

Measurements in millimeters and hundredths of length of carapax.

	Station—							
	871	879	874	1125	1038	940	1043	1043
Sex	Yng.	Yng.	♂y.	♂	♂	♂	♀	♀
Length of carapax, including frontal teeth ..	8.9	9.8	13.3	21.7	23.2	29.8	26.3	35.5
Length of carapax, excluding frontal teeth ..	8.6	9.5	12.8	21.0	22.4	28.7	25.7	34.0
Breadth of carapax in front of lateral spines ..	10.3	11.5	15.8	26.2	28.0	37.0	31.4	42.7
Same in hundredths of length first given ..	116.	117.	119.	121.	121.	124.	119.	120.
Breadth of carapax, including lateral spines ..	16.2	17.0	24.2	40.8	43.8	56.0	46.0	65.0
Length of lateral spines ..	3.3	3.0	5.0	8.7	9.3	10.8	7.3	12.0
Length of right cheliped ..	14.0	15.0	21.0	35.0	39.0	53.0	44.0	60.0
Length of chela ..	7.7	8.0	11.3	19.0	21.3	28.5	23.6	32.0
Height of chela ..	2.7	2.9	3.8	6.7	7.9	10.3	8.3	12.0
Length of dactylus ..	3.7	3.8	6.0	9.0	10.7	14.3	12.0	16.8
Length of left cheliped ..	13.5	15.5	18.0	34.0	.....	51.0	42.5	57.0
Length of chela ..	7.5	7.6	9.3	18.3	.....	27.5	23.0	31.0
Height of chela ..	2.5	2.8	2.5	6.0	.....	9.1	7.7	10.0
Length of dactylus ..	3.7	4.0	5.7	9.1	.....	14.7	12.0	17.0
Length of third ambulatory leg ..	22.0	25.0	35.0	52.0	60.0	72.5	64.0	75.0
Length of fourth ambulatory leg ..	14.0	15.0	21.0	33.0	38.5	46.5	41.0	55.0
Length of dactylus ..	4.4	4.6	.....	9.7	11.2	14.5	12.2	16.5
Breadth of dactylus ..	1.2	1.5	.....	3.7	4.3	5.4	5.0	7.0

OXYSTOMATA.***Acanthocarpus Alexandri* Stimpson.**

Although this species occurred in considerable abundance in the dredgings off Martha's Vineyard in 1880, being taken at seven out of the fourteen stations in between 50 and 200 fathoms, it was taken but once in 1881, station 944, 128 fathoms, and was not taken at all in 1882.

In the living specimens taken in 1881 the dorsal surface of the carapax and chelipeds was pale reddish orange, deepest in color upon the elevations of the carapax and upon the bases of the carpal spines of the chelipeds; while the carapax beneath, the sternum, abdomen, and the under surfaces of the chelipeds and ambulatory legs were white, very slightly tinged with reddish.

***Myropsis quinquespinosa* Stimpson, Bull. Mus. Comp. Zool. Cambridge, ii, p. 157, 1870; A. M.-Edwards, *ibid.*, viii, p. 21, 1880.**

Station 941, N. lat. 40° 1', W. long. 69° 56'.

A single very large male, which gives the following measurements:

	Millimeters.
Length of carapax, including frontal lobes and posterior spine	37.0
Length of carapax, excluding frontal lobes and posterior spine	34.0
Breadth of carapax, including lateral tubercles	31.4
Breadth of carapax, excluding lateral tubercles	31.0
Length of cheliped	75.0
Length of merus	32.5
Length of chela	34.8
Length of dactylus	21.0
Length of first ambulatory leg	56.0
Length of posterior ambulatory leg	36.0

In life the dorsal surface of the carapax and the chelipeds and ambulatory legs are pale orange red.

Cymopolia gracilis, sp. nov.

This species, of which only one specimen has been obtained, resembles *C. cursor*, A. Milne-Edwards (Bull. Mus. Comp. Zool. Cambridge, viii, p. 29, 1880), in the great length of the second pair of ambulatory legs, but is at once distinguished by the much smoother carapax without tubercles on the posterior margin, by the broad sinuses of the superior margin of the orbit, and by the conspicuously hook-shaped tips of the first pair of abdominal appendages of the male.

Male.—The front is deeply divided by a sharp median sinus, and is slightly and obtusely bilobed either side, with the inner lobes much more prominent than the lateral. The orbit is very broad and open above. The superior margin is armed with two small teeth, separated from each other and from the inner and outer angles of the orbit by rounded sinuses, of which the inner is very broad and nearly semicircular; the middle and outer successively smaller; the outer angle is triangular and a little less prominent than the outer suborbital lobe, which is dentiform and separated from it by a shallow sinus; and the inner suborbital process (which is also the dorsal wall of the efferent branchial passage) is narrow; rounded at the tip, reaches nearly as far forward as the lobes of the front, and is separated from the outer suborbital lobe by a very broad and rounded sinus. The antero-lateral margin is unarmed, except by a small dentiform tubercle on the anterior part of the branchial region in place of the sharp tooth in *C. cursor*. The dorsal surface of the carapax is naked, minutely granulated, and armed with a very few low and obtuse tubercles. There are three faintly indicated tubercles on the middle of the gastric region; two, the largest of all, surmount a transverse ridge on the anterior part of the cardiac region; on either side, and nearly in line with these, are two smaller ones on the branchial region, above and back of the dentiform marginal tubercle already referred to; and in front of these two small ones there is a slight but scarcely tuberculiform elevation.

