

ON KENNICOTT'S OWL AND SOME OF ITS ALLIES,
WITH A DESCRIPTION OF A PROPOSED NEW
RACE.

BY WILLIAM BREWSTER.

Since the date of its first description in 1867, *Kennicott's Owl* (*Scops asio kennicotti*) has remained a very rare bird, and ornithologists have gained but little additional knowledge regarding either its distribution or variations of color. The prominent characters of Elliot's type were its large size and tawny or umber-brown plumage, and as the few specimens subsequently recognized have closely resembled it, this peculiar coloring has come to be regarded as constant and diagnostic. But not long since Capt. Bendire sent me a Screech Owl from Fort Walla Walla, Washington Territory, which, although equaling *kennicotti* in size and resembling it in some other respects, was colored more nearly like *S. asio* in its gray dress. Being unable to reconcile the peculiarities of this bird with any of the standard descriptions, I set to work, at Capt. Bendire's request, to bring together a sufficiently large number of specimens to determine its identity or relationship. In this I have at length succeeded, thanks to the kind assistance of Professor Baird and Mr. Ridgway of the National Museum, Mr. Allen of the Cambridge Museum of Comparative Zoölogy, Capt. Charles Bendire, U. S. A., Mr. H. W. Henshaw, Mr. Purdie and several other friends, all of whom have been most generous in placing their material at my disposal.

The series now before me comprises about fifty specimens, and includes representatives of all the known North American forms of *Scops* except *S. flammeolus*. Among the number are two typical *kennicotti*, a fine suite of *asio*, illustrating its numerous variations of plumage, and no less than nine examples referable to the large gray form already mentioned as coming from Fort Walla Walla. A comparison of the latter with *asio* and *kennicotti* shows that while a few of the grayer specimens bear a strong superficial resemblance to *asio* in its corresponding condition, the evidence of the series as a whole points to a stronger affinity

with *kennicotti*. In regard to size, they are fully up to the standard of the latter, the difference from *asio* in this respect being so decided that the smallest male of the series is considerably larger than any female which I have from the East. Moreover, the purely gray style is represented by only a small proportion of the number, the majority being more or less tinged with tawny-rufous, in this as well as some other respects indicating evident approaches to the supposed typical characteristics of *kennicotti*. In short, the intermediate character of several of these specimens is so unmistakable that, although the transition is not completely shown, they furnish ample evidence that the gray form actually does intergrade with brown *kennicotti*.

The bearing of this testimony is not doubtful. Geographical considerations preclude our regarding the two birds as allied races, for one of the most typical examples of *kennicotti* comes from Idaho (No. 59,068 Coll. Nat. Mus., Dr. Whitehead), while I have a specimen referable to the gray condition from the coast of Oregon (Portland, Capt. Bendire), thus showing that they cannot be assigned different habitats. Clearly, then, the only alternative remaining is the assumption that *kennicotti*, like *asio*, is dichromatic, the purely gray birds from Fort Walla Walla representing the extreme of one phase, as the tawny brown type probably does that of the other. And considered in connection with its bearing on similarly variable allied forms, the hypothesis of dichromatism certainly offers a very easy and natural way out of the difficulty. Nor is there anything inconsistent in the fact that one or the other style apparently predominates in many sections of their mutual range, and in some is perhaps the exclusive representative, for a similar state of affairs is well known to obtain with other dichromatic members of this genus.*

Assuming the preceding conclusions to be granted, the gray condition of *kennicotti* may be characterized as follows:—

Scops asio kennicotti. Gray phase; adult (♀, no. 6456 author's collection, Fort Walla Walla, W. T., October 22, 1881, Capt. Bendire). Ground-color above brownish-ash, darkest on the head, palest on the wings, with confused, often nearly obsolete transverse mottling and shaft-stripes of dull black, broadest and most numerous on the crown. Outer webs of scapulars and alula-coverts cream-color, the former tipped and narrowly

* Mr. Ridgway has found that fully ninety-five per cent of the Screech Owls of the Wabash Valley, in southern Illinois, are *red*.

marginated with black. Secondaries and inner webs of primaries crossed by from six to seven bars of pale reddish-brown. Outer webs of primaries with broad, quadrate spots of brownish-white. Tail regularly but faintly barred with light reddish-brown. Feathers of the sides of head and neck thickly but minutely mottled with dusky upon a lighter ground. Lores nearly pure white. A somewhat broken facial-circle of black or chestnut spots and blotches. Beneath ashy-white, lightest on the abdomen, with numerous fine, regular, transverse bars of black and coarse shaft-stripes of the same color; the only immaculate space being that along the middle of the abdomen. Lining of wings and concealed silky plumage of sides under the wings, pale ochraceous. Tarsi, dull chestnut. Wing, 7.10; culmen, .61; tarsus, 1.77; tail, 4.10; middle toe, .75; ear-tufts, 1.45.

