From the foregoing description and measurements of the eggs of the different species of the genus *Sphyrapicus*, it will be seen that the eggs of *S. varius* are the smallest; those of *S. varius nuchalis* come next in size; then *S. ruber*, and those of *S. thyroideus* are the largest.

The following additional species of the Family Picidæ, occur in the vicinity of Fort Klamath, Oregon.

Dryobates villosus harrisii.	Ceophlœus pileatus.
Dryobates pubescens gairdnerii.	Melanerpes formicivorus bairdi.
Xenopicus albolarvatus.	Melanerpes torquatus.
Picoides arcticus.	Colaptes cafer.

All of these species breed there more or less commonly, excepting *Melanerpes formicivorus bairdi*, which occurs only as a straggler on the eastern slope of the Cascade Range, owing to the absence of oaks, but is quite abundant on the western side of these mountains, wherever oaks are found, especially so near Ashland and Jacksonville, Oregon, in the Rogue River valley. I shall have something to say about the nests and eggs of some of these species in a future paper, having found them all breeding there, and taken the eggs of all excepting *Ceophlœus pileatus*.

NEW AND RARE BIRDS FOUND BREEDING ON THE SAN PEDRO MARTIR ISLE.

BY N. S. GOSS.

THE island, a rock about one and a half miles long, nearly as broad, and 1045 feet in height, is situated in the Gulf of California, a little north of latitude 28°, and not far from midway between shores. I was enabled to visit the same through the kindness of Mr. E. J. Reed, of Guaymas, Mexico, agent for the San Francisco Phosphate and Sulphur Company. I landed from their little steamer that takes out supplies, March 15, 1888, and remained until the 28th. The Company has a large force of Yaquie Indians collecting the guano that has formed a crust on the rocks of from one to four inches in thickness. The island

has been worked for the past three years; notwithstanding this the following described birds continue to breed there, and as the guano of value will be collected within the next six or eight months, the birds will then have undisturbed possession, except upon the rare appearance of roving bird collectors; but as the isle is uninviting and without fuel or water, such visits will be of short duration. The following is a low estimate of the birds breeding there, viz.: Blue-footed Booby, 1000; Brewster's Booby, 700; Red-billed Tropic Bird, 80; Mexican Raven (*Corvus corax sinuatus*), 100; a few Western Gulls (*Larus occidentalis*), and perhaps a few other birds; it was too early in the season to determine this, but it does not appear to be a general breeding place for birds, though a natural one for the Boobies, and when undisturbed thousands upon thousands will breed there. The tenacity with which they cling to their breeding grounds is surprising. One hundred and thirty-five Indians were on the payroll and many had their families with them, and in working and climbing over the isle, they were continually disturbing and often robbing the birds. In this respect, however, the Indians are not as destructive as the white race, and as the Company feeds them well, seem to care but little for the eggs, but the thievish Ravens are ever on the watch and ready to drop upon the eggs or the little ones the moment the parent birds are driven away.

NOTE.—In the identification of the Boobies I am greatly indebted to Mr. Robert Ridgway, who not only placed before me the specimens of the family in the National Museum, but kindly aided in the examination and comparison.

Sula gossi *Ridgw.* (MS.), sp. nov. BLUE-FOOTED BOOBY.

SP. CHAR.—Head, neck, and entire lower parts white, the first two streaked with sooty grayish, back and scapulars dusky brownish, tipped with whitish, legs and feet bright blue in life.

Adult male.—Iris yellow; bill dull olive blue; bare space around bill, eyes, lores, and gular sac slate-blue; legs, feet, and webs bright clear ultramarine blue with a slight greenish tint on webs; claws pale glaucous blue; feathers of head and neck grayish white, widely edged in middle portion with dark sooty grayish, their lanceolate tips pure white, producing a wavy streaked appearance; these markings become obsolete on the anterior part of the forehead, and on the throat for some distance behind the gular sac, and are nearly uniform grayish white; lower neck and en-

tire lower parts, including flanks, axillaries, and most of the under wing-coverts, pure white, broken only on the sides of the lower neck by rather indistinct broad streaks of pale sooty grayish, changing posteriorly next to back into more distinct spots of a deeper hue; feathers of back and scapulars deep sooty grayish or grayish brown, rather broadly but not abruptly tipped with dull white, these terminal spots larger and more distinct on posterior scapulars; wing-coverts entirely plain grayish brown or light sepia, deepening gradually into sooty slate on primaries; lower back and lower rump pale grayish sepia, fading gradually into white on upper tail-coverts; the upper parts of rump chiefly pure white; middle tail-feathers white, faintly shaded on outer portion of outer web for about the terminal third with pale brownish gray, their shafts entirely clear yellowish white, the outer pair wholly sooty grayish (darker terminally and on most of outer web), the others gradually paler towards the middle pair.

Adult female.—Essentially like the male, but differing in the following particulars: Iris paler yellow, plumage somewhat darker, except the hind neck, which is less distinctly streaked, and size larger.