The eyes are large, the greatest diameter equaling nearly a third the length of the carapax, reniform, and bear upon the upper side of the stalk, near the cornea, two or three minute elevations, which are much less conspicuous than the tubercles similarly situated in *C. cursor*.

The chelipeds are slightly longer than the breadth of the carapax, and the chelæ are slender, naked, and nearly smooth, and the long, compressed, and very slender digits hooked at the tips and serrate along the prehensile edges. The first ambulatory leg is nearly twice as long as the breadth of the carapax, very slender, naked, and nearly smooth, except a very few minute granular tubercles near the base of the merus, and the dactylus is nearly as long as the propodus, subcylindrical, regularly tapered and slightly curved. The second ambulatory leg is apparently more than twice as long as the first; the merus reaches nearly to the tip of the first leg, is tapered distally, and is armed with a few minute teeth near the distal end of the posterior edge

and along the anterior and dorsal surface with small granular tubercles which become obsolete distally, are much less conspicuous than in *C. cursor*, and not definitely arranged in several longitudinal lines as in that species; the carpus is about two-fifths as long as the merus, slender and unarmed; the dactylus and the distal part of the propodus are wanting. The third ambulatory leg is a little longer than the first, fully as slender, and very much like it in lack of ornamentation and in the proportions of the segments. The posterior ambulatory legs are shorter than the merus in the third, and very slender.

The abdomen is unarmed externally. The first pair of appendages reach to the second sternal somite, and the distal part of each appendage is straight to near the tip, which is curved outward and backward in a semicircular, blunt-pointed hook, and armed on the outer edge at the base of the hook with a conspicuous tooth.

Station 878, off Martha's Vineyard, 1880, N. lat. 39° 55', W. long. 70° 54' 15", 142 fath., fine sand and mud; one specimen. The measurements in the first column of the accompanying table are from this specimen, while those in the second column are taken from one of the type specimens of *C. cursor*.

Measurements in millimeters and hundredths of length of carapax.

	<i>C. gracilis.</i>	<i>C. cursor.</i>
Sex	♂	♂
Length of carapax, including frontal teeth	5.0	6.5
Greatest breadth of carapax	7.0	8.7
Same in hundredths of length	140	134
Length of cheliped	7.3	.....
Length of chela	3.1	3.6
Height of chela	0.7	0.8
Length of dactylus	1.8	1.9
Length of first ambulatory leg	13.0	11.5
Length of merus	4.5	3.8
Length of propodus	3.1	3.2
Length of dactylus	3.0	3.0
Length of second ambulatory leg .....	.....	30.0
Length of merus	11.0	10.5
Length of carpus	4.2	4.7
Length of propodus .....	.....	9.0
Length of dactylus .....	.....	5.4
Length of third ambulatory leg	14.5	18.0
Length of merus	5.5	5.5
Length of propodus	3.4	5.5
Length of dactylus	3.1	3.7
Length of fourth ambulatory leg	5.0	5.5

In *C. cursor* the teeth of the superior margin of the orbit are much larger than in *gracilis* and the sinuses smaller and more triangular. The anterior-lateral margin projects in a dentiform tubercle on the hepatic region, and back of this on the anterior part of the branchial region there is an acute and prominent tooth directed somewhat forward, and a smaller but acute tooth, just back of its base.* The first pair of

* There is evident confusion in regard to the armament of the antero-lateral margin in Milne-Edwards's description above referred to, for he says, "Le bord latéral ne porte pas des dents, en avant du sillon post-hépatique les régions branchiales sont pourvues des quelques gros tubercules sur leur bord." I have examined four of the original specimens of *C. cursor* returned to the Museum of Comparative Zoology, and they all have the antero-lateral margin armed, as here described, but agree in all other respects with Milne-Edwards's brief description.

abdominal appendages of the male are fully as long as in *gracilis*, but the tips are slender and styliform instead of hooked.

Ethusa microphthalmalma Smith, Proc. National Mus., iii, p. 418, 1881.

Station 921, off Martha's Vineyard, N. lat. $40^{\circ} 7' 48''$, W. long. $70^{\circ} 43' 54''$, 67 fath. (1 ♂, 1 ♀); station 1047, off Delaware Bay, N. lat. $38^{\circ} 31'$, W. long. $73^{\circ} 21'$, 156 fath. (1 ♂). The original specimen was from station 878, off Martha's Vineyard, N. lat. $39^{\circ} 55'$, W. long. $70^{\circ} 54' 15''$, 142 fath.

The female from station 921 is fully adult, but does not differ essentially from the immature female from which the species was originally described; in this fully adult specimen the antero-lateral angles of the carapax, however, project farther forward, reaching a little beyond the spines of the front, and the ambulatory legs are apparently proportionally longer and have proportionally slightly longer and narrower dactyli.