The above description is of a specimen representing the extreme grayish phase so far as shown by the series before me. Six others from the same locality vary a good deal in color and markings, some of them being very dark with coarse shaft-stripes, both above and below, while one or two have the dorsal surface nearly like that of *asio* in its corresponding condition. In all, however, the plumage of the under parts is somewhat different from that of *asio*, the transverse bars being usually much finer and more regular and the ground color ashy instead of clear white. These differences seem to be most strongly marked in the purely gray specimens which otherwise afford the nearest approaches to *asio*.

Among the darker birds are three which may be considered as about intermediate between the extreme brown and gray phases. The first, from Mr. Henshaw's collection (Fort Walla Walla, Nov. 7, 1880, Capt. Bendire) has the dorsal plumage dark brown with an amber cast, while the tibiæ, lining of wings, outer webs of scapulars, and numerous pairs of rounded spots forming a band or collar across the nape, are tawny-ochraceous of nearly as deep a shade as in typical brown birds. The dark shaft-stripes in this specimen are broader and blacker than in any of the others and the usual ashy cast beneath is replaced by an ochraceous one. The remaining two birds are similarly characterized but to a less marked degree. All three combine the gray and brown coloring of the respective extreme phases, precisely as do many of the eastern specimens before me, the gray and red conditions of *S. asio*.

The Portland specimen already mentioned, although in some respects an intermediate, is on the whole nearer the gray than

the brown condition. Its general coloring is essentially similar to that of Mr. Henshaw's bird, but the ground shade above is darker and the scapular spots are confined to the edges of two or three of the outer feathers, while the ochraceous wash beneath occurs only on the sides, lining of the wings, and tibiae, the ground color of the under parts being otherwise clear ashy-white.

An unusually large female from Hellgate, Montana (No. 18,299, Nat. Mus.), which Mr. Ridgway very naturally treated as *asio* in the "Birds of North America" (Vol. III, p. 50), agrees closely with Capt. Bendire's specimens and with them must now be referred to *kennicotti*.

In the light of the present evidence it becomes necessary to rearrange the typical characters of this Owl. I accordingly offer the following diagnosis:—

Scops asio kennicotti. Wing, 6.40 to 7.60. Dichromatic, assuming either a gray or a tawny-brown condition. Gray phase similar to that of *asio*, but with the plumage beneath thickly barred and streaked along the median line. Brown phase characterized by a general dusky-umber or tawny-ochraceous coloring unlike that of any other North American form.*

The following table includes the most essential measurements of all the specimens of *kennicotti* which I have examined, together with some taken at second hand, of Elliot's type of the race.

Gray and Intermediate.

					Wing.	Tail.
6457,	W. B.	♂ ad.	Ft. Walla Walla, W.T.	Nov. 20, 1881.	7.50	4.07
6458,	W. B.	♂ ad.	" "	" "	"	"
82,330,	Nat. Mus.	♂ ad.	" "	Apr. 25, 1881.	7.07	4.05
6459,	W. B.	♂ juv.	John Day River, Ore.	Dec. 22, 1880.	7.06	4.25
30,624,	C. Mus.	♂ ad.	Ft. Walla Walla, W.T.	Aug. 6, 1881.	6.92	3.65
	H. W. H.	♀ ad.	" "	Feb. 12, 1881.	7.00	4.22
6456,	W. B.	♀ ad.	" "	Nov. 7, 1880.	7.05	wanting
18,299,	Nat. Mus.	♂ ad.	Hellgate, Mon.	Oct. 22, 1881.	7.10	4.10
6466,	W. B.	ad.	Portland, Oregon.	—————	7.60	4.10
					6.40	3.82

Brown.

4,530,	Nat. Mus.	—	Washington Ter.	—————	6.80	4.07
59,068,	Nat. Mus.	—	Idaho.	—————	6.67	3.65
59,847,	Nat. Mus.	♂ ad.	Sitka, Alaska.	March, 1866.	7.40	4.00

* The small quadrate spots on the primaries and the indistinct tail-bands, characters which have been held as diagnostic, are both shown by my series to be inconstant and of no varietal significance.

During the course of the preceding investigation I had occasion to compare a large number of Eastern specimens of *Scops asio* with some California examples from Nicasio and Alameda County. Somewhat to my surprise, I detected several apparently constant differences which, taken in connection with the pretty definitely settled fact that the California bird is not, like *asio*, subject to dichromatism, seem to me to warrant the varietal separation of the two. I accordingly propose a new race as follows:—

***Scops asio bendirei*,* var. nov.**

CALIFORNIA SCREECH OWL.

CH. SP. Similis *S. asioni*, sed auribus brevioribus; colore subtus magis cinerario, transversis lineis tenuioribus, pallidioribus, ac in medio haud interruptis. Nulla rubra conditione cognita.

Adult ♀ (No. 1,546, author's collection, Nicasio, California, April 24, 1877, C. A. Allen). Above essentially similar to *asio* in its gray dress. Beneath ashy-white, every where thickly barred and streaked with black; the transverse bars being fine, numerous and regular, the shaft-stripes coarse and generally distributed from the throat to the crissum, both markings occurring as thickly on the median line of the breast and abdomen as along their sides. Wing, 6.20; tail, 3.30; tarsus, 1.50; culmen, .60; ear-tufts, 1.15.

