I saw the long isolated arm of the lake go dry, and I saw thousands of trout fry perish. Also I saw large fish, over a foot long, go into spasms and after ten or fifteen minutes of intermittently wild convulsions turn belly-up and slowly sink to the bottom of the pool. And while all this was going on, the Western Robins (*Turdus migratorius propinquus*) were having fat pickings.

Scattered along the margin of the brown pool, feeding on the mud flats like a company of sandpipers, were at times as many as nineteen robins. Occasionally a spotted robin would plunge in belly-deep to capture a fish. The old birds were content to stand on the shore and to pluck their fish when they came into shallow water. The fish taken by the robins were about two inches long. These fish they would toss out on the beach, mangle with their bill, beat on the ground, and otherwise soften before attempting to swallow. One robin was seen to capture and to consume four fish. All the robins were actively fishing, but I could not keep count on more than one at a time. All day long robins were coming and going, probably the same birds, perhaps twenty in all.—CHARLES W. MICHAEL, *Yosemite, California, September 17, 1933.*

Flicker Hybrids.—The immediate suggestion for this discussion of hybridization in the genus *Colaptes* arises out of a full family of hybrid flickers collected under the direction of Mr. H. F. Hughes at Shaunavon, Saskatchewan, June 15, 1933, and presented to the National Museum of Canada. The family consists of the two parents and four juvenal offspring just as they left the nest. Neither parent is of pure blood, though the male is strongly *Colaptes auratus* while the female is about equally as strongly *Colaptes cafer*. The following table gives the estimated strength in percentages of each distinctive specific character in each individual.

		Parents		Young			
	Character	♂	♀	♂	♀	♀	♀
auratus	Throat fawn color	50	50	20	40	50	60
	Malar stripe black	90	.....	100	....	....	....
	Nuchal bar present	100	0	100	70	75	10
	Wing and tail yellow	100	0	100	100	100	0
	Total percentage *auratus* characters	88	12½	84	77½	80	17½
cafer	Throat gray	50	50	80	60	50	40
	Malar stripe red	10	....	0	....	....	....
	Nuchal bar absent	0	100	0	30	25	90
	Wing and tail red	0	100	0	0	0	100
	Total percentage *cafer* characters	12	87½	16	22½	20	82½

In comparing these birds with a collection of 156 specimens of the two flickers and their hybrids in the collections of the National Museum of Canada there is comparatively little to add to the very complete study of the subject made by J. A. Allen (Bull. Am. Mus. Nat. Hist., 4, 1892, pp. 21-44), but the geographical extent of hybridization as it occurs in Canada can be indicated in greater detail than is shown on his map. The maximum of hybridization in Canada occurs along the international boundary from southwestern Saskatchewan north to Medicine Hat and up the eastern foothills of the Rocky Mountains at least to Jasper Park and the Yellowhead Pass of the Canadian National Railway. Throughout this range in a narrow line all the flickers seem more or less completely mongrelized and specimens of approximately pure blood of either species are the exception. East and north and in Manitoba, *auratus* rapidly predominates, though individuals showing more or less *cafer* influence occur occasionally at Winnipeg and casually as far east even as Toronto. Good series from Whitewater, Oak and Shoal lakes, Manitoba, Last Mountain Lake, Saskatchewan, and Lac la Nonne, northwest of Edmonton, Alberta, seem to be practically pure *auratus*.