The two males differ very remarkably from one another, and are possibly distinct species. The one from station 921 is only slightly larger than the immature female (from station 878) and differs very little from it in the proportions of the carapax, the form of the front, or in the eyes, external oral appendages, or ambulatory legs, except that the first and second pairs are proportionally longer, with slightly longer and narrower dactyli. The chelipeds, however, are very unequal. The left is slender throughout, and like those of the female, while the right, though very little longer than the left, has a very stout and swollen chela. The right merus is much like the left, but considerably stouter; the carpus is much stouter than the left, and considerably swollen; and the chela is more than twice as thick as the left, smooth and naked throughout, the body longer than the digits and much swollen, and the digits tapered to the tip, the prehensile edges somewhat oblique and unarmed. The male from station 1047, though of about the same size as the other, has a narrower carapax, distinctly longer than broad, but with the front absolutely broader; the ambulatory legs are considerably shorter, and with slightly broader dactyli; and the chelipeds are equal, and like the left one of the other male, except that they are very slightly shorter, and with proportionally slightly shorter chelæ.

Measurements in millimeters.

	Station—		
	921	1047	921
Sex	♂	♂	♀
Length of carapax, including median frontal spines	14.8	15.0	22.0
Greatest breadth of carapax	15.0	14.1	22.6
Breadth between antero-lateral spines	7.7	8.0	10.0
Breadth between tips of inner angles of orbital sinuses	3.5	3.7	4.4
Length of right cheliped	23.5	20.0	29.0
Length of chela	10.0	8.4	12.2
Breadth of chela	4.5	2.1	2.7
Length of dactylus	5.0	4.5	7.3
Length of left cheliped	22.0	20.0	29.0
Length of chela	9.2	8.5	12.4
Breadth of chela	2.0	2.0	2.6
Length of dactylus	5.0	4.5	7.4
Length of second ambulatory leg	50.0	45.0	68.0
Length of propodus	12.0	10.5	15.3
Length of dactylus	14.4	12.0	20.5
Length of fourth ambulatory leg	19.5	19.0	25.0
Length of propodus	4.6	4.0	5.0
Length of dactylus	1.6	1.6	2.0

In life, the carapax, the proximal part of the abdomen, the chelipeds, and first and second ambulatory legs, are pale orange, the color deepest on the chelæ and the propodi and dactyli of the ambulatory legs; the rest of the animal is grayish white and more pubescent than the more brightly colored parts.

ANOMURA.

LATREILLIDEA.

Latreillia elegans Roux.

Specimens examined.

Station No.	Locality.		Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.		
	N. lat.	W. long.				♂	♀	With eggs.
	OFF MARTHA'S VINEYARD.							
872	40 05 39	70 23 52	86	S. G. Sh. sponges.	1880. Sept. 4		3	0
874	40 00 00	70 57 00	85	sft. M.	Sept. 13		fragm.	
940	39 54 00	69 51 30	134	hrd. S. sponges.	1881. Aug. 4	8	10	5
1027	40 00 00	69 19 00	93	fne. S.	Sept. 14	1		
	OFF DELAWARE BAY.							
1043	38 39 ..	73 11 ..	130	S.	1881. Oct. 10		1	0

HOMOLIDEA.

Homola barbata White ex Fabricius.*Specimens examined.*

Station No.	Locality.		Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.		
	N. lat.	W. long.				♂	♀	With eggs.
	OFF MARTHA'S VINEYARD.							
872	40 05 39	70 23 52	86	S. G. Sh. Sponges..	1880. Sept. 4	2		0
940	39 54 00	69 51 30	134	hrd. S. sponges.....	1881. Aug. 4	3	1	1
949	40 03 00	70 31 00	100	yl. M.	Aug. 23	1y.	1	1
	OFF CHESAPEAKE BAY.							
896	37 26 00	74 19 00	56	Sh. S.	1880. Nov. 16	1		---
899	37 22 00	74 29 00	57	S.	do		1	0
	OFF DELAWARE BAY.							
1043	38 39 00	73 11 00	130	S.	1881. Oct. 10		1	0
1046	38 33 00	73 18 00	104	S.	do	1	2	1

This species is also reported from the Straits of Florida and off Barbados, by A. Milne-Edwards (Bull. Mus. Comp. Zool. Cambridge, viii., p. 33, 1880).

Four specimens give the following measurements in millimeters:

	Station—			
	1046	1046	940	940
Sex	♀	♂	♂	♀
Length of carapax including frontal spines	20.3	22.0	24.5	26.0
Length of carapax excluding frontal spines	19.6	21.2	23.4	25.0
Breadth of carapax including spines	17.0	17.5	19.0	22.0
Greatest breadth anteriorly excluding spines.....	15.3	15.2	17.8	18.7
Greatest breadth posteriorly excluding spines.....	15.2	15.2	17.0	18.7
Length of cheliped	35.0	40.0	51.0	43.0
Length of chela	14.0	16.0	21.0	17.6
Height of chela	5.0	6.0	6.5	6.6
Length of dactylus	7.0	7.4	9.0	8.2
Length of third ambulatory leg	45.0	45.0	58.0	57.0
Length of propodus	11.7	11.8	15.5	14.7
Length of dactylus	8.8	8.6	11.2	11.0
Length of fourth ambulatory leg	28.0	30.0	34.0	35.0
Length of propodus	7.0	7.5	8.5	8.0
Length of dactylus	3.0	3.2	3.8	3.5

RANINIDEA.

Lyreidus Bairdii Smith, Proc. National Mus., iii, p. 420, 1881.

No specimens of this species have been taken since 1880.

PORCELLANIDEA.

Porcellana Sigsbeiana A. M.-Edwards, Bull. Mus. Comp. Zool. Cambridge, viii, p. 35, 1880.

