4 gr.

2. **Brewer's Sparrow**, 28 Aug., juvenile with speckled breast, wing 65 mm, wt. 10.1 gr.

3. **Connecticut Warbler**, 2 Sep., adult, wing 78 mm, wt. 13.5 gr.

4. **Kentucky Warbler**, 18 Sep., adult male in fall plumage, wing 62 mm, wt. 13.6 gr. It was recaptured 3 times in the next 10 days for more banders to admire.

5. **Brown Thrasher**, 3 Oct., adult with worn plumage, wing 98 mm, wt. 53.9 gr.

Don Roberson in his 1980 book Rare birds of the West Coast (Woodcock Publications, Pacific Grove, CA 496 pp.) reports that as his book went to press, there were: **13** records of **Kentucky Warbler** for California, now about 1 each year; **24** records of **Connecticut Warbler**, average about 1 each year; **84** of **Brown Thrasher**, about 6 each year; and **537** records of the **Northern Waterthrush**, about 42 each year. A review of your favorite bird field guide's distibution maps will help clarify why some of these birds are "more rare than others". Keeper of our Santa Clara County bird list, Bill Bousman, reports to me that 3 (Kentucky Warbler, Connecticut Warbler and Brewer's Sparrow) of the 5 species, if authenticated, are **new County records.**

Adult Male Kentucky Warbler

Closeup of Kentucky Warbler

Adult Connecticut Warbler

CCRS ANNUAL MEETING

by L. Richard Mewaldt

President Allan Sillett greeted thrity-five members and guests attending the first annual meeting of the Coyote Creek Riparian Station at the offices of Harvey & Stanley Associates in Alviso on Saturday 26 September.

The Treasurer's report indicated that CCRS is financially sound with membership renewals, generous donations from a devoted member, impending contracts (see article in this newsletter), and interest from the growing endowment fund providing the bulk of organizational income.

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Incumbent directors Allan Sillett and H. Thomas Harvey were re-elected to three-year terms on the Board of Directors. Mr. Ronald Duke, Principal and Director of the Wildlife Division at Harvey and Stanley Associates, was elected to a three-year term on the Board. Retiring director Alfred Schmitz chose not to succeed himself. We shall miss his sage advice and enthusiasm on the Board. We trust he will continue to work with us on the net lanes, trap line and in the banding laboratory.

After the Manager's report to the membership on the state of CCRS, the following presentations were made:

1. "Cloacal lavages of House Finches" by Dr. Wilbur B. Quay of Napa, California.

2. "Bird monitoring station in a coastal sand dune forest" by Dr. C. John Ralph of Arcata, California.

3. "CCRS bird nest box transects" by Dr. Max Lincoln of Saratoga, California.

4. "CCRs computer & records center" by Michael Rigney of Campbell, California.

The formal meeting concluded with President Sillett and his Board fielding questions from the membership. At noon sharp, a truely fine and well appointed buffet lunch was served by Elsie Richey and friends.

After lunch most members were conveyed to the field station at Coyote Creek for open house. Biologist Blair Wolf explained and demonstrated several aspects of our bird capture and banding program and led a tour of the net lanes. Mr. Bruce Katano displayed our bird skin reference collection (all prepared with skill and loving care by Bruce) and demonstrated his well developed skin preparation techniques. Thanks to all who came and shared our first annual meeting. There shall be many more but non quite so special as the first.

NEST BOXES — 1987 REPORT

by Max Lincoln

As reported in RiparíaNews, Vol. 2, No. 2 of April, 1987, 24 nest boxes specifically designed for Western Bluebirds (entry hole about 1-1/2") were placed approximately 50 meters apart along the west bank of Coyote Creek. Also, three east-west transects running perpendicular to the creek were established. This report presents data on the use of these nest boxes during the 1987 breeding season.

The size of the entrance hole in these boxes limits their use to species with relatively small bodies such as Western Bluebirds, Tree and Violet-green Swallows, chickadees and wrens. All of these species utilize cavities normally dug by other birds.

Three (13%) of the 24 boxes contained nests from which young were fledged. An additional two had grass lining indicating activity, but the nests were never completed. In all, 21% of the nest boxes received attention from nesting birds.

Tree Swallows appear to be the only species which successfully nested in the boxes during the 1987 breeding season. A few of the nestlings were banded by CCRS personnel and returned to their respective boxes.

Several additional findings are of interest:

1. The use of 3/4" thin-wall electrical conduit is sufficient to support the boxes. This material allows for a virtually predator-free installation. The slight wind motion allowed due to the thinness of the conduit did not seem to inhibit nesting.

2. The poles are used extensively as perch sites especially by our resident Black Phoebes.

3. All of the boxes which contained nests were restricted to the open field areas. None of the creek-side boxes were used.

Additional boxes have been constructed by member George Honore and friends. These boxes will be installed for use during the next breeding season. Also, thanks to member C.O. Young who assembled our first group of nest boxes, to the members of the San Jose State University Ornithology class who monitored the boxes and the bird banders at CCRS.