Another adult from the same locality (♀, May 18, 1878, Coll. H. A. Purdie), measures, wing, 6.22; tail, 3.18; ear-tufts, 1.05: while seven unsexed specimens from Alameda county furnish the following extremes: wing, 6.01–6.52; tail, 3.22–3.72; ear-tufts, 1.05–1.25.

The above detailed characters, so far as my series goes, are sufficient to distinguish the California specimens from any gray examples of *asio* taken in the Eastern States. The chief difference is in the ground-color and markings of the plumage beneath. In *asio* the central line of the breast and abdomen is nearly always immaculate, while there is frequently a broad, entirely unspotted gular space: in *bendirei* these parts are as thickly barred and streaked as are the sides, while the ashy tinge of the entire lower surface and the much finer character of the transverse pencilling gives the plumage a clouded appearance which, although difficult of description, is very characteristic. The ear-tufts, also, are usually shorter than those of *S. asio*.

*As my material is not at present sufficiently comprehensive to enable me to define the limits of distribution of this race I leave the compilation of its synonymy to those who may have better opportunities in this respect.

Among the nine examples before me there is remarkably little individual variation, much less in fact than with any equal number of *asio* which I have ever examined. The Alameda County specimens as a rule are rather more finely and faintly barred than the Nicasio ones and the ground-color beneath is of a slightly different shade, inclining more to clayey than ashy white. In one bird the under surface is decidedly dull clay-color, which is so generally and evenly distributed that there is positively no approach to clear white even on the throat, lores, forehead or abdomen. But the essential characters already given are so well maintained on the whole that the description of the one chosen as the type will apply nearly as well to them all. This uniformity is doubtless largely owing to the absence in this race of any tendency to dichromatism, for much of the variation among the dichromatic ones can be traced to the combination in varying degrees of the colors of both phases, purely colored birds of either style being, at least in some sections, of comparatively rare occurrence. It is of course to be expected that larger suites of specimens will furnish occasional aberrant ones some of which may approach *asio*; but, so far as the present material is concerned, the tendency of variation is rather towards *kennicotti* and "*tricopsis*." Indeed, as will be seen by comparing my diagnoses, the general coloring and markings of *bendirei* are so nearly like those of *kennicotti* in its extreme gray phase, that were it not for their wide difference in size it might be difficult to separate some of the specimens. That *bendirei* grades into the larger bird at the point where their respective habitats meet is shown by a specimen (No. 16,027, Nat. Mus.) from Fort Crook, Northern California, which is almost exactly intermediate in size, although more nearly like *kennicotti* in color and markings. As to our bird of the Southwest border, I believe that Mr. Ridgway is still undecided whether it really represents the *tricopsis* of Wagler or not, but he writes me that however this may turn out, he is now convinced that it intergrades with the form found over California at large and must hence be reduced to a variety of *Scops asio*. After a careful comparison of specimens I can unhesitatingly endorse this opinion, my Arizona examples of "*tricopsis*" differing from some of the more faintly barred *bendirei* only in the purer ash and sharper streaking of their dorsal plumage.

Save in cases where this fresh material has thrown new light

on old data, I have deemed it unnecessary to go over any of the ground trodden by Mr. Ridgway in his elaborate and invaluable monograph of the genus *Scops*,* but the bearing of some of the present testimony has proved so far reaching that I venture, in concluding, to suggest the following rearrangement of the North American Screech Owls belonging to the *S. asio* group.

Dichromatic: erythrismal phase bright rufous.

Scops asio. Habitat, United States north of the Gulf States and east of the Rocky Mountains.

Scops asio floridanus. Habitat, Florida and Southern Georgia.

Scops asio maccalli. Habitat, Highlands of Guatemala, Eastern Mexico, and Valley of the Lower Rio Grande in Texas.

Dichromatic: erythrismal phase tawny or reddish brown.

Scops asio kennicotti. Habitat, Northwest Coast from Sitka to Oregon and eastward across Washington Territory into Idaho and Montana.

Non-dichromatic: always gray in color.†

Scops asio bendirei. Habitat, Coast region of California.

Scops asio tricopsis? Habitat, Western Mexico and the extreme southwestern border of the United States.

Scops asio maxwellæ. Habitat, Mountains of Colorado.

A RECONNOISSANCE IN SOUTHWESTERN TEXAS.

BY NATHAN CLIFFORD BROWN.

THE village of Boerne in Southwestern Texas, with its surrounding country, was the field of my ornithological labors between December 21, 1879 and April 4, 1880. Boerne is situated about thirty miles northwest of San Antonio, and less than that distance

*"Review of the American Species of the genus *Scops*." Proc. U. S. Nat. Mus., Vol. I, pp. 85-117.

† This arrangement leaves a large portion of the Middle Province without any characteristic representative, *maxwellæ* being an Alpine form apparently confined to the Rocky Mountains, while *kennicotti* and "*tricopsis*" respectively invade only its northern and southern borders. Our knowledge of the subject is not as yet sufficiently comprehensive to enable me to fill this gap, but all the available evidence goes to show that *asio*, at least as above defined, is not found to the westward of the Rocky Mountain range.