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BANDING PURPLE FINCHES IN PASADENA

WITH FOUR SETS ILLUSTRATIONS

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ON January 1, 1925, we banded our first California Purple Finch (*Carpodacus purpureus californicus*) at 418 Elm Avenue, Pasadena, California. It was a female or immature male, and was readily distinguished from the female House Finches both by appearance and note. We also saw a small flock of them eating the buds of an apricot tree. Though this was our first experience in banding a Purple Finch, we were destined to become very intimate with them during the following four months.

During the 117 days from January 1 to April 27, inclusive, our traps were open for catching birds all or part of 111 days, and there were one or more Purple Finches in the traps on 109 of those days, although unbanded Purple Finches were caught on only 74 days. During this time, 267 were banded and these 267 birds were in the traps 2781 times. None was captured which had been banded elsewhere. The last new bird was banded on April 16, and the last repeat occurred on April 27.

Of these 267 birds, 68 were males and 199 were females or immature males; 29% of the males, 44% of the females or immature males, or 40% of the total, were in the traps on one day only; 54% of the males, 58% of the females or immature males, or 57% of the total, were in the traps one or more times during a period of five consecutive days; and 66% of both the males and the females were in the traps one or more times during ten consecutive days.

The bird that scored the highest in number of visits to the traps was in them on 75 different days, a total of 194 times. Another ran a close second on the number of days (73) but fell below several others on the number of times in the traps (120). A count of a few of the high score birds shows that the five highest were in the traps 677 times, 24.3% of the total for all; the ten highest were in the traps 1030 times, 37.3% of the total; and the 28 highest (10% of the total number of birds) were in the traps 1626 times, 58.5% of the total for all.

Figure 58, accompanying this article, is one of nine similar sheets showing the occurrence in the traps of these birds. The circles indicate the days upon which the

bird bearing the number at the left margin was in the traps. The scheme of placing small figures above the circles on days when the bird was in the trap more than once is not very satisfactory, but we have not thought of a better one yet. The figures at the right are the counts by days and by total occurrences for each bird.

