

rare, at least about Halifax, and Mr. Belt found it equally so about Waverley and Portobello on the Dartmouth side. It is a southern species. The caterpillar feeds upon the hawthorn (*Cratægus*.)

Fam. HESPERIDÆ.

Nisoniades brizo, (Boisd.)

Thanaos brizo, (Har.)

This is a common species about Halifax, to be found on open barrens as well as shady spots in the forest. I have observed it to be numerous in barren places on the blossoms of the blueberry about the end of June. Morris in his N. American Lepidoptera sets it down as an inhabitant of the Southern States, but it is clearly as abundant in our northern latitude as anywhere else.

Hesperia hobomok, (Har.)

Common in old roadways in the forest during the summer months.

Hesperia mystic, (Edw.)

Not quite so common as the preceding species in similar situations.

Hesperia Peckii, (Kirby.)

Rather less numerous than the other species.

Three other species in my cabinet yet undetermined.

ART II. NOTE ON A SMALL AND REMARKABLE LOPHIOID RECENTLY TAKEN OFF HALIFAX HARBOR. BY J. M. JONES, ESQ., F. L. S.

(Read Nov. 13, 1871.)

A FEW weeks ago Dr. Honeyman kindly drew my attention to a singular looking little fish which had been taken at the mouth of Halifax Harbour by a fisherman, and placed in the Museum. At first sight it appeared to me to belong to the *Triglas* or Gurnards from the appearance of the pectorals, which are so particularly developed, but on looking for the three detached rays at the base

of these fins and finding them absent, I at once concluded that it could not be placed in that genus. Finding it impossible to recognize the specimen as belonging to any particular genus, although it approached more nearly that of *Lophius* than any other, I thought it best to communicate with Dr. Theodore Gill of Washington, who is the chief authority on American fishes, and sent him a sketch of the fish accompanied by the following description:—

Characteristics.—Head very large, high, compressed, cleft of mouth horizontal and very wide. Jaws with cardiform teeth. Body naked, attenuate, compressed. Head armed with stout sharp spines. Total length, 2 inches 4 lines. Pectorals with carpal bones slightly prolonged ventrals in advance of pectorals.

Description— Length of head9 lines.
 Depth $6\frac{1}{4}$ “
 Width $4\frac{1}{2}$ “
 Length of snout $4\frac{3}{4}$ “

Lower jaw longer than upper, flattened beneath, shovel-shaped, as if formed to rest upon, with a single row of cardiform teeth. Upper jaw, with maxillaries and intermaxillaries armed with similar teeth. Tongue elevated, with a few small teeth on its surface extending to the root. Nasal bones armed at their extremities with two minute spines. Orbital crests armed with three acute spines each occiput with two larger ones. Two small spines also occur at the posterior basal angle below the pectorals. Frontal, from occiput to snout, flattened with a medial ridge extending from the snout a little beyond the orbital line. On the summit of the head is a flexile filament, $3\frac{1}{4}$ lines long; at $1\frac{3}{4}$ lines from this commences the first dorsal of three flexile rays, the first $4\frac{3}{4}$, the others somewhat less. These rays are connected by thin membrane for about one third their extent. The second dorsal is 4 lines from the first and is composed of nine rays of the nearly equal length of $3\frac{1}{2}$ lines. Pectorals, with carpals slightly prolonged, of nine branched rays, originating in the bony cheek a short distance above the posterior basal angle, extending the whole length of the body, exclusive of the caudal, and half as broad as long when distended. Ventrals, of five rays, springing 6 lines from extreme of lower jaw, and $1\frac{1}{2}$ lines anterior to the vertical of the pectoral base. Anal, of nine rays, (5, 6, 7, longest) distant from ventrals $6\frac{3}{4}$ lines and terminating $1\frac{1}{4}$ lines from caudal base; caudal, of eight rays obtusely lanceolate, the centre rays six lines in extent. Eyes, $1\frac{1}{4}$ lines diameter, blue, having the pupil of a silvery tint; gill openings, small foramens, immediately behind the pectoral base.

Colour.—Above, bluish-black, caused by a congregated mass of dark speckles; beneath, light horn colour, mottled more or less with similar speckles; dorsals, pectorals, ventrals, and anal bluish-black; caudal, dirty white.

Dr. Gill's reply was as follows :—

I recognize in the figure sent the young of *Lophius Americanus* (as I think it must be) but it seems that you have overlooked the two anterior dorsal rays and miscounted the pectorals. Have you not also observed some minute filaments or tags on the head and body?

Now, as regards the two anterior dorsal rays and the tags alluded to, I have little hesitation in saying that they are absent in this specimen, and as the fish was in a very fine state of preservation when I examined it, I do not think such processes could have been rubbed off in any way. Another feature tells against its being the young of *Lophius*, viz. the great elevation of the head which does not correspond with the dimensions of young Lophioids of similar size given in Günther's Catalogue. For the present therefore, and until my return from the Bermudas I must leave the matter unsettled, intending to include this and several other forms in a more extensive paper I hope (D. V.) to lay before the Institute next year.

I must not omit, however, while on the subject of Lophioids, to notice the fine specimen of *L. piscatorius*, or what our American friends are pleased to call *L. Americanus*, (although it has no claim whatever to be considered a distinct species from the European form), recently taken at the Dockyard, and now under process of being skeletonized at the Lumber yard for presentation to the Museum, by Capt. Tulloch, R. E.

The pectoral fins of the Lophioids are very singularly formed, as may be seen by looking at a skeleton prepared by Dr. Honeyman, serving the purpose of arms to rest upon while the fish remains stationary on the look out for prey.

ART. III. ON PRE-CARBONIFEROUS ROCKS OF THE PICTOU
COAL FIELD. BY THE REV. D. HONEYMAN, D. C. L.,
F. G. S., &c., *Director of the Provincial Museum.*

(Read Nov. 13, 1871.)

ABSTRACT.

IN the Report of Progress of the Canadian Survey, from 1866 to 1869, page 7, Sir W. G. Logan says in reference to certain pre-carboniferous rocks underlying the Pictou Coal Field, "No evidence was observed by me on McLellan's Mountain to shew to what epoch these older rocks belong; but masses somewhat similar are noticed by Mr. Hartley on the west side of the East River, in a position where they have been mentioned in his *Acadian Geology*