

MEMOIRS

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PART II, SECTION 3

THE EXPLORATION OF SOUTHAMPTON ISLAND

PART II, ZOÖLOGY

SECTION 3—SOME FISHES OF SOUTHAMPTON ISLAND

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The collection and the study of the birds of Southampton Island having been the main purpose of Mr. Sutton's expedition, and, as it rather fully occupied his time, his collection of fishes was quite small and was only incidentally made. However, all the species, which he brought back to the Carnegie Museum, were new to our collection. They are listed as follows:

Order **ISOSPONDYLI**.

Family **SALMONIDÆ**.

Genus **SALVELINUS** Richardson.

1. **Salvelinus stagnalis** (Fabricius). THE GREENLAND CHARR.

This species was recorded by Dresel (Proc. U. S. N. M., VII, 1884, p. 255) from Godhavn, Disco Island, Greenland, which is in about the same latitude as the northern portion of Southampton Island.

Mr. Sutton brought back a series of adult specimens of the Greenland Charr, which is one of the most interesting freshwater fishes of the region. In the past few years a number of other specimens of this species have been brought from the waters of Greenland by returning Arctic expeditions, but upon these no reports have as yet been published. The Field Museum of Natural History has on exhibit an excellent celluloid cast of this charr in life-colors. Mr. Sutton likewise brought back a sketch in natural colors, but this is not available at the present writing. MacMillan has called attention to the interesting seaward migrations of this charr. The outlets of small inland freshwater lakes in Greenland remain frozen for all the months of the year, except July and August. With the first breaking up of the ice in these streams there is a rush of these fish to these outlets and thence to the sea, from which they must return within two months, or risk being shut out by the freezing of the streams in September. There is apparently an upward migration of the charr from the sea to the lakes just before the outlets again freeze in the fall. Whether these upstream

migrants are the same individuals, which went to sea two months previously, or are individuals, which have wintered in the ocean since the previous summer, is not known.

A single small specimen (G. M. S. No. 1, Carnegie Museum No. 8573a) 160 mm. over all, is provisionally placed in this species. Immature specimens of charrs are always difficult to identify, and, as the formula of the fins agrees, there is no reason to suppose that the specimen under consideration is other than a young specimen of the Greenland Charr, *Salvelinus stagnalis*, although found in a freshwater-lake and seemingly land-locked.

Three fine adult specimens, a male and two females, of this charr occur in the collection. Unfortunately the life-colors are not now distinguishable.

In order to make available the proportions of this species a series of measurements is appended. These are based on a splendid male (C. M. 8572a) with the characteristic hooked mandible, 19.75 in. in total length; and a gravid female (C. M. 8572b) containing eggs about half-developed. The latter specimen measures 18.125 in. over all. The second female measures 15.75 inches. The secondary sexual characters common to all salmonid fishes, namely the longer snout, longer maxillary, and larger adipose fin of the male, are indicated in the measurements.

In this series, the first measurement given is that of the male (C. M. No. 8572a); the second measurement being that of the first female (C. M. No. 8572b).

| | MALE | FEMALE |
|--|---------|---------|
| Total length from tip of snout to tip of tail..... | 503 mm. | 460 mm. |
| From tip of snout to end of lateral line..... | 447 mm. | 395 mm. |
| Least depth of caudal peduncle..... | 40 mm. | 37 mm. |
| Length of head from tip of snout to margin of operculum..... | 108 mm. | 90 mm. |
| Length of head from tip of snout to nape..... | 65 mm. | 60 mm. |
| Perpendicular diameter of head through middle of eye..... | 36 mm. | 31 mm. |
| Length of eye..... | 13 mm. | 12 mm. |
| Greatest depth of body (approximate) at origin of dorsal..... | 105 mm. | 105 mm. |
| Distance from tip of snout to front of eye..... | 36 mm. | 28 mm. |
| Distance tip of snout to posterior edge of preopercle..... | 85 mm. | 80 mm. |
| Width of interorbital space..... | 31 mm. | 26 mm. |
| Distance from tip of snout to posterior end of maxillary..... | 60 mm. | 44 mm. |
| Greatest width of maxillary..... | 8 mm. | 7 mm. |
| Distance from tip of snout to base of pectoral..... | 115 mm. | 87 mm. |
| Distance from tip of snout to ventral fin..... | 265 mm. | 225 mm. |
| Length of lower jaw to junction with the quadrate..... | 70 mm. | 55 mm. |
| Distance from tip of snout to anal fin..... | 345 mm. | 320 mm. |
| Distance (shortest) from tip of snout to origin of dorsal..... | 210 mm. | 204 mm. |
| Length of base of dorsal fin..... | 43 mm. | 38 mm. |
| Height of longest (fourth) ray of dorsal fin..... | 48 mm. | 48 mm. |
| Length of pectoral fin..... | 59 mm. | 60 mm. |
| Distance from base of pectoral to base of ventral fin..... | 153 mm. | 145 mm. |
| Length of longest upper caudal ray from scaleless base..... | 58 mm. | 58 mm. |
| Length of ventral fin..... | 51 mm. | 49 mm. |
| Distance from base of ventral to origin of anal..... | 105 mm. | 102 mm. |
| Length of longest lower caudal ray..... | 58 mm. | 58 mm. |
| Length of base of anal fin..... | 34 mm. | 33 mm. |
| Length of middle caudal ray..... | 31 mm. | 29 mm. |
| Length of longest (third) ray of anal fin..... | 49 mm. | 46 mm. |
| Distance from posterior end of dorsal to adipose fin..... | 115 mm. | 97 mm. |
| Length of base of adipose fin..... | 9 mm. | 7 mm. |
| Distance from posterior base of adipose to upper base of tail..... | 67 mm. | 50 mm. |
| Distance from posterior base of anal to lower base of tail..... | 57 mm. | 48 mm. |
| Branchiostegals, number on left side..... | 11 | 10 |
| Branchiostegals, number on right side..... | 11 | 10 |
| Dorsal rays..... | I, 11 | I, 11 |
| Anal rays..... | 12 | 10 |
| Pectoral rays..... | 13 | 13 |
| Ventral rays..... | 9 | 9 |

Order **THORACOSTEI.**Family **GASTEROSTEIDÆ.**Genus **PUNGITIUS** Costa.2. **Pungitius pungitius brachypoda** (Bean).

A single specimen (C. M. No. 8570) 71 mm. in total length. This specimen agrees with the distinctive characters of this form in having short ventral spines, their length being less than one-third that of the head.

D. XI, 10; head 4.3; depth 6; eye 3.3. Dorsal consists of eleven divergent spines, followed by a second dorsal, entirely separate, consisting of ten soft rays. Body smooth, without dermal plates; about eight platelets on each side of caudal peduncle forming a lateral keel.

Order **CATAPHRACTI.**Family **COTTIDÆ.**Genus **ONCOCOTTUS** Gill.

Gill-membranes forming a broad fold across the isthmus, and free from it. Preopercle armed with four spines, partly covered with loose skin; the upper spine longest, straight, projecting upward and slightly backward; the next projecting outward and backward; the third spine projecting slightly downward; and the fourth, or lowest spine, perpendicularly downward.

3. **Oncocottus hexacornis** (Richardson).

Four specimens (C. M. No. 8571a-d) 190-265 mm. in total length, all taken in Coral Inlet, on July 31, 1930.

D. VII-IX, 14-15; A. 13-14; head 3.25. Supraocular and occipital spines replaced by four granular bony ridges, the supraocular ridges curved backward, resembling spines; the occipital ridges broadened and plate-like.



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