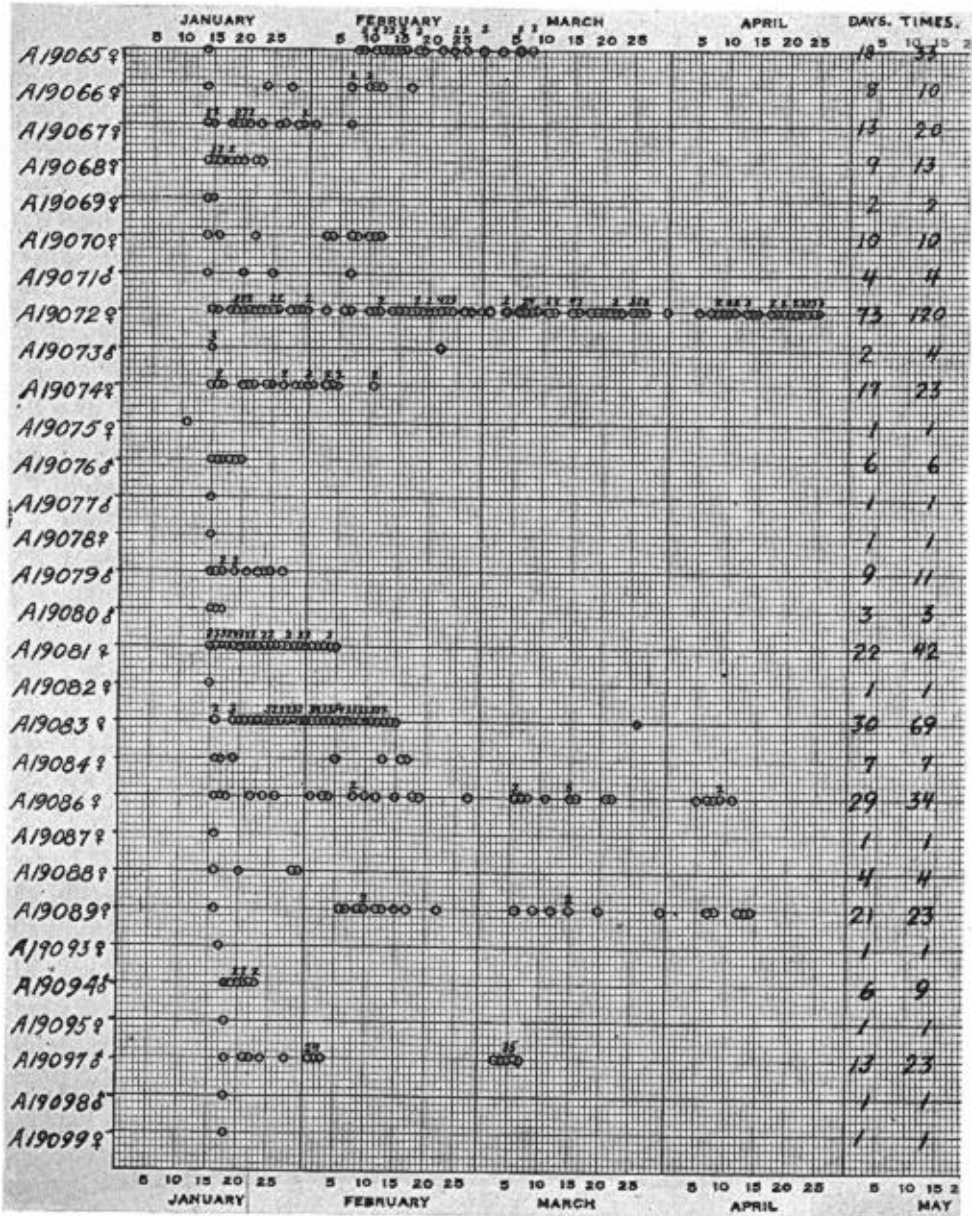


Fig. 58. RECORD SHEET OF OCCURRENCES IN TRAPS OF CALIFORNIA PURPLE FINCHES. BAND NUMBERS ON LEFT. CIRCLES INDICATE DATES BIRDS WERE IN TRAPS. FIGURE ABOVE CIRCLE INDICATES NUMBER OF TIMES BIRD WAS IN TRAP THAT DAY. SEX MARKS INDICATE PLUMAGE ONLY.

At the top of figure 59 is shown a diagram of the hours each day that the traps were open to receive the birds. The shaded areas indicate the hours during which the traps were closed either by darkness or by having the doors closed. The zig-zag line along the bottom shows the time the first bird for each day was taken from one

