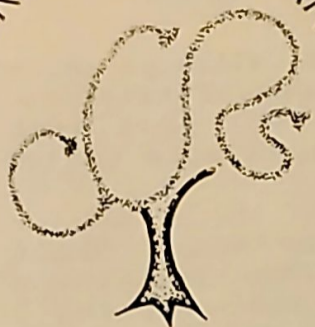


RipariaNews

COYOTE CREEK RIPARIAN STATION



Newsletter of the Coyote Creek
Riparian Station

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ALVISO, CA 95002
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EXPANDED CCRS FACILITIES NEEDED

by
L. Richard Mewaldt

We are bursting at the seams of our 10 X 40 foot trailer-field office-laboratory, donated to use two years ago by Rudolph & Sletten. The trailer is located on our research area, nearly a mile from the nearest public road, where Coyote Creek meets south San Francisco Bay. It houses our 3-station bird banding laboratory, office, library (now mostly in my garage), record center, workshop, equipment and tools and more. We also share it (minimally) with the team from Harvey and Stanley Associates working on the Santa Clara Valley Water District's pilot revegetation project (see story in the January RipariaNews).

We have two needs: (1) a companion trailer to place adjacent to our present facility, and (2) a house or mobile unit, hopefully nearby, but located with access to a public road.

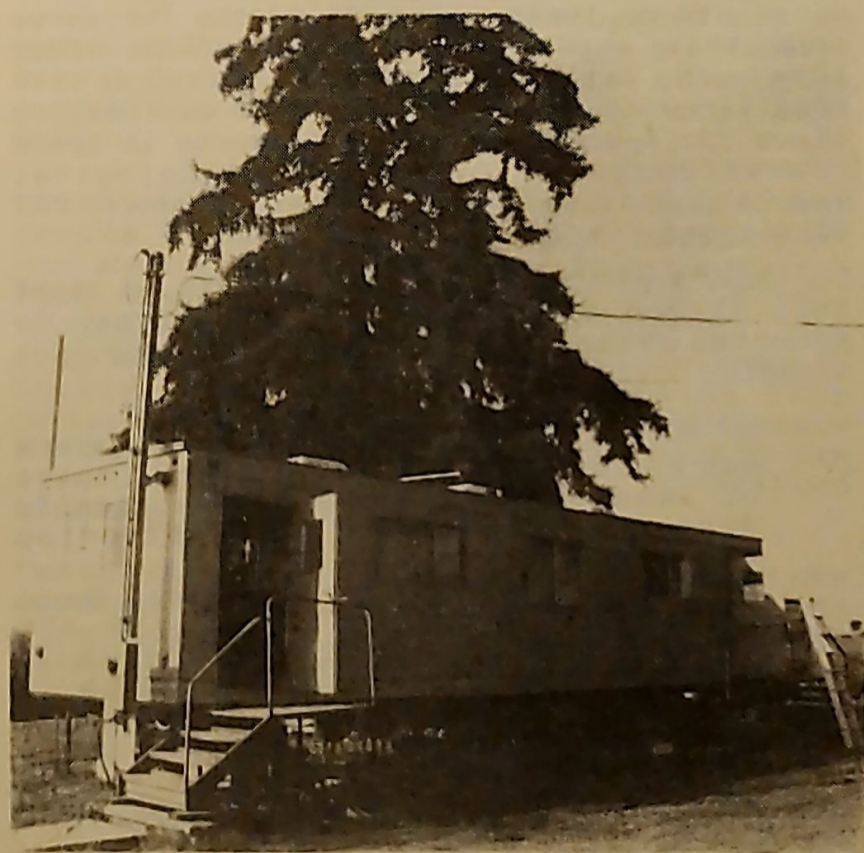
In February and March of 1986 we were dramatically reminded that our present facility is on the flood plain of Coyote Creek. Four feet of swirling water nearly carried our trailer away, left water marks on the wall and a quarter inch of silt on the floor. We anticipate moving it onto a pad above flood water when the Water District installs the new levees and high-flow channel, hopefully a year from now.

Also essential to our operations is building space on a public road for our records center, computer facility, and library. We would like it near our research area, but shall consider anything within reasonable driving distance. We can adapt a house, mobile unit, or other type building to our needs.

