

upon Matthiessen's* formula for the expansion of platinum between 0° C. and 200° C. This formula reads,

$$l = l_0 (1 + 0.00000851 t + 0.0000000035 t^2)$$

and the reductions are given in the following table:

TABLE X.

Platinum.	Celsius.	Platinum.	Celsius.
1900°	1294°	1500°	1081°
1800	1238	1400	1025
1700	1188	1300	968
1600	1129	1200	910

Of the accuracy of this comparison there are at present no means of deciding. Taking into consideration, however, the attempts already frequently made, to estimate the temperature of flames, glowing metal, etc., it seems likely that the above values, in degrees Celsius, are considerably too small.

Rosetti of Venice gives, for example, for the hottest portion of a Bunsen's burner flame, 1350°. According to Pouillet,† the melting points of various metals are as follows:

Wrought-iron	1600° C.	Cast-iron	----	1200 C.	1050° C.
Steel	-----	1400 C.	1300° C.	Gold (pure)	-- 1200 C., etc.

Peekskill, N. Y., May 28, 1879.

ART. LVII.—*Notice of recent Additions to the Marine Fauna of the Eastern Coast of North America, No. 7; by A. E. VERRILL. Brief Contributions to Zoology from the Museum of Yale College. No. XLIV.*

AMONG the numerous additions recently made to the marine fauna of our coast by the fishermen of Gloucester, Mass., are two new species of Cephalopods. They both belong to the eight-armed division. One is a true *Octopus*. The other and more interesting one is the second known representative of the remarkable family of *Cirroteuthidæ*, characterized by the presence of a pair of fins, one on each side of the body, supported by a transverse cartilage; by the presence of a great web, surrounding and uniting all the arms, nearly to their tips; and by the presence of two slender cirri between the suckers, along the greater part of the length of the arms.

Our species differs so widely from *Cirroteuthis Mülleri* Esch., the only representative of the family hitherto described, that it is necessary to constitute for it a new genus.

Stauroteuthis, gen. nov.

Allied to *Cirroteuthis*, but with the mantle united to the head all around, and to the dorsal side of the slender siphon, which it surrounds like a close collar, leaving only a very narrow opening around the base of the siphon, laterally and ventrally.

* Matthiessen, Phil. Mag., VI, vol. xxxii. † Pouillet, Comptes Rendus, i, ii.

Fins triangular, in advance of the middle of the body. Dorsal cartilage forming a median angle directed backward. Body flattened, soft, bordered by a membrane. Eyes covered by the integument. Web not reaching the tips of the arms, the edge concave in the intervals. Suckers in one row. Cirri absent between the basal and terminal suckers. Right arm of second pair is altered, in the male, at the tip.

Stauroteuthis syrtensis, sp. nov.

♂. Head broad, depressed, not very distinct from the body. Eyes large. Body elongated, flattened, soft or gelatinous, widest in the middle, narrowed but little forward, but decidedly tapered, back of the fins, to the flat, obtuse, or subtruncate tail. The sides of the head and of the body, forward of the fins, are bordered by a thin soft membrane, about half an inch wide. The fins are elongated, triangular, obtusely pointed, placed in advance of the middle of the body. Siphon elongated, slender, round, with a small terminal opening. Mantle edge so contracted and thickened around its base as to show scarcely any opening, and united to it dorsally. Arms long, slender, subequal, each united to the great web by a broad membrane developed on its outer side, widest (about 1.5 inch) in the middle of the arm, while the edge of the web unites directly to the sides of the arms and runs along the free portion toward the very slender tip, as a border. This arrangement gives a swollen or campanulate form to the extended web. Edges of the web incurved between the arms, widest between the two lateral pairs of arms. The arms bear each fifty-five or more suckers, in a single row. Those in the middle region are wide apart (.5 inch or more) with a pair of slender, thread-like cirri, about 1 inch long, midway between them. The cirri commence, in a rudimentary form, between the 5th and 6th suckers, on the dorsal arms, and between the 7th and 8th, on the ventral ones. They cease before the 23d sucker on the dorsal and lateral arms, and before the 22d on the ventral ones. Near the mouth, and beyond the last cirri on the free portion of the arms, the suckers are more closely arranged. They are small, with a deep cavity. Color, in alcohol, generally pale with irregular mottlings and streaks of dull brownish; inner surface of arms and web, toward the base, and membrane around the mouth, deep purplish brown. Length from end of body to base of arms, 6.30 inches; length to posterior base of fins, 2.50; to anterior base, 4; width across fins, 5; in advance of fins, 2.70 (not including lateral membrane); across eyes, 1.75; across end of tail, 1.20; diameter of eye, 1; width of fins, at base, 1.20; their length, 1.75; length of arms, 13 to 14 inches; portion beyond web, 2.5 to 3 inches. Edge of extended web, between upper arms, about 4 inches; between lateral arms, about 8 inches; entire circumference of web, about 48 inches.