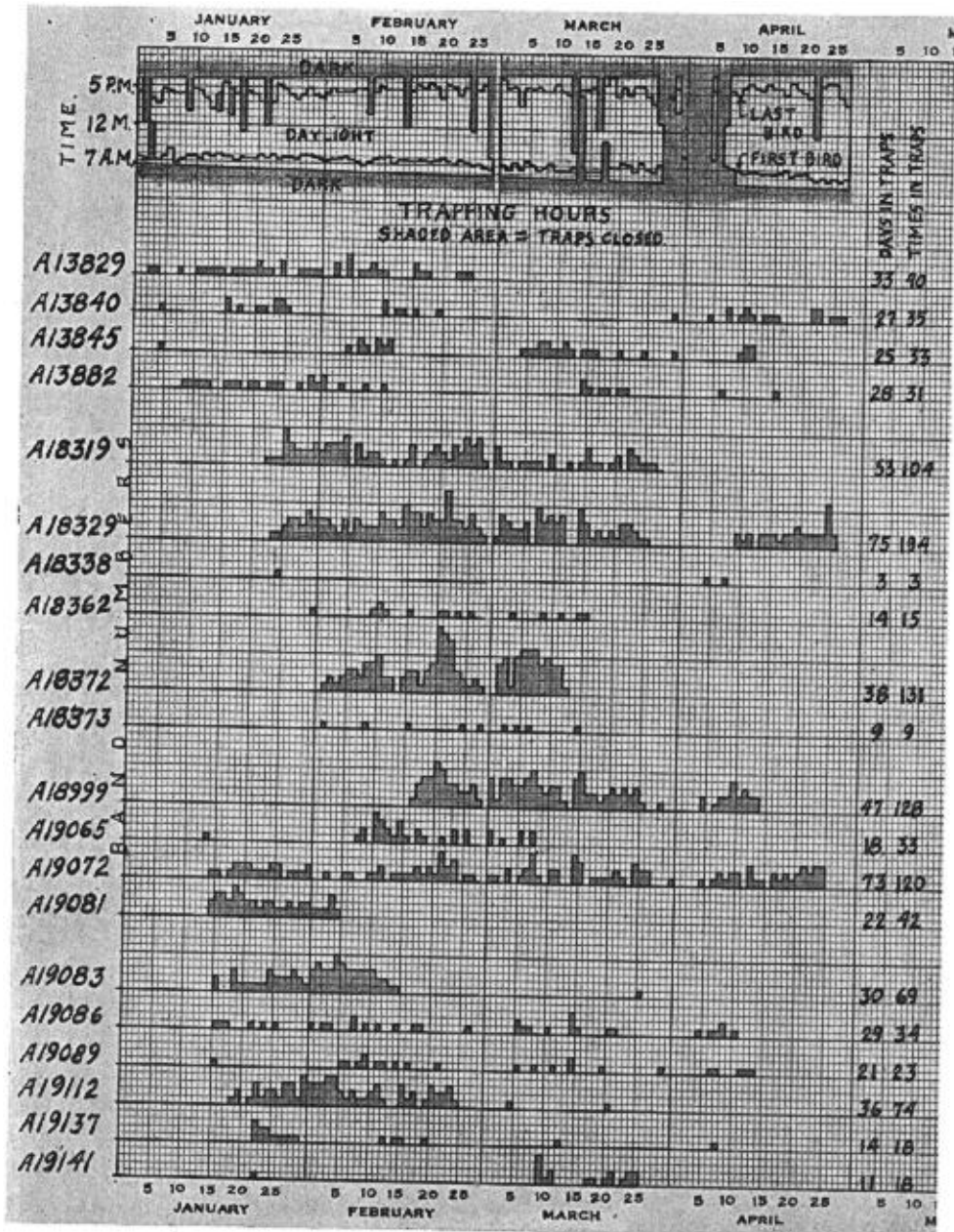


Fig. 59. WORKING HOURS OF TRAPS SHOWN IN UPPER DIAGRAM. TWENTY SELECTED OCCURRENCE RECORDS OF CALIFORNIA PURPLE FINCHES. EACH SHADED RECTANGLE INDICATES ONE TIME IN A TRAP.