The "bottom line"? Due to growing volunteer interest and expanded research activities, we have outgrown our 10 X 40 foot trailer. We need your ideas, leads, contacts, (to construction trailers, old houses, etc.).

Please convey them to Dick Mewaldt by mail or telephone at CCRS (408-262-9204) or at his home office (408-258-7491), or to any other CCRS officer of active member.

NEEDED NOW IS WORK SPACE, EVEN A ROOM IN ANOTHER FACILITY, FOR OUR COMPUTER CENTER AND RECORD STORAGE -- A PLACE WHERE OUR VOLUNTEER STAFF CAN ENTER CURRENT RECORDS AND OUR BACKLOG DATING BACK TO 1982. OUR NEW SOFTWARE IS READY, HOWEVER WE CANNOT JUSTIFY ESTABLISHING OUR COMPUTER CENTER UNTIL WE HAVE A SECURE PLACE TO HOUSE IT. OUR FIELD OPERATIONS ARE SO SUCCESSFUL THAT COMPUTER ANALYSIS IS THE ONLY PRACTICAL WAY TO BRING OUR FINDINGS TO USEFUL PUBLICATION. IF YOU HAVE OR KNOW OF A PLACE WHERE WE CAN WORK -- PLEASE GET IN TOUCH WITH US.



CLOACAL LAVAGE STUDY

by
Max Lincoln

Two members of CCRS, Drs. Wilbur Quay and Max Lincoln, are engaged in a cooperative study using a technique that is new to ornithology called "cloacal lavage". This technique was developed by Dr. Quay and has been the subject of several publications and a recent paper delivered at the Western Bird Banding Association meeting in Santa Barbara.

Cloacal lavage is a method of evaluating one aspect of avian reproductive activity in a non-invasive and relatively simple manner. The technique as perfected by Dr. Quay is as follows:

1. Small amounts of distilled water are infused into the cloacal chamber of a male bird using a disposable pipet tip attached to a medicine dropper type bulb.
2. After flushing the cloacal chamber without force, the water suspension of cloacal contents is withdrawn and placed on a microscope slide.
3. Three lavages made in this manner.
4. The cloacal area is then gently massaged in a standard manner and a fourth lavage is done.
5. The four slides are then labeled, dried and examined by Dr. Quay using phase contrast microscopy to detect the presence or absence of sperm.

The immediate goal of CCRS's and Dr. Quay's study is to determine when sperm are present in the cloaca of male House Finches at Coyote Creek. We also hope to find out if there are any gross morphological or sperm concentration differences between House Finches caught along Coyote Creek and those caught at other locations such as the Napa area. We will continue to take weekly samples during the breeding season to determine when sperm are no longer present. In the future we hope this study can be expanded to other locations with different environmental conditions to determine if there are varying times for sperm release, differences in sperm concentrations, or gross morphological variations related to environmental conditions.

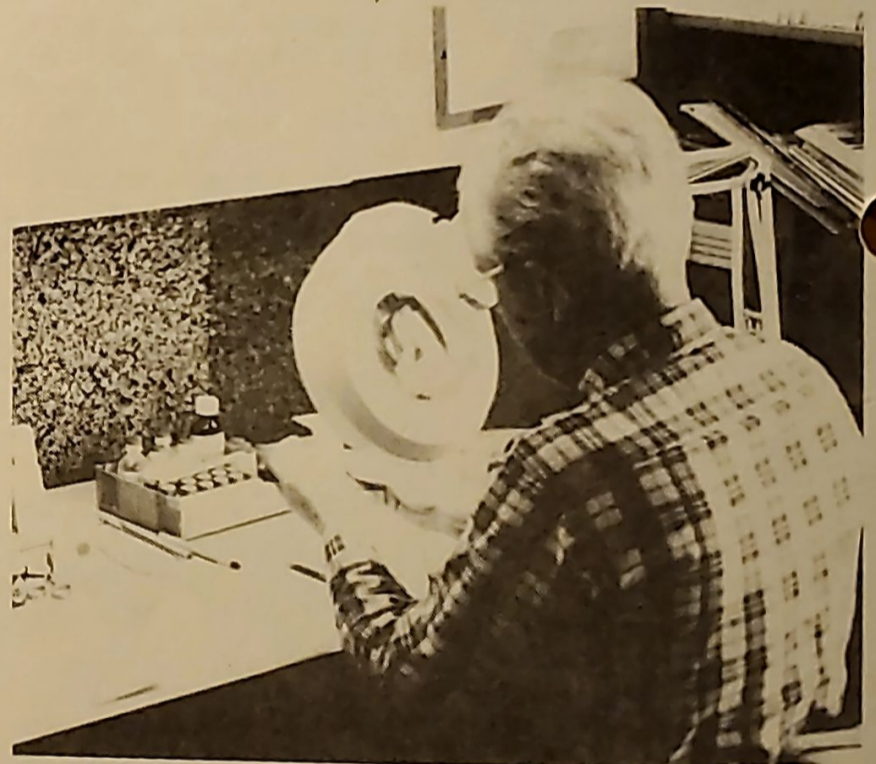
Dr. Quay's previous work has brought to light information much of which is contrary to accepted avian reproductive physiology. For example:

