

long as the head without the postorbital part. The vent is between the ventrals, but nearer their tips than their origin. The origin of the dorsal is nearly midway of the total, including caudal. The length of the dorsal base is contained about  $6\frac{2}{3}$  times in total length without caudal. The anal is immediately under the dorsal, but its base is not quite so long. The length of the caudal is contained about  $5\frac{1}{2}$  or 6 times in the standard body length. Second dorsal ray is longest, its length about equal to the postorbital part of the head. The longest anal ray is less than one-fourth the length of the head. Lateral line 40. The breast is armed with about 14 plates.

A dark stripe on the snout, and continued behind the eye on the opercle; a few indistinct dark blotches on the side of the head; axillary region dusky. Pectoral with 3 or 4 imperfect cross-bars. Body with 3 indistinct saddle-shaped dusky half bars, the middle one of which extends up on the middle of the dorsal fin. These bars do not extend below the median line of the body. Tail with 2 dusky bars, one anteriorly and the other terminal, the two separated by a dirty yellowish area. General color dusky above, whitish below; this color also present on ventral and anal.

D. 7; A. 7; V. I, 2; C. 10; P. 12.

The ventral of *Aspidophoroides monopterygius* consists also of a short spine and 2 rays. The union of the gill-membrane to the isthmus in *monopterygius* is the same as in *güntherii*. There are vomerine and palatine teeth in *monopterygius*, contrary to the statements of most ichthyologists. The obsolete nasal spines, the maxillary barbels, and the form of the body offer the only characters by which this species might be distinguished from the *monopterygius* type, and we have the *inermis* as a connecting link between *monopterygius* and *güntherii*.

I have named the species for Dr. Albert Günther, of the British Museum, to whose writings and personal kindness I am deeply indebted.

U. S. NATIONAL MUSEUM,

Washington, March 11, 1885.

REMARKS ON THE TYPE SPECIMEN OF *BUTEO OXYPTERUS*,  
CASSIN.

R.

By ROBERT RIDGWAY.

In "History of North American Birds," vol. iii, pp. 266-268, this bird was referred to *Buteo swainsoni*, Bp., although recognized as representing a local or geographical race under the title of "*Buteo swainsoni*, var. *oxypterus*." The type specimen is there described, and also in a paper published in the "Proceedings" of the Philadelphia Academy of Natural Sciences for 1875 (pp. 113, 114), where, however, the "var. *oxypterus*" is not recognized. The type specimen is again specially referred to in Mr. J. H. Gurney's "List of the Diurnal Birds of Prey,"

p. 68, where the following remarks, written by me to Mr. Gurney, are quoted :

"It has been more than ten years since I saw the specimen in question ; but my recollection of it is that it agreed very exactly with a specimen from Costa Rica and another from Buenos Ayres, both of which are in the National Museum collection, and both of which are unquestionably young of typical *B. swainsoni*."

Having recently been enabled, through the courtesy of the authorities of the Philadelphia Academy, to make an actual comparison of the three specimens involved in the above statement, and having found the same to be incorrect, I wish to offer some remarks which may throw more light on *B. oxypterus* and its relationships.

Although smaller than any example in the National Museum collection, "*B. oxypterus*" is unquestionably referable to *B. swainsoni*. It is a young bird, and probably a male. Dr. Bryant's statement (Pr. Boston Soc. viii, 1861, p. 118) to the following effect is incorrect: "Several of the primaries in both wings of this bird are only partially developed, which gives the wing a peculiarly sharp appearance." On the contrary, the primaries are all full grown, their proportionate length, compared with one another and with the secondaries, and all other details of wing-structure, being exactly as in other specimens of *B. swainsoni*. Mr. Cassin, in his original description, did not compare "*B. oxypterus*," with *B. swainsoni* at all, but with *B. pennsylvanicus*, a species very different in respect to its wing-formula, and in comparison with which *B. swainsoni* may very appropriately be termed "sharp-winged."

In coloration, the type of "*B. oxypterus*" does not resemble the Costa Rica and Buenos Aires specimens so much as I had supposed. The latter are much variegated with pale ochraceous on the upper parts, while the former is nearly uniform above, the wings quite so. The nearest approach among National Museum examples is No. 67248, a young male from Camp Grant, Arizona (September 28, 1873, H. W. Henshaw), which is much like it in the markings of the lower parts, though the thighs are much less regularly barred ; but the wing coverts are broadly bordered with buff. It is likewise larger, the wing measuring 14.75 inches.

Upon the whole, I cannot see the slightest reason for recognizing "*B. oxypterus*" even as a local race of *swainsoni*, the type being exceptional as to size, while the *average* difference in dimensions between northern and southern specimens is insignificant.

The specimen described in "History of North American Birds" (iii, p. 266), as the melanistic adult of "*Buteo swainsoni* var. *oxypterus*" is not *B. swainsoni* at all, but *B. fuliginosus*, Sel., which is said (and probably with truth) to be the melanistic phase of *B. brachyurus*, Vieill. This I have been able to determine beyond question by an examination of the wing formula, which is radically distinct in the two species, al-

though *B. brachyurus*, like *B. swainsoni*, has only three primaries emarginated. The two differ as follows:

**B. swainsoni.**—Wing more than 13.50 inches; difference between tips of longest primaries and those of longest secondaries (tertiaries) much more than one-third the length of the wing. Third and fourth quills longest; second longer than fifth; first much longer than eighth (sometimes equal to seventh). Second, third, and fourth quills with outer webs sinuated; inner web of fourth quill never with indication of sinuation.

**B. brachyurus.**—Wing less than 13.50 inches; difference between tips of longest primaries and those of longest secondaries less than one-third the length of the wing. Third, fourth, and fifth quills longest; second shorter than fifth, usually about equal to sixth (rarely a little shorter); first shorter than eighth (usually a little shorter than ninth). Second, third, fourth, and fifth quills with outer webs sinuated; inner web of fourth quill usually more or less sinuated.

#### EARLY IRON MANUFACTURE IN VIRGINIA—1619-1776.

By R. A. BROCK.

*Secretary of the Virginia Historical Society.*

[Accompanying specimens of slag from the old foundry at Falling Creek, Va., established in 1619. Donation No. 9378.]

To Virginia, the first of the English settlements in America, belongs the honor of inaugurating within her limits as a colony that most important industry, iron manufacture.

The London Company, it is exhibited, contemplated a variety of manufacturing enterprises from the very beginning of its authority; prominent among them was that of iron.

In 1610, Sir Thomas Gates testified before the council of the company at London that in Virginia "there were divers minerals, especially 'iron oare,' lying upon the surface of the ground, some of which having been sent home had been found to yield as good iron as any in Europe.\*

Under a new administration of its affairs, the London Company, in 1619, after twelve years of unprofitable expenditure, sent to Virginia a large body of emigrants, including workmen, and materials for some new branches of industry. These embraced no less than one hundred persons skilled in the manufacture of iron, with the design of erecting in the colony three iron works. Of these, one hundred and ten were from Warwickshire and Staffordshire and forty from Sussex, and were selected for their skill and industry. †

\* True Declaration of Virginia, 1610; Force's Tracts, Vol. III, p. 22.

† A Declaration of the state of the Colonies, &c., 1620, p. 10; Stith's History of Virginia, Book IV, p. 176.