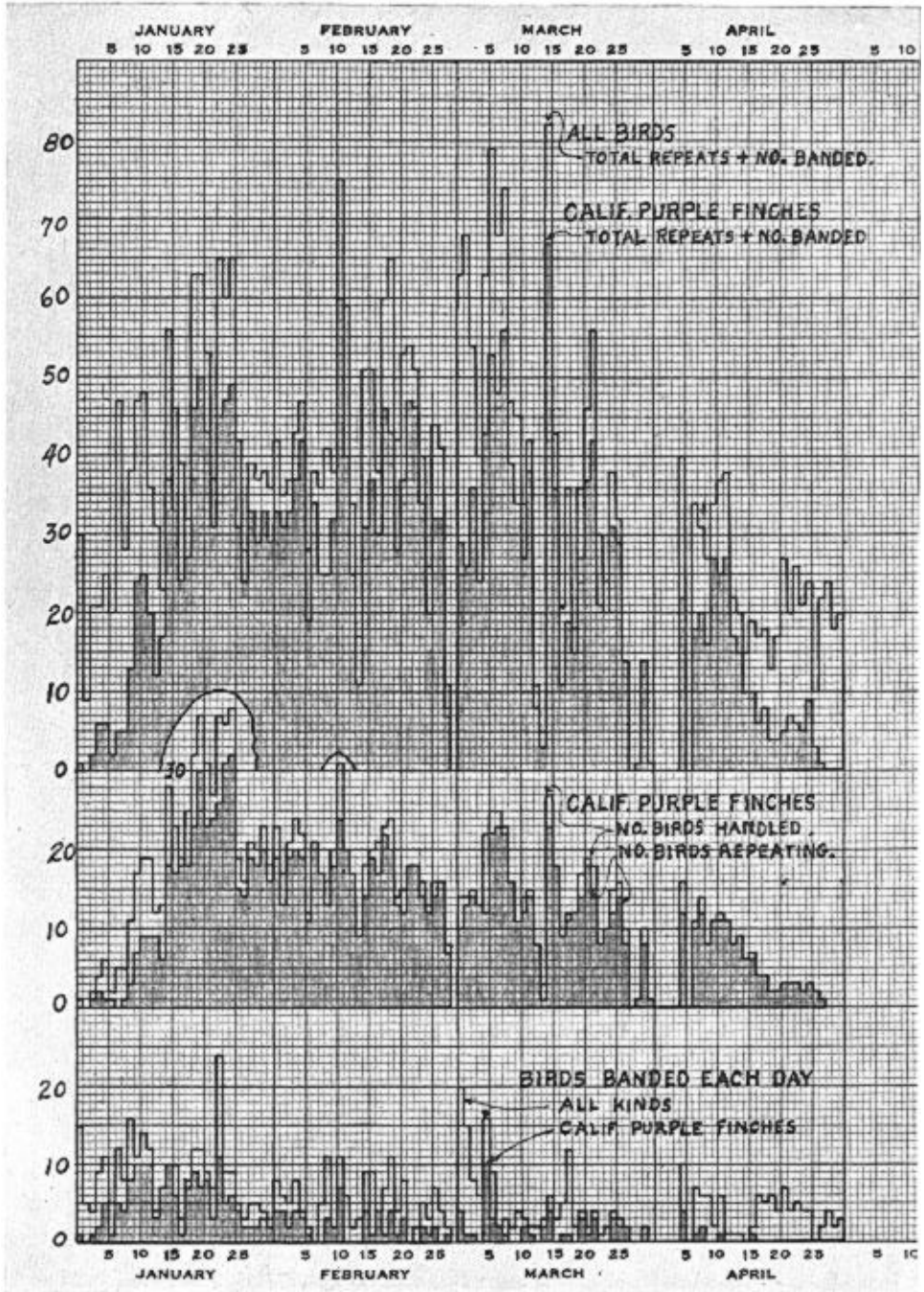


Fig. 60. SUMMATION OF BANDING OPERATIONS WITH CALIFORNIA PURPLE FINCHES, AND COMPARISONS WITH ALL KINDS OF BIRDS BANDED.

Lower diagram—Birds banded each day, with California Purple Finches shaded. Center diagram—Number of California Purple Finches taken from traps each day, counting each individual bird once a day only. Upper diagram—Comparison of total number of California Purple Finches taken from traps with total number of all birds taken from traps, counting each individual bird every time it was taken from the traps.

of the traps, and the corresponding top line the last bird for each day. The straight sloping line at the bottom represents the arrival of daylight, and that at the top the close of daylight. All species are included in this diagram.

The other diagrams of figure 59 show the occurrences in the traps of several of the steady boarders, with a few of the transients put in for comparison. These are all California Purple Finches. The numbers at the left margin are those of the bands put on these birds, and those at the right margin are the numbers of days each bird was in the traps one or more times and the total number of times each bird was in the traps. For each day one shaded rectangle means once in the traps for that bird.

The shaded portion of the lower diagram in figure 60 shows the number of California Purple Finches banded each day, and the top line of this same diagram shows the number of birds of all kinds that were banded each day.

The shaded portion of the center diagram, figure 60, shows the number of previously banded California Purple Finches which were in the traps one or more times on each day. The unshaded portion added above the shaded portion is the number of these same finches banded each day, so that counting squares from the base line to the top of the pile gives the total number of California Purple Finches which were in the traps one or more times during each day. This might be termed the number of individuals of that subspecies which patronized our boarding houses each day.

The shaded portion of the upper diagram, figure 60, indicates the total number of times that California Purple Finches were in the traps each day, including both the repeats and the birds banded. This is the number of meals served to this subspecies. The top line of this diagram gives the same information for all the kinds of birds trapped, except English Sparrows and California Jays.

The upper and the lower diagrams show how nearly the California Purple Finches monopolized the traps while they were here. We really felt quite provoked with them sometimes because there were other birds around that we wanted to catch, but we could not keep the Purple Finches out of the traps long enough to catch many of the others.

The California Purple Finches are great biters. Often when released from the hand one would stop to give a good bite before flying away. But the birds that came into the traps many times got so that they would not bite so much. We often remarked when putting a hand into a gathering cage full of these birds and getting an unusually strong bite, that we had a new bird that time.

It is interesting to study the occurrences of the individual birds and to wonder why they are so different for the same individual at different times and for different individuals at the same time. Note the occurrence diagram for A18329, figure 59. There is no break at all until the forty-third day. The only long break coincides with about twelve days, during which the traps were closed nearly all the time. Then almost as soon as the traps were open regularly again this bird was in them every day except one until it left for its summer abode. Undoubtedly its record would have been almost continuous from January 24 to April 26 if it had been possible to keep the traps open a considerable part of each day.

The occurrence record of A18319 is very similar to that of A18329 except that A18319 apparently left for its summer home during the period that our traps were closed for several days. Compare these two records with those of A13840, A13845 and A13882. These last mentioned birds, and several others whose records are shown, appear to have been alternately with us and away from us for various periods of time. We think that they were not in our near vicinity during those periods of absence from our traps because there never seemed to be a large number near, which were not coming to the traps to feed.

The three birds which have the highest average number of visits to the traps during their entire stay with us (or at least the entire period from their first to their last visit to the traps) are worthy of note. A19000 was in the traps on five consecutive days a total of 21 times. A20911 missed being in the traps only one day in 21 and was in a total of 79 times. A18372 missed only two days out of 40 and was in the traps 131 times. Its occurrence diagram is shown in figure 59. The averages for each of these three birds are 4.2, 3.95 and 3.45 trap visits per day, respectively.