1. Morphologically normal cloacal sperm can be found in spring-migratory males of some species while geographically distant from their known breeding territories.
2. Large numbers of normal cloacal sperm are found in males, both with and without cloacal protuberance, both in migrants and in resident species in different phases of the beginning of their annual breeding-nesting season.
3. Numbers of cloacal sperm can be equivalent in first-year and older males

of some species, although secondary sex or dimorphic characteristics may be consistently more prominent in the latter, as for example in the Indigo Bunting.

As a result of the above finding that migrating males of some species have cloacal sperm present before arriving at their breeding grounds, we decided to examine one of our migratory species at CCRS for pre-migratory sperm development. The large number of White-crowned Sparrows whose feeding territories lie in the vicinity of our headquarters is being monitored. As the males of this group develop their complete black and white crowns, lavage samples are being collected. (Males are determined by wing length, i.e., >75 mm for the Gambel's White-crowned Sparrow and >69 mm for the Puget-Sound White-crowned Sparrow.) We will continue with multiple lavages until migration occurs.

Findings from both of these studies will be forthcoming in later editions of *RipariaNews*.



Max Lincoln conducting cloacal lavage. Photo by D. Johnson



FLYCATCHERS AT CCRS

by Mike Rigney

No group of land birds causes more consternation and frustration to even the most self confident birder than the dreaded Empidonax flycatchers. The bane of bird watchers throughout the United States, the 10 flycatchers of this genus are all drab and about the same size, possess pale or indistinct eye rings and wingbars. All but the Gray Flycatcher (*Empidonax wrightii*) are fond of moist deciduous woodlands.

Because of this group's affinity for deciduous woodlands it is perhaps not surprising that in 1986, 514 Empidonax flycatchers were caught and banded at the Coyote Creek Riparian Station.

Western Flycatchers (*Empidonax difficilis*) accounted for the majority of captures with a total of 460 banded (90% of all Empidonax). This species was the only Empidonax which apparently bred near Coyote Creek. Evidence of breeding was encountered during the month of July when ten females with developed brood patches were caught at the Station.

Migrant waves of Western Flycatchers moved through the Coyote Creek riparian corridor starting in late July and continued until early August. Ned Johnson's (1973) studies of Western Flycatchers indicated that adults began migrating south from breeding grounds in the Sierra Nevada earlier than juveniles. Figure 1 below illustrates the timing and

Age Distribution of Western Flycatchers Banded at Coyote Creek Riparian Station. Fall, 1986