Belted Kingfisher
- Line drawing by Keith Whitman.

ARE YOU A MEMBER?

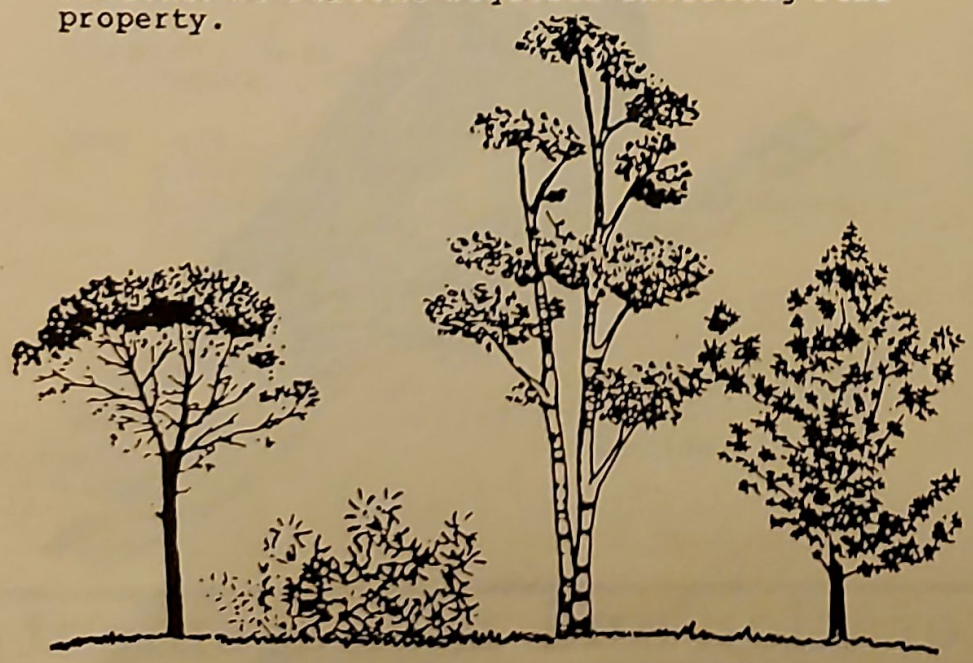
If you are interested in learning more about our activities or perhaps even taking an active part in our program, we urge you to join. We have two categories of regular members: "Members" are those individuals who support the activities of CCRS but are unable to play an active role in our on-going programs at the station; "Active Members" participate on regular basis in our on-going or planned activities. Some of these activities include:

Bird capture and banding
Creekside trail censusing
Breeding Bird Atlas (S.C. County)
Riparian (plant) restoration
Trail and net lane maintenance
Data entry at our computer center
Mammal study and censusing
Herptile study and censusing
Library organization
Raptor banding and biology
Building and repair of live traps
Bird house repair and management
Legal advice
Hummingbird banding and biology
Bookkeeping (relieve Manager)
Files management (files are a mess)
Band inventory and management
Brochure development
Fund raising
Membership secretary

CCRS Membership categories available are:

Regular Member	$15 annually
Regular Mem. (active)	15 annually
Senior Member	10 annually
Student Member	10 annually
Sustaining Member	75 annually
Corporate Member	500 annually
Life Member	500 single payment or by installments

Life Memberships, 10% of other memberships (including renewals), and 10% of contributions (not otherwise specified) go into the CCRS Endowment Fund which is now earning about $125 per month. CCRS is a non-profit corporation with Federal and State tax exempt status. We welcome Memorial contributions and will consider other, special purpose contributions. We welcome bequests including real property.



NEW MEMBERS

We welcome 10 new members who joined CCRS in the last three months:

Cutler, Christopher	Active Member
Danielson, Maryann	Member
Dormeier, Deanna	Member
Gasser, Tim A.	Member
Johnson, Elizabeth	Active Member
Johnston, David	Member
Kinchen, Sandra	Member
Kirsher, William	Member
Pickthorn, Ledabeth B. G.	Active Member
White-Ayraud, Rebecca	Member

Membsership renewals are coming in very well. A few have upgraded their membership categories or have sent along an additional contribution. We are especially pleased to report that Alfred Schmitz and Frances Mewaldt have become Life Members. These two Life Memberships in their full amount, 10% of all other memberships and membership renewals, and 10% of most other contributions (including two very generous contributions from one of our Life Members) help assure the future of CCRS by being placed into the CCRS Endowment Fund.

The Coyote Creek Riparian Station is located along the last two miles of Coyote Creek as it enters San Francisco Bay. Our research facility is situated on limited access land of the San Jose/Santa Clara Water Pollution Control Plant. CCRS operates in cooperation with the Santa Clara Valley Water District and Harvey and Stanley Associates, San Jose State University and the United States Fish and Wildlife Service's Bird Banding Laboratory. CCRS is a non-profit California corporattion with tax exempt status. Coyote Creek Riparian Station is dedicated to the **study, restoration and management of riparian habitats** and the birds and other animals which live there.

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