Station 940, off Martha's Vineyard, N. lat. 39° 54', W. long. 69° 51' 30'', 134 fathoms.

A single male, which, as the following measurements show, is much larger than the specimens described by Milne-Edwards:

	Millimeters.
Length of carapax.....	13.0
Breadth of carapax.....	11.6
Length of right cheliped.....	25.0
Length of carpus.....	6.6
Length of chela.....	13.0
Breadth of chela.....	4.8
Length of dactylus.....	5.0
Length of left cheliped.....	26.0
Length of carpus.....	6.5
Length of chela.....	14.5
Breadth of chela.....	5.7
Length of dactylus.....	4.5

LITHODIDEA.

Lithodes maia Leach.

A fine specimen of this northern species was taken at station 1125, off Martha's Vineyard, N. lat. 40° 3', W. long. 68° 56', 291 fath., sand and mud. It gives the following measurements in millimeters:

Sex.....	♂
Length of carapax, including rostrum and posterior spines.....	83
Length of carapax, excluding rostrum and posterior spines.....	55
Breadth of carapax between tips of hepatic spines.....	47.3
Breadth of carapax between tips of branchial spines.....	76.4
Greatest breadth of carapax, excluding spines.....	53.5
Length of rostrum.....	26.5
Length of right cheliped.....	86
Length of right chela.....	33
Breadth of right chela.....	13.7
Length of dactylus of right chela.....	18.6
Length of left cheliped.....	88
Length of left chela.....	31
Breadth of left chela.....	8.8
Length of dactylus of left chela.....	19
Length of first ambulatory leg.....	150
Length of second ambulatory leg.....	155
Length of third ambulatory leg.....	153
Greatest expanse of ambulatory legs.....	325

Lithodes Agassizii Smith, Bull. Mus. Comp. Zool. Cambridge, x, p. 8, pl. 1, 1882.

Two very small, immature specimens of this interesting species were taken off Martha's Vineyard in 1881, station 1028, N. lat. 39° 57', W. long. 69° 17', 410 fath., yellow mud; and station 1029, N. lat. 39° 57' 6'', W. long. 69° 16', 458 fath., yellow mud. Another immature specimen and two adult females were taken by Alexander Agassiz on the Blake, in 1880; the immature specimen at station 305, N. lat. 41° 33'

15", W. long. 65° 51' 25", 810 fathoms; the two females off the Carolina coast, stations 326 and 329, 464 and 603 fath.

The species is allied to *L. maia* and *L. antarctica* in having no scale and only a single spine at the base of the antenna, and in the general form and armament of the carapax and appendages, but differs from them both conspicuously in the rostrum, which is rather short and tri-spinous, with the lateral spines nearly as long as the rostral spine itself. The spines upon the carapax and appendages are more numerous and much more acute than in *L. maia*, and the marginal spines of the carapax are not very much larger than the dorsal. The two adults differ remarkably from each other, and from the immature specimens, in the number and length of the spines upon the carapax and legs, the spines being fewer and very much longer and more slender in the small specimens than in the adults, and more slender and more numerous in the smaller than in the larger of the two adult specimens.

Four of the five specimens seen give the following measurements in millimeters:

	Station—			
	1029.	305.	329.	326.
Sex.....	Young.	Young.	♀	♀
Length of carapax, including rostrum and posterior spines.....	17.5	25.4	115	139
Length of carapax, excluding rostrum and posterior spines.....	9.1	12.6	90	123
Breadth of carapax between tips of hepatic spines.....	13.5	18.4	57	64
Breadth of carapax between tips of branchial spines.....	13.0	18.4	87	117
Greatest breadth of carapax, excluding spines.....	6.6	9.0	77	110
Length of rostrum.....	7.3	9.4	17	8
Length of spines at base of rostrum.....	7.4	11.5	16	7
Length of anterior gastric spines.....	7.0	10.5	12	5
Length of anterior cardiac spines.....	6.3	8.0	10	5

PAGURIDEA.

Eupagurus pubescens Brandt ex Kröyer.

This species appears to be restricted to a very narrow region south of Cape Cod. It has not been taken in over 65 fathoms off Martha's Vineyard, though common in much deeper water north of Cape Cod. None of the specimens seen are large, and all the carcinocæcia are composed of *Epizoanthus Americanus* or entirely overgrown with it.

Specimens examined.

Station No.	Locality.						Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.
	N. lat.		W. long.							
	OFF MARTHA'S VINEYARD.									
	°	'	"	°	'	"			1881.	
918	40	20	24	70	41	30	46	gn. M.	July 16	4s.
919	40	16	18	70	41	18	53	gn. M.	July 16	2s.
921	40	07	48	70	43	54	67	gn. M.	July 16	2s.
985	41	00	00	70	49	00	26	S.	Sept. 7	20+
987	40	54	00	70	48	30	28	S.	Sept. 7	11
989	40	40	00	70	47	00	30	S.	Sept. 7	10+
990	40	44	00	70	47	00	34	gn. S. M.	Sept. 7	12

Eupagurus Kröyeri Stimpson.

Nearly all the specimens are small, and in carcinocœcia composed of *Epizoanthus Americanus* or overgrown with it.

Specimens examined.