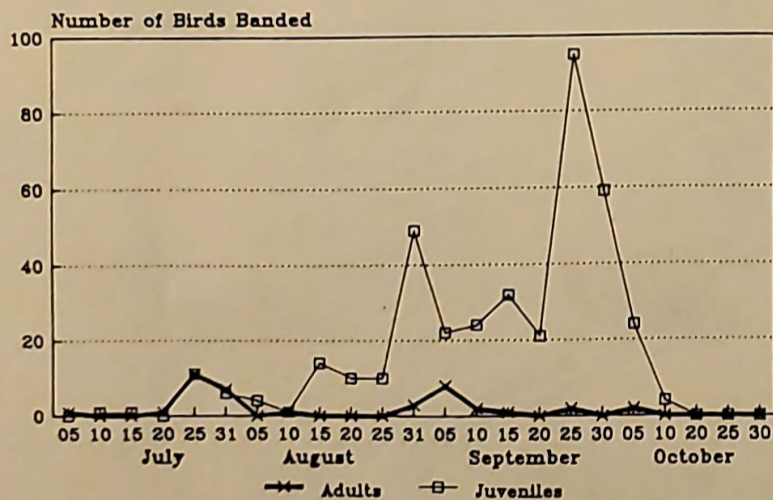


FIGURE 1

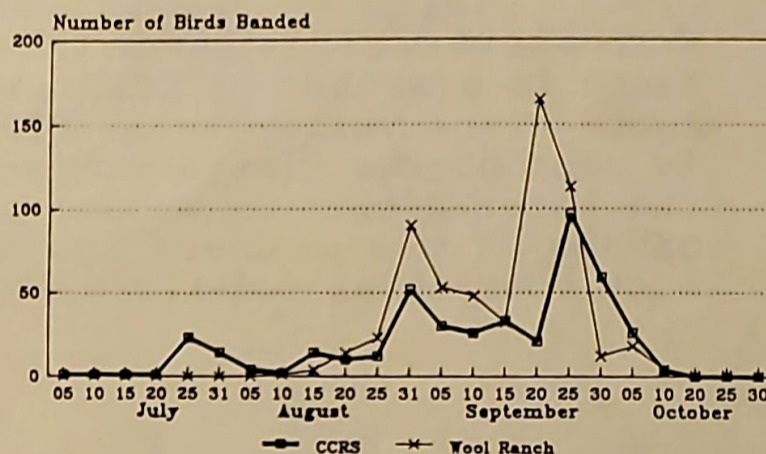
distribution of age classes at CCRS. A quick glance at this graph will show that Johnson's predictions hold true for CCRS.

During two and one half years of field work (1970-1972) at the Wool Ranch above Milpitas, 698 Western Flycatchers were banded. Of that total, 121 (17.3%) were captured during spring migration (mid-March to mid-June) and 577 (82.7%) during fall migration (mid-August to mid-October) (Kaiser 1976.). In contrast, of the 454 Western Flycatchers caught at CCRS during 1986, only 24 (5.3%) were captured

during spring migration while 430 (94.7%) were processed during fall migration. Although one year of data is not sufficient to determine migratory patterns with any certainty, it appears that Western Flycatchers use more inland corridors during spring.

In comparing fall capture distributions for Western Flycatchers at the Wool Ranch in 1970 and 1971, Kaiser found that migration peaked on about 29 August in 1970 while in 1971, peak migration was delayed until approximately 23 September. When data are averaged for both years the bimodal peak closely resembles the capture pattern found during 1986 at CCRS (see Figure 2). Operations at

Western Flycatchers Banded at CCRS and Wool Ranch July - October



CCRS (1986)
Wool Ranch (average for 1970 and 1971)

FIGURE 2

the Wool Ranch did not begin until the beginning of August in both 1970 and 1971. As a consequence, the early migrants (probably adults undergoing post-breeding dispersal prior to migration) which formed a peak in late July were missed at the Wool Ranch.

Information on migration timing and species patterns can only be reliably understood after several years of consistent data collection. At the Wool Ranch fascinating glimpses of migratory patterns were obtained, but because of access restrictions, banding efforts were cut short during critical periods of migration. At CCRS, although a more complete year-round operation took place in 1986, coverage during spring migration was inconsistent. In addition, one year of data is adequate only to describe one year's patterns. With several years of data behind us, CCRS will be in a position to analyze trends of particular groups of birds like the Empidonax flycatchers.

Banding efforts at CCRS are proceeding at a pace which exceeds that of 1986. We hope that with member support and participation, we can continue collect useful and accurate data on Western and Willow Flycatchers and also document the occurrence of such other notable species as Least, Hammonds and Gray Flycatchers.

CONT'D FROM PAGE 3

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LOGGERHEAD SHRIKE
BY
KEITH WHITMAN

We feature in this issue the pen and ink artwork of Keith Whitman. Keith is a member of CCRS and an Associate Civil Engineer for the Santa Clara Valley Water District. Keith's work has been featured in some of the fine brochures which are occasionally published by the Water District. We are proud to showcase the artistic talents of one of our members and hope that Keith's efforts provide us with additional creations which we might display in the future.



