

picked up. The coloration is not materially different from California specimens. The wing measures 11.25 and the tail 5.15 inches.

Chlorodrepanis wilsoni (Rothschild).

Himatione chloris Wilson. Proc Zool. Soc. 1889. p. 447 (portion).

Himatione wilsoni Rothschild. Bull. Brit. Orn. Club. i, p. xlii, (1883). Wilson and Evans. Aves Hawaiensis. desc. and pl. July, 1896.

Chlorodrepanis wilsoni Wilson and Evans. Aves Hawaiensis. p. xxi (introduction).

ROTHSCHILD, Bds. of Laysan. p. 137, pl. LIX, fig. 3.

The bird of West Maui is undoubtedly separable from *virens* of Hawaii. The coloration of *wilsoni* is much the lighter and the dimensions are different, the tail especially being longer and the tarsus shorter in *wilsoni*. The characterizations in Wilson and Evans' work are far from satisfactory. The measurements being given in inches and tenths are scarcely of value in this day of fine discrimination among insular forms. Neither is the difference in size between male and female given, which is considerable in specimens examined by me. The following table of measurements is of two specimens (*virens*) from near Hilo, Hawaii and four (*wilsoni*) from Iao Valley, West Maui.

MEASUREMENTS OF *Chlorodrepanis* FROM HAWAII AND MAUI.

	Date	Sex	Wing	Tail	Ex. Culmen	Tarsus
<i>C. virens.</i>	1-2-99	♂	2.50	1.50	.58	.88
" "	12-24-99	♀	2.42	1.44	.52	.85
<i>C. wilsoni.</i>	12-27-99	♂	2.55	1.74	.62	.81
" "	"	♂	2.61	1.79	.62	.80
" "	12-21-99	♂	2.52	1.71	.60	.85
" "	"	♀	2.45	1.63	.54	.82

The only land bird obtained peculiar to the Hawaiian Islands was this species. Near the head of Iao valley it was found to be common, where nine specimens were secured. My field notes on it are here given: "Dec. 27, 1899. Numerous *Himatione* were seen to-day; at least many more than before. In one female the ovaries were active. One male with well developed testes has a plumage like the female. The stomach contained insect larvæ. Their call-note is very like that of our *Polioptila*, the song being a sustained and rapid repetition of a single note, repeated five to seven times. Most of the birds were seen about thirty feet from the ground, where the color of their feathers made it a difficult matter to distinguish them from the foliage. One male was shot in the lower branches of a tree twelve feet up and another lit in the lower part of a small guava bush only two feet from the ground." They do not come below an elevation of about 900 feet. In a specimen taken Dec. 12 the testes were .34 in length. Iris, dark; feet, very dark, almost black; tip of bill and base of lower mandible, light brown; rest of bill, dark brown.

Unprotected Breeding Grounds.

BY VERNON BAILEY.

THE large island lakes of the Great Basin country in eastern California and Oregon, Nevada and western Utah are the most extensive and important breeding grounds of inland water birds in the United States. A glance at any good map of the region

will give some idea of the number and size of these lakes and their position in the bottoms of inclosed valleys. In most cases they are comparatively shallow, with no outlet and more or less alkaline or saline water; but the most important feature, so far as bird life is con-

cerned, is the border of tules growing along the shallow shores. In some cases where the water is nowhere more

ive din of millions of mosquitoes.

Early in July of 1899, while camped for a few days on the shore of Tule Lake, in northeastern California, I found many of the birds breeding in abundance and, late as it was, some of the species still building or laying. As I waded among the tules examining and photographing the nests I had a good chance to watch the old birds at close range and was often astonished at their boldness when the nests or young were approached.



PHOTO BY VERNON BAILEY.
COOT'S NEST, TULE LAKE, CAL.

than five or six feet deep, as in Chewaucan marsh, Oregon, and Franklin Lake, Nevada. The whole lake is a great tule marsh with here and there open strips of water.

Scattered over a region of sagebrush desert with large ranches or open stock range and few human inhabitants, until a few years ago they offered a safe breeding ground for vast numbers of ducks, pelicans, cormorants, grebes, gulls, terns, heron, stilts, avocets and other waders, while those in the lower valleys also served as winter resorts for the more northern as well as the resident species. In spring and early summer the tule borders around the lakes were noisy with the grating and squawking of yellow-headed blackbirds, the rasping of long-billed marsh wrens, cackling and calling of coots and grebes, quacking of ducks and the din and racket of harsh-voiced terns and waders all discordant, unmusical sounds but most attractive and interesting to human ears and each telling of happy bird life and busy family cares. Later in the season the tules are filled with the softer and less attract-

As two or three downy young avocets hopped awkwardly over a stubby sandbar at my feet, the old birds screamed and dove close to my head and then fluttered and wallowed on the ground in front of me, while the black-necked stilts joined them in sympathetic scolding. In striking contrast the pelicans and cormorants deserted their nests and young at the first alarm, but with apparent reason. The pelicans had been entirely driven from the peninsula where thousands had been in the habit of breeding and were feeding their



PHOTO BY VERNON BAILEY.
WESTERN GREBE NEST, TULE LAKE, CAL.

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young were lying where some vandals had shot them from the nests.

Three species of grebes were breeding in the lake, the pied-billed the least common, the eared the most numerous, and the western, (*Aechmophorus occidentalis*) the most conspicuous of them all. Of the dozens of nests seen I could never find one with the old grebe on, although the eggs were usually warm. They were sometimes covered, sometimes bare and hastily abandoned. Those of the western grebe were easily recognized by their larger size, but in other ways did not differ from those of the eared grebe. They floated on two to four feet of water, the soggy stems

and were higher and drier than the grebes' nests. Well out from shore where the water was waist deep a colony of Forster terns were breeding on a raft of floating tule stems, and half a mile up the side of the lake a colony of black terns had their nests on a similar raft, the rusty spotted eggs matching the old brown tule stems to perfection. A flock of about 500 Caspian terns often gathered to feed along one of the sandy beaches and then scattered out to some rocky islands where they were apparently breeding with the gulls. Ruddy ducks had their nests in the tules, half floating like those of the coots; cinnamon teal were breeding in the dry marshes; and mallards, gadwall, and shovellers were seen along shore, but no nests found.



PHOTO BY VERNON BAILEY.

BLACK TERN'S NEST ON TULE RAFT.

and rotten vegetation of the nest barely raising the saucer-shaped top where the eggs rested above the surface. While I was photographing a nest the old birds would sometimes come noiselessly up from below the surface of the still water and watch me with their little fiery eyes for a moment and then disappear, but they usually kept at a safe distance. A brood of the little black chicks of the eared grebe was surprised in open water and while one of the old birds hurried them into the tules the other swam boldly out to meet me.

The coots' nests were abundant but while resting in the water they were partly supported by the standing tules

This glimpse of the corner of one lake in the breeding season could be almost duplicated in a hundred other lakes of the region. In the past four years many thousand grebe skins have been shipped from this one lake, and the skin and plume hunting business has spread over the Great Basin country. A few years ago market hunters visited these lakes when

the young ducks were nearly full grown and the old ducks moulting and unable to fly, loading their wagons with them for the market. While the game laws have put a stop to the open wholesale slaughter of ducks out of season most of the other birds, just as worthy of protection, are left unguarded. The white pelicans have been driven from many of their breeding grounds. The most beautiful species of our grebes have been woefully thinned in numbers, and unless some protection is afforded the birds these lakes will soon be a veritable part of the desert.