Station No.	Location.						Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.	
	N. lat.			W. long.							With eggs.
OFF MARTHA'S VINEYARD.											
	°	'	"	°	'	"			1880.		
869	40	02	18	70	23	06	192	fne. S.	Sept. 4	30+	+
870	40	02	36	70	22	58	155	fne. S. M.	Sept. 4	30+	+
877	39	56	00	70	54	18	126	fne. S. M.	Sept. 13	40+	
878	39	55	00	70	54	15	142	M.	Sept. 13	50+	+
1881.											
920	40	13	00	70	41	54	63	fn. M.	July 16	7	
923	40	01	24	70	46	00	98	S.	July 16	1	
924	39	57	30	70	46	00	164	S.	July 16	2	
939	39	53	00	69	50	30	264	gn. S. M.	Aug. 4	2	
945	39	58	00	71	13	00	207	gn. M. S.	Aug. 9	10+	
1025	39	49	00	71	25	00	216	gn. M.	Sept. 8	12	
1026	39	50	30	71	23	00	182	gn. M. S.	Sept. 8	5	
1032	39	56	00	69	22	00	208	yl. M.	Sept. 14	50+	+
1036	39	58	00	69	30	00	94	S.	Sept. 14	10+	
1038	39	58	00	70	06	00	146	S. Sh.	Sept. 21	34	+
1882.											
1096	39	53	00	60	47	00	317	sft. gn. M.	Aug. 11	17	
1171	40	01	33	70	35	00	124	fne. S.	Aug. 22	30y.	
1124	40	01	00	68	54	00	640	fne. S. gn. M.	Aug. 26	3	
1125	40	03	00	68	56	00	291	S. M.	Aug. 26	1	
BLAKE DREDGINGS; A. AGASSIZ.											
306	41	34	30	65	54	30	306	S. M. G.	1880.	6	
306	41	32	50	65	55	00	524	fne. dk. gy. M.	-----	4	
311	39	59	30	70	12	00	143	S.	-----	2	

Eupagurus politus Smith. (Pl. 4, fig. 4.)

Eupagurus, sp., Smith, Proc. National Mus., iii, p. 428, 1881.

Eupagurus politus, Smith, Bull. Mus. Comp. Zool. Cambridge, x, p. 12, pl. 2, fig. 5, 1882.

The carapax is not suddenly narrowed at the bases of the antennæ, where the breadth is equal to the length in front of the cervical suture, and not rostrated, the median lobe of the front being broadly rounded and not projecting as far forward as the external angles of the orbital sinuses, which are acute and each usually armed with a short spine.

The eyestalks, including the eyes, are nearly four-fifths as long as the breadth of the carapax in front, stout, and expanded at the very large black eyes, which are terminal, not oblique, compressed vertically, and broader than half the length of the stalks. The ophthalmic scales are small, narrow, and spiniform at the tips.

The peduncle of the antennula is about as long as the breadth of the carapax in front, and the ultimate segment about a third longer than the penultimate. The upper flagellum is much longer than the ultimate segment of the peduncle, while the lower is only about half as long as

the upper, slender, and composed of ten to twelve segments. The peduncle of the antenna reaches slightly beyond the eye. The acicle is slender, slightly curved, and reaches to the tip of the peduncle, and inside its base there is a minute tooth, while outside there is a straight spine toothed or spined along its inner edge, acute at the tip and half as long as the acicle itself. The flagellum is nearly naked, and about three times as long as the carapax.

The exposed parts of the oral appendages are very nearly as in *E. bernhardus*.

The chelipeds are longer, much narrower, and more nearly equal in size than in *E. bernhardus*, and, as in that species, are almost entirely naked, but beset with numerous tubercles and low spines. The right cheliped is about as long as the body from the front of the carapax to the tip of the abdomen. The merus and carpus are subequal in length, while the chela is about once and a half as long as the carpus. The carpus and chela are rounded above and armed with numerous tubercles, which are smaller and more crowded on the chela than on the carpus, but the surface between the tubercles is smooth and polished. The dorsal surface of the carpus is limited along the inner edge by a sharp angle armed with a double line of tubercles, while the outer edge is rounded. The chela is very little wider than the carpus, and is narrowed from near the base to the tips of the digits, and both edges are rounded. The digits are rather slender, about half as long as the entire chela, slightly gaping, with acute and strongly incurved chitinous tips, and the prehensile edges armed with a very few obtuse tuberculiform teeth. The left chela is much more slender than the right, but reaches to or a little by the base of its dactylus. The carpus is slender, higher than broad, only slightly expanded distally, and with the narrow dorsal surface flattened, naked, nearly smooth, and margined either side with a single line of spiniform tubercles, while the rest of the surface is beset with low, squamiform, setiferous tubercles. The chela is about a third longer than the carpus, slender, about two and a half times as long as broad, and the dactylus about two-thirds the entire length. The dorsal and outer surface is tuberculose, and a low obtuse ridge extends from near the middle of the base along the propodal digit, which tapers from the base to the tip, while the dactylus is nearly or quite smooth except for a few fascicles of setæ, more slender than the propodal digit, and tapered only near the tip. The chitinous tips of the digits are slender, acute, and strongly incurved, and the prehensile edges are sharp, and armed with a closely set series of slender spines or setæ.

The ambulatory legs reach considerably beyond the right cheliped, and the second pair reach to the tips of the first pair. In both pairs the meri and propodi are approximately equal in length and longer than the carpi, while the dactyli are about once and a half as long as the propodi, slender, strongly curved, and distally strongly twisted. The two

posterior pairs of thoracic legs and the abdominal appendages are very nearly as in *E. bernhardus*.