GREAT BLUE HERON
BY
KEITH WHITMAN

NEST BOXES

by Max Lincoln

The first phase of installing nest boxes for cavity nesting species at CCRS has been completed. A total of 24 boxes specifically designed for Western Bluebirds (entry hole about 1 1/2" in diameter) has been placed approximately 50 meters apart along the bank of Coyote Creek from the south end of our research area to just north of our headquarters. In addition, three east-west transects have been established. Nest boxes have been placed at 50 meter intervals along these transects which run perpendicular to the creek. One transect passes through the center of the revegetation project, another to the north of the project and the third just north of the trailer.

All boxes will be monitored regularly to determine what species use the boxes, how close they nest to one another, what the fledging rate of each species is. We hope to monitor these same boxes for at least 15 years.

In addition to the Bluebird boxes, we have also erected six Wood Duck boxes next to the creek. We saw a few Wood Ducks on Coyote Creek last year. You never know, there may be Wood Ducks out there just waiting for a home.



Many of our more unusual species are photographed as a matter of record prior to release. Photo by M. Rigney

RIPARIAN CENSUS UNDERWAY

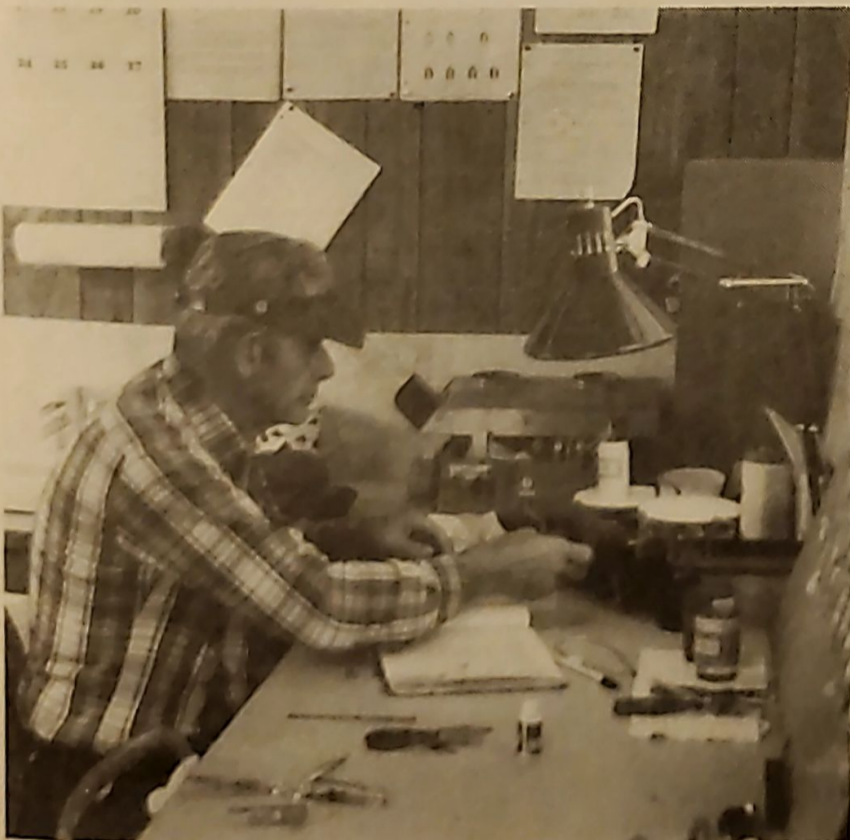
by Paul L. Noble

To augment the information gathered on bird use of riparian corridors we have instituted an avian census along Coyote Creek in the CCRS research area. Trails have been improved and re-aligned and field data forms and maps have been drafted. We plan to conduct regular censuses of birds along a line transect using a method developed by John Emlen in 1971.

Using this method, census takers travel along a transect route (in this case along Coyote Creek) and mark on a field map and data sheet the birds they encounter. To assist in the proper placement of located birds and to reduce the possibility of counting the same bird twice, flag markers have been placed every 100 meters along the transect. In addition, any nests that are discovered may be pinpointed with greater accuracy. Eventually, over a period of time, some idea of species composition and relative numbers can be calculated.

The choice of a line transect over other census methods such as spot mapping or variable circular plots was made because a line transect can be used in all seasons (recording not only breeding species, but also winter residents and migrants) and is fairly simple to do. By conducting many censuses over a period of time we can compare our census data with the data gathered by the bird-banding program to better understand bird use patterns.