Taken by Capt. Melvin Gilpatrick and crew, schooner "Polar Wave," N. lat. $43^{\circ} 54'$; W. long. $58^{\circ} 44'$, on Banquereau, about 30 miles E. of Sable I., in 250 fathoms. Presented to the U. S. Fish Commission, Sept., 1879.

Octopus piscatorum, sp. nov.

Body of female is smooth, depressed, about as broad as long. Obtusely rounded posteriorly, not showing any lateral ridges, nor dorsal papillæ. No cirrus above the eyes. Arms long, rather slender, tapering to long, slender, acute tips, the upper ones a little ($\frac{1}{10}$ of an inch) shorter than those of the second pair, which are the longest; the third pair are about one-half inch shorter than the second; the ventral pair about one-fourth inch shorter than the third. In our specimen all the arms on the right side are somewhat shorter than those on the left, and the web between the 1st and 2d arms is narrower, due perhaps to recovery from an injury. The suckers are moderately large, alternating in two regular rows, except close to the mouth, where a few stand nearly in a single line; about fourteen to sixteen are situated on the part of the arms included within the interbrachial web. The whole number of suckers on one arm is upwards of seventy. The web between the arms, except ventrally, is of about equal width, and scarcely more than one-fourth the length of the arms, measuring from the beak. Between the ventral arms the web is about half as wide as between the lateral.

Color of alcoholic specimen, deep purplish brown, due to very numerous crowded, minute, specks; eye-lids whitish. The front border of mantle, beneath, with base of siphon and adjacent parts, is white; end of siphon brown. Lower side of head and arms lighter than the dorsal side. Total length, from posterior end of body to tip of arms, of 1st pair, 6.20 inches; 2d pair, 6.30; 3d pair, 5.75; 4th pair, 5.25; to web between dorsal arms, 3.25; between ventral arms, 2.50; to edge of mantle, beneath, 1.20; to center of eye, 1.55. Breadth of body, 1.25; of head across eyes, 1.20; breadth of arms, at base, .22; diameter of largest suckers, .10; length of arms, beyond web, 1st pair, 3.00; 2d pair, 3.25; 3d pair, 2.80; 4th pair, 2.75.

Taken by Capt. John McInnis and crew of the schooner "M. H. Perkins," from the western part of Le Have Bank, off Nova Scotia, in 120 fathoms. Presented to the U. S. Fish Commission, Oct. 1879.

This species is easily distinguished from *O. Bairdii*, by its more elongated body, its much longer and more tapered arms, with shorter web; by the absence of the large, rough, pointed papilla, or cirrus, above the eyes, and by its general smoothness. The white color of the underside of the neck, siphon and mantle-border also appears to be characteristic.



Verrill, A. E. 1879. "LVII.—Notice of recent additions to the marine fauna of the Eastern Coast of North America, No. 7." *The American journal of science and arts* 18, 468–470.

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