ground in a dead Mamani tree on Horner's Ranch, Hamakua, at about 7300 feet elevation. The tree in which the nest was built was standing in an open space surrounded by live Mamani, the whole clump being sheltered from the winds by a ridge close by. This nest, when compared with the one just described, is like it in form, size and materials, except that a lining of horse hair (a material not available for the Kona nest) has been added in the Hamakua nest in place of lichens. When found, in October, 1903, this nest, which was then apparently deserted, contained one rotten egg that measures .93 × .67 in. It is a creamy white color with pale lilac under markings. Over the surface brown blotches and freckles are distributed, but they are somewhat crowded together about the large end.

Mr. Blacow, who has collected extensively in the district and is well acquainted with the birds of the island, was fairly convinced that the egg is that of the Palila (*Loxioides bailleui* Oust.), since it was not only a fairly common bird in the locality, but one found usually frequenting the Mamani. At the time the nest was collected, in addition to securing the globular nests and white eggs of the introduced *Carpodacus mexicanus obscurus*, he saw *C. virens*, *O. mana*, *H. wilsoni* and *L. bailleui* in the bushes round about, but did not see *V. coccinea* or *H. sanguinea*.

Wilson (Aves Hawaiiensis), writing on the Palila, states that "On June 14 I found a nest from which I saw the bird fly; it was placed in the topmost branches of a Naio tree (*Myoporum santalinum*) [sic], about 35 feet from the ground, but contained no eggs, and when I subsequently revisited it we found it deserted. It may be briefly described as cup-shaped, 4 inches in diameter, and very loosely constructed of dry grass, among which are interwoven a considerable quantity of grey lichens, the inside being composed of the same lichen with a few slender rootlets added."

The two nests here shown differ from each other slightly in the material used in the lining. No. 3009 is very similar to the nest described by Wilson, except in the amount of lichens used. The egg here described is out of proportion to the size of any bird other than the Palila, which has been secured in the locality; hence, by exclusion I conclude that this is the first description of the egg of *Loxioides bailleui*.

## Nest and Eggs of Heterorhynchus wilsoni Roths.

WM. ALANSON BRYAN.

OWING to the field labors of my friend Mr. C. E. Blacow I am able to give a photographic reproduction together with a description of the first nest and eggs of the genus *Heterorhynchus* to be recorded. Although originally erroneously identified by the collector, through circumstantial evidence, as *Loxioides bailleui*, he has since been able to clear up the identity to our satisfaction and



NEST AND EGG OF HETERGRHYNCHUS WILSONI ROTHS.

writes me under date of May 4, 1905, that "I also found a Palila nest, and the female is on the nest. I will wait until the egg hatches and then send the nest and young to you. Those last two nests that I took to the Museum are *Heterorhynchus wilsoni* nests if the eggs are anything to go by. I found a nest the other day with the *H. wilsoni* standing on the edge of it. Today I visited the same nest and found one egg. The egg is the same as those in the other nests. So the Palila that I saw fly out of the tree that I found one of the other nests in was probably feeding and did not have any connection with the nest whatever."

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The two nests referred to were secured by Mr. Blacow on June 27, 1904, at about 7500 feet elevation among the Mamani (Sophora chrysophylla) trees growing on Horner's Ranch, Hamakua, Hawaii. The larger of the two, the one here shown, was much fresher than the smaller one, being partly composed of leaves of the Mamani that were still green. Both nests were about nine feet from the ground and placed on the outside of the tree.

As the cut shows, the nest is a rather bulky affair, 5.00 inches in diameter by 2.50 inches deep; the cup is 1.75 inches across by 1.50 inches deep. The structure is substantially made, the body being built of the green leaf stems and leaves of the Mamani; to this is added a generous lining, an inch thick, of greenish-white lichens, such as are common in the Hawaiian forests at higher altitudes. The single egg, which unfortunately is slightly damaged, is a pointed oval in form, measuring .75×.56 in.; the ground color is a rich cream; about the larger end the shell is wreathed with confluent spots of pale lilac which forms the under color; over the whole surface, but especially over the larger end, are sprinkled fine brownish freckles.

The second nest was similar in structure to the one figured, but differed in being somewhat smaller. The eggs measured  $.76 \times .53$  in. and  $.75 \times .54$  in., and were marked similarly to the ones before me.

All the collectors who have worked on Hawaii have found the Akiapolaau frequenting the Mamani, and have remarked on its curious woodpecker-like habits. It was therefore to be expected that the nest when found would be placed in the Mamani thickets. Since both the bird and the egg of the Palila are much larger than the Akiapolaau, or its eggs here described, there seems every reason to accept the foregoing as a correct description of the nest and eggs of this interesting species, the habits of which have here-tofore been so little known.



Bryan, William Alanson. 1905. "Nest and eggs of Heterorhynchus wilsoni Roths." *Occasional Papers of the Bernice Pauahi Bishop Museum of Polynesian Ethnology and Natural History* 2(3), 253–254.

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