Censuses begin just after dawn, take approximately two hours to complete and are scheduled to run at least twice a month. The more frequently we census, the more reliable will be our findings. CCRS is looking for volunteers interested in censusing. A thorough knowledge of bird identification and bird calls is extremely helpful, but on-the-trail training will be provided. If you would like to participate drop a note to CCRS to the attention of Paul Noble or Dick Mewaldt.



Manager/Biologist Dick Mewaldt weighing one of the over 10,000 birds processed at CCRS during 1986. Photo by M. Rigney

CCRS MEMBERSHIP GROWS

We welcome 40 new members who joined us in the last three months.

Monterey Bay Aquarium	Member
T. Chris Boles, PhD	Active Member
Jennifer L. Boles, PhD	Active Member
Robert I. Bowman, PhD	Member
Irene L. Brown, PhD	Member
Mary Lou & Wes Burgin	Members
Mrs. Joshephine Butler	Member
Helen Chism	Member
Robert G. Clement	Member
Steve & Elwyn Dorman	Members
Iris R. Gardner	Member
Steven Granholm, PhD	Member
John H. Harris, PhD	Active Member
Grant Hoyt	Member
Cathy Jennings	Member
Beryl H. Kilgore	Member
Rob Klinger	Active Member
Keith R. Kraft	Member
Peter La Turret	Member
Marguerite A. Lincoln	Member
James G. Miguelgorry	Member
David M. Moyles	Active Member
Chris Otahal	Active Member
Gary and Lynne Page	Members
Inez I. Rigney	Member
Robert Roadcap	Member
Margaret Ropar	Active Member
Wayne Savage, PhD	Member
Milton L. Siebert	Member
Clifford J. Speakman	Active Member
Bette Wentzel	Member
Henry G. Weston, PhD	Member
Keith and Sylvia Whitman	Members
Maurice Wild	Active Member
Blair Wolf	Active Member
Clarence O. Young	Member

Members may arrange to visit our field station and research area. We are located on limited access public land along the lower Coyote Creek near the southern tip of the San Francisco Bay. Contact our Coyote Creek office (408-262-9204) to arrange a visit. Active members are members who qualify (or are in training to qualify) to participate in some aspect of CCRS research, management, or support activity.

The Coyote Creek Riparian Station is a non-profit membership organization dedicated to the study, restoration and management of riparian habitat. Our research facility is located adjacent to Coyote Creek near Alviso, California. Our research projects are conducted by volunteers under the guidance of a Board of Directors and Manager/Biologist, Dr. L. Richard Mewaldt. We welcome all persons interested in the protection and enhancement of California's rivers and streams to contact us about volunteering or membership. Our telephone number is (408) 262-9204 or you may contact Dick Mewaldt at (408) 258-7491. The quarterly newsletter "RipariaNews" is edited by Michael Rigney and Syndie Meyer and publication assistance is afforded by Harvey and Stanley Associates, Inc. of Alviso, California.

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The Board of Directors of the Coyote Creek Riparian Station is the governing body for all business affairs of the organization. The quarterly meetings of the Board are open to all members of CCRS. Contact the CCRS office at (408) 262-9204 for dates and locations of regular board meetings.

EVERYTHING YOU WANTED TO KNOW ABOUT SPRING MIGRANTS

Twice a year, in the spring and fall, CCRS offers a course in identification, ageing and sexing of migrant birds. The evening course is well illustrated by slides and the many years of experience of our Manager/Biologist, Dr. L. Richard Mewaldt. Dick will describe in vivid detail the intricacies of flycatcher identification, the salient diagnostic features of Yellow and Orange-crowned Warblers and the ways to tell male Song Sparrows from females.

The course is intended to sharpen the skills of our active banding volunteers but all members and a small number of guests are welcome. This spring the course will be taught in the evening at the Mewaldt residence-and-banding-station overlooking the beautiful San Jose Country Club Golf Course. We invite all members to join us at 1930 hours (that's 7:30 p.m. for those few of you who have not adopted the 24 hour clock) on Tuesday 21 April for an ornithological lesson on Spring migrants.

The Mewaldts' address is 4150 Golf Dr. (see map below) and their telephone number is 408-258-7491.