The following measurements are from specimens saved, the first two are in the Goss Ornithological Collection, the last two in the National Museum:

Length.	*Stretch of Wing.*	*Wing.*	*Tail.*	*Tarsus.*	*Bill.*	*Weight.*
34.50	66.00	16.75	9.70	2.20	4.70	4 1-4 lbs.
33.00	63.00	15.75	9.00	2.10	4.10	3 "
33.50	65.00	16.50	8.70	2.20	4.50	3 15-16 "
32.00	62.00	15.50	9.50	2.10	4.20	2 10-16 "

The birds make no nests and lay but one egg; this they drop upon the smooth rock, often in exposed situations, preferring the places where the guano had been removed and, in many cases, close beside the winding paths that were hourly trodden. I found no young birds, and from the condition of the many eggs examined, think they do not commence laying before the 1st of March. Average measurement of 21 eggs, 2.42 × 1.60; ground color greenish blue, coated with a dull white chalky substance, but generally more or less stained with the guano that gives them a dirty buff white look; in form elliptical ovate.

Sula brewsteri,* sp. nov. BREWSTER'S BOOBY.

SP. CHAR.—Similar to *S. sula*, but mantle ending uniform in color with head and neck, the last two paler, especially in the male, in which the neck is pale drab gray fading into white on anterior portions of head; un-

*To my esteemed friend, William Brewster, Cambridge, Mass.

feathered parts also differently colored. Iris dark brown with a narrow ring of grayish white around the outer edge; claws glaucous blue.

Adult female.—Bill pale bluish horn fading after death, and towards the base, to a dull dirty buff; lores slate-blue, bare space around eyes, and gular sac, pale yellowish green; legs, feet, and webs lighter in color and with more of a yellow look; head, neck, breast, and upper parts of body rich drab brown or sepia, deepening on primaries and rectrices into seal brown, the shafts of the feathers black; underparts, posterior to breast, pure white.

Adult male.—Bill olive blue, lores and bare space around eyes indigo blue, gular sac dull slate-blue with a greenish tint; legs, feet and webs light pea-green; the body similar to the female but a little paler, and the breast fading forward into sooty drab; anterior parts of head and throat white, the rest of head and neck drab gray, deepening back, and on the under sides shading into the color of the breast.

Length.	*Stretch of Wing.*	*Wing.*	*Tail.*	*Tarsus.*	*Bill.*	*Weight.*
29.50	56.50	14.35	8.00	2.00	3.75	2 12-16 lb.
31.00	59.08	15.60	8.00	2.00	4.00	3 1-16 "
29.60	55.50	14.48	8.00	2.00	3.90	2 8-16 "
31.50	59.50	15.60	8.25	2.00	4.00	3 "

The above measurements are from specimens saved; the first two are in the Goss Ornithological Collection, the last two in the National Museum. I, however, measured others; the females in all cases were the largest.

The birds were not wild, but their nesting places as a whole were not in as exposed situations as those of the Blue-footed; they seemed to prefer the shelves and niches on the sides of the rocks. They lay two eggs, and in all cases collect a few sticks, seaweed, and often old wing or tail-feathers; these are generally placed in a circle to fit the body, with a view, I think, to keep the eggs that lie upon the rock from rolling out. There is but little material on or about the isle out of which a nest can be made.

The birds must commence laying as early as the 10th of February, for I found in many cases young birds from half to two-thirds grown—white, downy little fellows with deep bluish black skins—that, in places where they can, wander about regardless of the nests where they were hatched. Average measurement of 17 sets of their eggs, 2.44 × 1.60. In color and form, as well as in size, they are similar to the eggs of the Blue-footed, in fact so near alike that when placed together they cannot be separated with any feeling of certainty; therefore in collecting I was careful to mark each set before they left my hands.

Phaëton æthereus *Linn.* RED-BILLED TROPIC BIRD.

The birds breed in holes and crevices on the sides of the steep cliffs that often overhang the water; many were inaccessible. I was therefore able to reach and examine but few of their nesting places. These were without material of any kind for a nest; the egg (for they lay but one) was upon the bare rock. In nearly all, however, I found a young bird, about half grown; from this I think the birds begin to lay as early as the middle of February. With the aid of the Indians, who are expert climbers, I was only able to procure and save seven of their eggs. The ground color is dull grayish white, rather finely and evenly sprinkled with deep claret brown, generally thickest at large end, the specks running largely together, giving the eggs a clouded or marbled look. In form they are ovate. Measurements of the same, 2.31 × 1.71, 2.40 × 1.72, 2.40 × 1.78, 2.26 × 1.71, 2.49 × 1.81, 2.40 × 1.69, 2.38 × 1.68. When approached the birds within their homes do not attempt to leave, but vigorously defend the same, striking and biting with their strong, pointed, sharp-edged, jagged bills, lacerating the ungloved hand that dares intrude, uttering at the same time a loud, harsh, rapid *che-che-che-che-che-che-che*,—notes of defiance, and often heard in their rival flights. The birds are very beautiful, and cannot fail to attract attention, especially when in the air, by the peculiar rapid stroke of their wings and graceful waving motion of their long whip-like tails.

FEEDING HABITS OF SOME YOUNG RAPTORES.

BY H. JUSTIN RODDY.

ALL raptorial birds, whether juvenile or adult, eat large quantities of food when it can be obtained. But they are able to endure long fasts. Digestion is rapid, as is absorption. In from one-half to one and a half hours after eating the stomach is empty, as are also the greater part of the intestines.

Young rapacious birds eat more than the adult birds, since both sustenance and growth must be provided for. By careful