A few Cassin Purple Finches (*Carpodacus cassini*) came while the California Purple Finches were here. From February 9 to April 7, inclusive, 18 were banded, of which 4 were males and 14 were females or immature males. These 18 birds occurred in our traps 46 times, counting each bird once a day only, from February 9 to April 12, inclusive, and the total number of trap occurrences was 63. None of these birds was a very persistent repeater, the two highest reaching a total of 12 times in the traps, one in five consecutive days and the other over a period of 28 days.

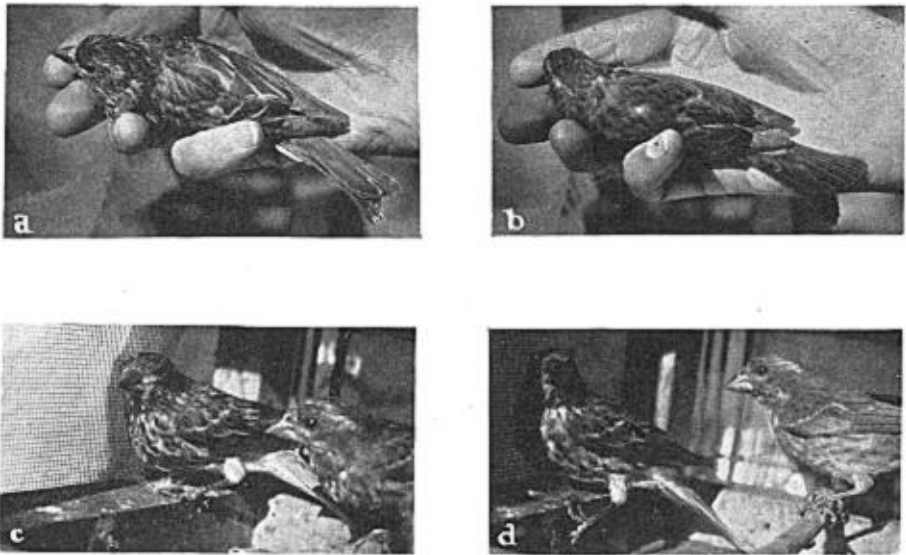


Fig. 61. CALIFORNIA PURPLE FINCH AND CASSIN PURPLE FINCH (FEMALES).

a. Cassin Purple Finch no. A20846.

b. California Purple Finch no. A19000; biting finger.

c and d. Left—Cassin Purple Finch no. A20846. Right—California Purple Finch no. A19063.

When we caught the first Cassin Finch, a female or immature male, we were a little puzzled as to its identity. In comparison with the California Purple Finch it seemed more distinctly striped, felt larger to our hands, measured a little longer, and had a larger and more sharply pointed beak. An attempt was made to record these differences photographically. Four of the photographs are shown in figure 61. To make our identification unquestionable, we borrowed skins of a pair of *Carpodacus cassini* and a pair of *C. p. californicus* and compared the live birds with them.

On two occasions Dr. Johnson, who lives at 284 East Orange Grove Avenue, an air line distance of approximately three-fourths of a mile northwest from us, took a California Purple Finch home with him and released it there. The first time he took

A20913, a female or immature male, and released it at 8:35 A. M. At 2:00 P. M. the same day we took it out of one of our traps again. The second time he took A20877, a male, and released it about 5:00 P. M. We did not catch this bird until 7:00 A. M. on the eleventh day following. Dr. Johnson said it flew in a northeasterly direction when he released it.

We have had reports from a distance in regard to two of our California Purple Finches. A18349, which was banded on January 28, was found dead in eastern Los Angeles, about eight miles in an air line from here, on February 15. A20929, which was in our traps on March 7, 8, and 9, was killed in Porter, Washington, on June 20, a distance of approximately 1000 miles from Pasadena. This is an average of 10 miles per day, but it is hardly to be supposed that every day was spent in travel.

Because birds of this subspecies are known to spend the summer in our mountains and the winters in our foothills and valleys, it has been assumed that the annual travels of each individual bird are chiefly up and down the mountains without much change of latitude. The known history of A20929 seems to indicate otherwise. May it not be that those which summer in our southern California mountains winter in the foothills and valleys and even in the mountains farther south, and those that winter in our southern California foothills, valleys and mountains spend the summer in the mountains farther north? This will never be known except from information gathered by the bird banders and those coöperating by reporting the occurrence of banded birds. This is one of the reasons why there should be a very large number of active banders throughout the whole continent.

Pasadena, California, August 19, 1925.