GENERAL NOTES

A hybrid Costa's × Broad-tailed Hummingbird.—During June, 1932, a party from the San Diego Society of Natural History collected birds and mammals on the upper reaches of the Rincon Mountains in Pima County, south-central Arizona. The Rincons are a spur of the higher Santa Catalina range and lie in a southeasterly direction. A rather low gap separates the two pine-clad groups. Among the birds taken was a single male hummingbird, by J. W. Sefton, Jr., at Manning Camp on June 21, that with but a casual glance was identified as *Calypte costae*. It was placed in the Society's collection as specimen No. 15883.

Recently the writer had occasion to review birds from this locality and found to his surprise that this hummingbird differed from the other adult male Costa's Hummingbirds in the series. Since the tropical species considered necessary to carry out a comparison were not at hand, the specimen was sent to A. J. van Rossem, Curator of the Dickey Collection at the University of California in Los Angeles. Mr. van Rossem commented as follows:

"I cannot imagine it as anything other than a good hybrid between *Calypte costae* and *Selasphorus platycercus,* both of which species are presumably common in the Rincons and are the only two which could produce the combinations shown —'spotty' crown, color of throat intermediate, tail characters also intermediate including length. So far as I am aware, this is the first hybrid between these two species to be taken. You should record it. The little mistake is being returned today."

In the belief that Dr. Alexander Wetmore, of the United States National Museum, would be interested to see so unique a specimen, the bird was forwarded to him. He wrote:

"I agree with van Rossem that it seems to be a hybrid between *Calypte costae* and *Selasphorus platycercus.* The form of the tail and gorget are like *Calypte* except that in the latter the produced end has the feathers more rounded, somewhat as they are found in the *C. anna.* The larger size agrees with *Selasphorus.* The color of the crown and the gorget are intermediate between the two, and the reduction of the brilliant color of the crown is suggestive of the larger bird. The slight emargination of the tip of the outer primary is intermediate also, being suggestive of *Selasphorus.* It is an interesting specimen that I am glad to have seen."

Herewith are more descriptive details of this truly "interesting specimen." The rich purple of the gorget of *Calypte costae* and the brilliant carmine of *Selasphorus platycercus* are harmonized in the gorget of the hybrid to a metallic purplish-red. The feathers of the throat are also broader and more rounded, neither fine as in *S. platycercus* nor lanceolated as in *costae.*

The top of the head of *Selasphorus platycercus* is greenish, slightly darker than its brilliant green back, while *Calypte costae* has a purple head, similar in color to its gorget. The hybrid combines the two in having a speckled head, some of the feathers of which are green as in *Selasphorus platycercus,* and others metallic purplish-red, showing the *Calypte costae* inheritance.

The form and measurements of the hybrid's wings and tail are also characteristically intermediate between those of both parents, as shown in the following table where the measurements of a typical adult male of the two named species are used in the comparison.

	Calypte costae	*Hybrid*	*Selasphorus platycercus*
Length of wing	45.5 mm.	48.3 mm.	49.2 mm.
Width of outer primary 10 mm. from tip	3.2 mm.	2.4 mm.	1.5 mm.
Shape of tip of outer primary	rounded	attenuated	pointed
Length of tail	22.0 mm.	28.1 mm.	32.2 mm.
Width of outer tail feather 10 mm. from tip	1.5 mm.	2.9 mm.	5.2 mm.
Width of second tail feather 10 mm. from tip	4.1 mm.	4.5 mm.	6.1 mm.

The color of the underside of the second tail feather shows an interesting combination of the two parental lines, but not a blend. The distal half of this feather, though lacking the white tip, is otherwise colored much like the corresponding feather of *S. platycercus;* the basal section shows primarily *C. costae* influence.

The bird was collected in the conifer belt and within the Transition Zone as it is known in Arizona. In this zone *Selasphorus platycercus* breeds sparingly. On the other hand, *Calypte costae* breeds in the two Sonoran zones which are below the conifer belt, but ascends into higher associations after it has nested. The hybrid was presumably a product of parents that has lived in the intermingling borderline section. Being more than a year old, it had probably returned to the general region where it had been raised. At any rate, the date of capture, the locality, and the unique characters of this hybrid add a mite to our knowledge of these brilliant little birds, for which southern Arizona is the outstanding area in the United States.—LAURENCE M. HUEY, *San Diego Society of Natural History, Balboa Park, San Diego, California.*

Observations on interspecific sexual behavior between a chicken and a pigeon.—For the past year, observations have been made on the social behavior of a number of species of birds kept in a former greenhouse adjoining the biological laboratories of Wabash College, at Crawfordsville, Indiana. The greenhouse is heated by air blown in from a nearby animal room.

The present observations were made in the early afternoon of March 9, 1944. The day was fair and warm, with the sun shining. The temperature in the greenhouse was between 65 and 70 degrees F., a marked increase over the temperatures of the past week.

While several hens, a male chick, and a pigeon were being fed and watered, the pigeon and one of the hens were seen at a feeding tray apart from the other birds. The first unusual behavior which caught the attention of the observer was a loud and continued cooing note from the pigeon. This peculiar type of vocalization had not been heard from this bird recently. The pigeon approached the hen as the latter began to feed, and pecked vigorously at the head of the larger bird. At first sight, this behavior appeared aggressive, as if the pigeon were defending the territory around the feeding tray. However, when the behavior was repeated several times, it was evident that it was sexual.

The pigeon continued its pecking and cooing. The bird would rapidly walk up to the hen, peck at the auricular region of the latter, then thrust its small head completely under the feathers of the hen. With its head thus buried beneath the plumage of the wings, sides, or flanks of the hen, the pigeon appeared to move its head about, pecking continuously. The hen fluffed up her feathers, and seemed to enjoy the procedure.

Another action of the pigeon at this time was an occasional strong flapping of