In life the general color of the exposed parts is pale orange, the tips of the chelæ and of the ambulatory legs white, the eyes black.

The eggs are very large, and few in number as compared with the ordinary species of the genus, being 1.0^{mm} to 1.1^{mm} in diameter in alcoholic specimens, while in *E. bernhardus* they are only 0.45^{mm} to 0.50^{mm} in diameter.

Measurements in millimeters.

	Station—				
	1028.	878.	947.	990.	878.
Sex.....	♂	♀	♀	♂	♂
Length of carapax along median line.....	12.5	13.0	14.2	16.0	21.6
Breadth of carapax in front.....	7.0	7.1	7.9	8.7	11.6
Length of eyestalks.....	5.0	5.2	5.3	6.5	7.7
Greatest diameter of eye.....	2.9	3.0	3.0	3.2	4.0
Length of right cheliped.....	34.0	35.0	41.0	41.0	63.0
Length of carpus.....	8.3	8.8	10.0	11.0	16.5
Length of chela.....	13.5	13.7	16.3	16.8	25.0
Breadth of chela.....	7.0	6.9	8.0	8.0	11.3
Length of dactylus.....	7.2	7.0	8.8	8.9	13.0
Length of left cheliped.....	29.0	30.0	35.0	36.0	54.0
Length of carpus.....	7.8	7.7	8.9	9.0	13.3
Length of chela.....	11.0	11.0	13.6	13.5	20.1
Breadth of chela.....	5.1	5.0	5.6	5.7	7.5
Length of dactylus.....	7.0	7.1	8.7	9.0	13.0
Length of first ambulatory leg.....	44.0	45.0	50.0	52.0	77.0
Length of propodus.....	8.9	9.0	10.4	10.3	16.0
Length of dactylus.....	13.0	14.5	16.1	16.8	24.0
Length of second ambulatory leg.....	46.0	47.0	52.0	55.0	81.0
Length of propodus.....	10.0	9.9	11.0	11.2	17.5
Length of dactylus.....	14.3	15.1	17.2	18.1	26.0

The females apparently never attain as large size as the males, but they do not seem to differ from them in the relative proportions of any of the cephalothoracic appendages.

The accompanying list of specimens examined shows that this is one of the most uniformly distributed and abundant species in from 50 to 400 fathoms from Cape Cod to the Carolina coast. I have already examined specimens from more than three-quarters of the whole number of dredgings made by the Fish Commission during the past three years within this region and between these depths.

Specimens examined.

Station No.	Locality.		Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.	
	N. lat.	W. long.					With eggs.
	OFF MARTHA'S VINEYARD.						
	° / ' "	° / ' "			1880.		
865	40 05 00	70 23 00	65	fne. S. M.	Sept. 4	5	
869	40 02 18	70 02 06	192	fne. S. M.	Sept. 4	50+	+

Specimens examined—Continued.

