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Dr. Durkee in the Chair.

Dr. A. A. Gould continued his remarks on the European collections of Natural History, giving brief sketches of those of Paris, Florence, Vienna, Munich, Bonn, Amsterdam, Leyden, and Glasgow.

Mr. Theodore Lyman read a paper on the forms of birds, the object of which was to show how form, as depending on structure, may be recognized in this class, and may be expressed by measurements. He had compared, for this purpose, a hawk and an owl, and a duck and an auk, showing that the form is characteristic in each group, which may therefore be looked upon as a natural family in the animal kingdom. There is no essential difference between the bill and claws of the hawk and owl; there are, however, very striking differences in the size and position of the eyes, the bulk of the lower body, and in the length of the tarsus. Owls have large, prominent eyes, turned to the front, a body bulky below, and (generally) a very short tarsus; their abundant plumage is so arranged as to bring out these features; the feathers of the head make a kind of face, in the midst of which appear a half-buried beak and a pair of round, staring eyes; the body is large and heavy looking, growing larger below, and apparently ending in a partly concealed pair of feet; the natural position is bolt upright, on account of the short tarsi and the weight of the body in front. Hawks have eyes of moderate size, rather sunken, and on the sides of the head; the body is elegant and compact, and the tarsus generally long; the plumage is commonly shorter and closer; the ordinary position is with the body standing well up on the legs, and inclined at a small angle from vertical. The owl gives the idea of solemnity and gravity, the hawk that of alertness and vigor, but both share the expression of ferocity.

In the auks and ducks, both water-birds, the chief elements of difference are the plane of the bill with reference to that of the

head, the shape of the body, and the position of the legs. The ducks have the bill flattened in a horizontal and the head in a vertical plane, and the legs placed so far forward that they can move, though awkwardly, on land; the neck is long and slender, and the body short and chubby. The auks have the head compressed in a horizontal and the bill in a vertical plane; the body is very long and flattened vertically; the legs are entirely behind, and the tibia is so bound down by the integuments, that the animal, on land, often tumbles forward, and assumes when standing an upright position.

The paper was accompanied by drawings, and by tables giving the proportions of the skulls and skeletons, and showing the characters of the families.

Prof. Agassiz made some remarks on two *Pomocentridæ* from the Florida reefs, of the genera *Glyphisodon* and *Pomacentrus*, the latter being a new species called by him *P. meleagris*.

The family of *Discoboli*, of which the Lump-fish is the chief representative, is very interesting both anatomically and zoölogically. Swainson arranged the lump-fish with the lamprey-eel, which is as bad as placing the bat among the birds. Cuvier placed it with the malacopterygians, with the *Gadidæ* and *Pleuronectidæ*. J. Müller separated the *Discoboli* from malacopterygians, and placed them with the acanthopterygians, where they belong; but from the fact that the ventrals are united into a disk, he erroneously placed them in a family *Cyclopodi*, with *Gobius*, separating *Eleotris* from the family. The genus *Echeneis*, according to Prof. Agassiz, belongs among the scomberoids. He gave some of the characters of the genera *Cyclopterus*, *Liparis*, *Gobiesox*, and *Lepadogaster*, of the family *Discoboli*;—in *Lepadogaster* there are two pairs of pectorals and two pairs of ventrals, one pair of which consist each of folds of skin only, and are not true fins; the membranous fold of the second pectorals contains fibrous rays, and is attached to the shoulder bone, the membranous ventral fold is attached to the styloid bone. These structural features render a separation of *Lepadogaster* and *Cyclopterus* as

distinct families necessary. He would place the *Discoboli* not at all with *Gobius*, but in the neighborhood of the sculpins. He presented to the Society specimens of three new genera of this family, as follows: *Crossognathus*, Ag., from Charleston, S. Carolina; *Lobognathus*, Ag., from Peru; and *Ptychocheilus*, Ag., from Puget Sound.

The following communication was received from Mr. William Stimpson:—

Smithsonian Institution, Washington, D. C., Oct. 1, 1858.

I wish to place on record in the Proceedings of the Society the existence of a remarkable new form of Brachyurous Crustacean on the coral reefs at Hawaii. It cannot be properly referred to any known family, although having perhaps more resemblance to *Pinnotheres* than any other known genus, as its integuments are soft, and the female abdomen of great size,—in fact larger than the carapax. Its place in the series is probably between *Pinnotheres* and *Hymenosoma*. Four specimens only are in my possession, which are, unfortunately, all females. They were collected by the scientific corps of the U. S. North Pacific Surveying Expedition, under the command of Capt. John Rodgers. It may be called

HAPALOCARCINUS MARSUPIALIS.

The shell or general integument of the body is but little indurated, quite soft and flexible, such as occurs after moulting in other crabs. The feet however, particularly the chelipeds, are sufficiently firm. The carapax is rather depressed, smooth, and glabrous, suboval, longer than broad, narrower in front than behind, somewhat truncated at either extremity, and without teeth or spines on any part. Front horizontal, straight. Orbits small, excavated in the anterior margin. Eyes short, oblique, inclining to longitudinal, and scarcely retractile. Antennulæ very short and minute, placed at the inner angle of the orbit. The epistome is scarcely distinct, as the lamelliform maxillipeds reach nearly to the eyes and antennæ. The buccal area occupies the whole breadth of the carapax anteriorly, the outer maxillipeds covering the subhepatic regions. The maxillipeds are loosely applied, as in some *Anomoura*, and those of the two sides are

separated from each other at the base by the triangular anterior extremity of the sternum, which is greatly prolonged. In the outer maxillipeds the ischium-joint is enlarged and dilated within, while the meros is very small, and slender like the last three joints or palpus; the exognath is slender and palpigerous.

The feet are slender and weak, smooth and shaped nearly as in *Pinnotheres*. The chelipeds are equal, and about as long as the ambulatory feet, and twice as thick. Fingers of the hand nearly straight, longitudinal, and shorter than the palm. Dactyli of the ambulatory feet all very short, and slightly uncinate. Sternum very broad and smooth, with the genital orifices rather wide apart. Abdomen of great size, larger than the rest of the animal, smooth, but with the segments distinct; the sides much expanded and folded inward, forming a kind of pouch for the reception of the eggs.

Color a dark blue-gray, or "neutral tint." Length of the carapax, 0.21; breadth, 0.165 inch.

Found clinging to the branches of living madrepores, at the depth of one fathom, in the harbor of Hilo, Hawaii, March, 1856. They probably feed upon the coral-polypes.

The Corresponding Secretary read the following letters, which had been recently received, viz:—

From the Smithsonian Institution, June 23; the Royal Society of London, March 13; the Lyceum of Natural History of New York, February 11, acknowledging the receipt of the Society's publications; from Charles Loosey, New York, August 19; the Royal Geographical Society, April 20, presenting various publications; from William Sharswood, Philadelphia, accompanying descriptions of insects; the same, August 26, proposing an exchange of publications with the Entomologischer Verein zu Stettin; the Société du Museum d'Histoire Naturelle de Strasbourg, March 1, 1857, proposing an exchange of publications.

Joseph Hyrtl, of Vienna, was elected an Honorary Member of the Society. W. G. Binney, of Burlington, N. J., and E. S. Morse, of Portland, Me., were elected Corresponding Members. Dr. Richard H. Wheatland, of Salem, was chosen a Resident Member.