In British Columbia the Red-shafted is the dominant flicker throughout the southern parts and on the coast up the Alaska panhandle. Northward and eastward it is gradually replaced by the Yellow-shafted. However, the latter occurs more or less regularly throughout British Columbia, and wherever it occurs it hybridizes freely with the other. In fact it is doubtful if any of the flickers of this province are strictly pure of either species. Many specimens that appear so undoubtedly have some specific mixture in their ancestry ready to break out in succeeding generations. The *auratus* influence is weaker on the coast than in the interior and still more attenuated on the coastal islands; but *auratus* has been reported from Vancouver

Island and in confirmation we have several typical specimens of the saturated form, *C. cafer cafer*, from that island, with faint traces of red nuchal bars. One specimen from Graham Island even shows a fawn overwash to the gray throat that is indicative of a taint of *auratus* blood. Northward, birds from Jasper Park and the Yellowhead Pass are strongly hybrid, averaging about fifty-fifty in relation to the two species. Those from Hazelton are *auratus* but with appreciable *cafer* influence. Mr. M. Y. Williams saw flickers sixty miles below Carcross and at Carmacks, Yukon Territory, that he referred to *cafer*; but other observers in the region have noted only *auratus* which seems to be the prevailing form there. J. A. Allen on the map accompanying his monograph of the hybrid flickers plots a hybrid at Sitka, Alaska, and specimens in the Canadian national collections from the Chitina Glacier near the south end of the Alaska-Yukon boundary, while strongly *auratus* have a perceptible tinge of gray in the fawn throat indicating some *cafer* influence.

The problem in so freely hybridizing species is, what prevents the ultimate complete mongrelization of both species? It is a matter of mathematics to show that, in the course of time, unless there is some handicap to the persistence of cross-bred strains, the hybridizing process should gradually extend east and west, north and south, until finally there would be no pure blood of either species left. That it has extended in some degree throughout the northern range of *cafer* is evident. That it has not seriously encroached on the territory of *auratus* is surprising and suggests that *auratus* is the dominant aggressive species, invading *cafer* territory rather than the contrary. Of course our records are not complete enough through time or in detail for us to say definitely that complete specific hybridization is not in progress. Allen cites evidence to show that when he wrote in 1892 hybrids were regarded as recent occurrences in California, but such later evidence as is on file is negative as to its current increase anywhere in the disputed territory. As far as can be demonstrated on present evidence the relations of the two species to each other are quite stationary.

The subject of the non-survival of hybrids is not confined to the flickers but enters into the cases of other species that cross frequently or occasionally. It is well known that many hybrids are completely sterile, others are partially so. On casual observation the two flickers seem to be fully fertile with each other, but it may well be that there is sufficient handicap in this direction to prevent indefinite continuance of the hybrid strain in competition wth either parent stock. The flickers offer unparalleled opportunities for studying these phases of hybridity, and to those favorably situated they present possibilities for interesting research.—P. A. TAVERNER, *National Museum, Ottawa, Canada, September 10, 1933.*

Records of the Nesting of Certain Birds in Eastern California.—*Querquedula discors.* Blue-winged Teal. On July 2, 1933, in Long Valley, Mono County, California, a nest of this bird was found containing ten badly incubated eggs. The female flushed from the nest and accompanied by the male flew about in the vicinity of the nest which was located in a hummock of sage and marsh grass where a creek had been overflowing; at this date the water had receded, leaving the nest location out of the wet area.

Astur atricapillus striatulus. Western Goshawk. On June 26, 1930, a pair of these birds was found nesting in a dense grove of pines at 8500 feet elevation at June Lake. On this date the nest held three young birds sprouting pin feathers and estimated to be six weeks old. This same nest was visited again on June 6, 1931, at which time it held two young just hatched and one infertile egg. On May 8, 1932, a set of three eggs was collected from this nest, in which the incubation was advanced about one week. At all times the parent birds were vicious and it was not safe for anyone to inspect the nest while alone; such attempts resulted in clawed faces, arms and legs. But the birds were afraid of a group of people and more alarmed at a dog which accompanied us on these trips.

At all times a careful watch was kept for signs of food supplied the young, and our observations indicated that the food consisted entirely of marmots and chipmunks. The female would leave the nest and return within a few minutes with a chipmunk or marmot and proceed to shred the meat and feed it in small bits to the young. No feathers were noted in or around the nest at any time, although grouse