Station No.	Locality.						Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.	
	N. lat.	W. long.								With eggs.	
OFF MARTHA'S VINEYARD —Continued.											
	°	'	"	°	'	"			1880.		
870	40	02	36	70	22	58	155	M. fine. S.	Sept. 4	75+	+
871	40	02	54	70	23	40	115	M. fine. S.	Sept. 4	20+	
872	40	05	39	70	23	52	86	S. G. Sh. sponges.	Sept. 4	30+	+
873	40	02	00	70	57	00	100	sft. M.	Sept. 13	10	
874	40	00	00	70	57	00	85	sft. M.	Sept. 13	15+	
876	39	57	00	70	56	00	120	sft. M.	Sept. 13	20+	
877	39	56	00	70	54	18	126	sft. M.	Sept. 13	100+	+
878	39	55	00	70	54	15	142	M.	Sept. 13	50+	+
879	39	49	30	70	54	00	225	S. bu. M.	Sept. 13	15	
880	39	48	30	70	54	00	252	M.	Sept. 13	10	
893	39	52	20	70	58	00	372	{sft. bn. M. and sml. St.	Oct. 2	4	
894	39	53	00	70	58	30	365	{sft. bn. M. and sml. St.	Oct. 2	10	
895	39	56	30	70	59	45	238	sft. bn. M.	Oct. 2	20+	
									1881.		
918	40	20	24	70	41	30	46	gn. M.	July 16	3 y.	
919	40	16	18	70	41	18	53	gn. M.	July 16	2 s.	
921	40	07	48	70	43	54	67	gn. M.	July 16	12 s.	
922	40	03	48	70	45	54	71	gn. M. and S.	July 16	7 l.	0
923	40	01	24	70	46	00	98	S.	July 16	12	1
924	39	57	30	70	46	00	164	S.	July 16	8	
925	39	55	00	70	47	00	229	S. and M.	July 16	3	
939	39	53	00	69	50	30	264	gn. M. and S.	Aug. 4	20 l.	2
940	39	54	00	69	51	30	134	brd. S. and sponges.	Aug. 4	28 l.	3
943	40	01	00	69	56	00	79	brd. S. and M.	Aug. 4	18 l.	4
943	40	00	00	71	14	30	157	M. S. and Sh.	Aug. 9	1	
944	40	01	00	71	14	30	128	M. S. and Sh.	Aug. 9	13	3
945	39	58	00	71	13	00	207	gn. M. and S.	Aug. 9	16	1
946	39	55	30	71	14	00	247	gn. M. and S.	Aug. 9	10	3
947	39	53	30	71	13	30	319	S. and M.	Aug. 9	48 l.	0
949	40	03	00	70	31	00	100	yl. M.	Aug. 23	34	5
950	40	07	00	70	32	00	71	S. Sh. and M.	Aug. 23	12	1
951	39	57	00	70	31	30	225	M.	Aug. 23	6	
990	40	44	00	70	47	00	34	gn. M. and S.	Sept. 7	2	
994	39	40	00	71	30	00	368	M.	Sept. 8	6	
997	39	42	00	71	32	00	335	yl. M.	Sept. 8	35	
998	39	43	00	71	32	00	302	gn. M.	Sept. 8	110	
999	39	45	13	71	30	00	266	gn. M.	Sept. 8	4	
1025	39	49	00	71	25	00	216	gn. M.	Sept. 8	10	3
1026	39	50	30	71	23	00	182	gn. M. and S.	Sept. 8	25	
1027	40	00	00	69	19	00	93	fine. S.	Sept. 14	4 s.	
1028	39	57	00	69	17	00	410	yl. M.	Sept. 14	3	
1029	39	57	06	69	16	00	458	yl. M. S.	Sept. 14	1	0
1032	39	56	00	69	22	00	208	yl. M.	Sept. 14	18	
1035	39	57	00	69	28	00	120	S.	Sept. 14	5	
1036	39	58	00	69	30	00	94	S.	Sept. 14	6	
1039	39	59	00	70	06	00	130	S. and Sh.	Sept. 21	17 l.	10
									1882.		
1091	40	03	00	69	44	00	65	gy. S. brk. Sh.	Aug. 11	3	
1092	39	58	00	69	42	00	202	gy. S.	Aug. 11	24	+
1093	39	56	00	69	45	00	349	bu. M. S.	Aug. 11	4	
1096	39	53	00	69	47	00	317	sft. gn. M.	Aug. 11	14	
1097	39	54	00	69	44	00	158	fine. S.	Aug. 11	39	+
1098	39	53	00	69	43	00	156	fine. S.	Aug. 11	27	+
1108	40	02	00	70	37	30	101	gy. M. fine. S.	Aug. 22	19	+
1109	40	03	00	70	38	00	89	gy. S.	Aug. 22	58	3
1110	40	02	00	70	35	00	100	gn. M. fine. S.	Aug. 22	50+	10
1111	40	01	33	70	35	00	124	fine. S.	Aug. 22	40+	+
1112	39	56	00	70	35	00	245	gn. M. S.	Aug. 22	5	
1116	39	59	00	70	44	00	144	gn. M. S.	Aug. 22	1 s.	+
1117	40	02	00	70	45	00	89	fine. S.	Aug. 22	5	
1118	40	03	00	70	45	00	70	fine. S.	Aug. 22	12	2
1119	40	03	00	68	45	00	97	S. brk. Sh.	Aug. 22	15	
1121	40	04	00	68	49	00	234	fine. S. St.	Aug. 26	16	+
1124	40	01	00	68	54	00	640	fine. S. gn. M.	Aug. 26	5	
1137	39	40	00	71	52	00	173	fine. S. P.	Sept. 8	1	
1138	39	39	00	71	54	00	168	fine. S. P.	Sept. 8	9	
1142	39	32	00	72	00	00	322	M. with S. and P.	Sept. 8	1 ♀	0

Specimens examined—Continued.

Station No.	Locality.						Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.	
	N. lat.		W. long.			With eggs.					
OFF MARTHA'S VINEYARD —Continued.											
	°	'	"	°	'	"			1881.		
1152	39	58	00	70	35	00	115	S.	Oct. 4	8	
1154	39	55	31	70	39	00	193	S. and M.	Oct. 4	200+	
OFF DELAWARE BAY.											
									1881.		
1043	38	39	00	73	11	00	130	S.	Oct. 10	2	
1045	38	35	00	73	13	00	312	gy. M.	Oct. 10	3	
1046	38	33	00	73	18	00	104	S.	Oct. 10	3	1
1047	38	31	00	73	21	00	156	S.	Oct. 10	9	
1049	38	28	00	73	22	00	435	M.	Oct. 10	1	
OFF CHESAPEAKE BAY.											
896	37	26	00	74	19	00	56	S. Sh.	Nov. 16	3	
897	37	25	00	74	18	00	157	S. M.	Nov. 16	33	+
898	37	24	00	74	17	00	300	M.	Nov. 16	48	+
BLAKE DREDGINGS; A. AGASSIZ.											
309	40	11	40	68	22	00	304	fne. S. M.	1880.	3	
310	39	59	16	70	18	30	260	fne. dk. gn. M.		2	
327	34	00	30	76	10	30	178	Glob. ooze.		1	
336	38	21	50	73	32	00	197	Bl. M.		5	

Catapagurus, A. M.-Edwards.

Catapagurus A. M.-Edwards, Bull. Mus. Comp. Zool. Cambridge, viii, p. 46, 1880.—Smith, *ibid.*, x, p. 14, 1882.

Hemipagurus Smith, Ann. Mag. Nat. Hist. London, V, vii, p. 143, 1881; Proc. National Mus., iii, p. 422, 1881.

Catapagurus Sharreri, A. M.-Edwards. (Pl. 4, Fig. 5.)

Catapagurus Sharreri A. M.-Edwards, Bull. Mus. Comp. Zool. Cambridge, viii, p. 46, 1880.

Hemipagurus socialis Smith, Proc. National Mus., iii, p. 423, 1881.

Catapagurus socialis Smith, Bull. Mus. Comp. Zool. Cambridge, x, p. 16, 1882.

I have examined one of the type specimens of Milne-Edwards's species returned to the Museum of Comparative Zoology, and find it identical with my species as indicated above. This specimen is from 200 fathoms, off Barbadoes, station 296, and gives the following measurements in millimeters:

Sex	♂
Length from front of carapax to tip of abdomen	23.0
Length of eye-stalks	2.3
Greatest diameter of eye	1.7
Length of right cheliped	19.0
Length of chela	8.0
Breadth of chela	2.6
Length of dactylus	4.0
Length of left cheliped	31.0
Length of chela	7.5
Breadth of chela	1.3
Length of dactylus	2.8
Length of first ambulatory leg, right side	22.0

Specimens examined.

Station No.	Locality.						Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.		
	N. lat.		W. long.								With eggs.	
	OFF MARTHA'S VINEYARD.											
	°	'	"	°	'	"			1880.			
865	40	05	00	70	23	00	65	fne. S. M.	Sept. 4	6		
870	40	02	36	70	22	58	155	fne. S. M.	Sept. 4	50+	+	
871	40	02	54	70	23	40	115	fne. S. M.	Sept. 4	500+	+	
872	40	05	39	70	23	52	86	S. G. Sh. Sponges.	Sept. 4	20+	+	
873	40	02	00	70	57	00	100	sfr. . M.	Sept. 13	1		
874	40	00	00	70	57	00	85	sfr. . M.	Sept. 13	100+	+	
876	39	57	00	70	56	00	120	sfr. . M.	Sept. 13	50+	+	
877	39	56	00	70	54	18	126	sfr. . M.	Sept. 13	200+	+	
878	39	55	00	70	54	15	142	M.	Sept. 13	50+	+	
880	39	48	30	70	54	00	252	M.	Sept. 13	2		
									1881.			
919	40	16	18	70	41	18	53	gn. M.	July 16	2		
920	40	13	00	70	41	54	63	gn. M.	July 16	2		
921	40	07	48	70	43	54	67	gn. M.	July 16	12	+	
922	40	03	48	70	45	54	71	gn. M. S.	July 16	48	+	
923	40	01	24	70	46	00	98	S.	July 16	5	+	
925	39	55	00	70	47	00	229	S. and M.	July 16	9	+	
939	39	53	00	69	50	30	264	gn. S. M.	Aug. 4	1		
940	39	54	00	69	51	30	134	hrd. S. sponges.	Aug. 4	1000+	+	
941	40	01	00	69	56	00	79	hrd. S. M.	Aug. 4	200+	+	
949	40	03	00	70	31	00	100	yl. M.	Aug. 23	15		
1027	40	00	00	69	19	00	93	fne. S.	Sept. 14	37		
1035	39	57	00	69	28	00	120	S.	Sept. 14	200+		
1036	39	58	00	69	30	00	94	S.	Sept. 14	50+		
1038	39	58	00	70	06	00	146	S. and Sh.	Sept. 21	60+	+	
									1882.			
1092	39	58	00	69	42	00	202	gy. S.	Aug. 11	2		
1097	39	54	00	69	44	00	158	fne. S.	Aug. 11	3		
1111	40	01	33	70	35	00	124	fne. S.	Aug. 22	13		
1119	40	08	00	68	45	00	97	S. brk. Sh.	Aug. 26	7		
1151	39	58	30	70	37	00	125	S.	Oct. 4	10		
1152	39	58	00	70	35	00	115	S.	Oct. 4	12		
	OFF DELAWARE BAY.									1881.		
1043	38	39	00	73	11	00	130	S.	Oct. 10	3		
1047	38	31	00	73	21	00	156	S.	Oct. 10	10		
	OFF CHESAPEAKE BAY.									1880.		
899	37	22	00	74	29	00	57	S.	Nov. 16	1		
	BLAKE DREDGINGS; A. AGASSIZ.									1880.		
311	39	59	30	70	12	00	143	gy. S.		6		
313	32	31	50	78	45	00	75	fne. gy. S.		2		
314	32	24	00	78	44	00	142	fne. gy. S.		1000+	+	
315	32	18	20	78	43	00	225	fne. gy. S.		4		
316	32	07	00	78	37	30	229	P.		1		
327	34	00	30	76	10	30	178	Glob. ooze.		8		
344	40	01	00	70	58	00	129	fne. S. M.		40+	+	
345	40	10	15	71	04	30	71	gn. M. brk. Sh. S.		5		

Vol. VI, No. 3. Washington, D. C. June 18, 1883.

Catapagurus gracilis Smith.

Hemipagurus gracilis Smith, Proc. National Mus., iii, p. 426, 1881.

Catapagurus gracilis Smith, Bull. Mus. Comp. Zool. Cambridge, x, p. 19, 1882.

Specimens examined.

Station No.	Locality.		Depth in fathoms.	Nature of bottom.	When collected.	No. of specimens.	
	N. lat.	W. long.				♂	♀	With eggs.
OFF MARTHA'S VINEYARD.							
	° ' "	° ' "			1880.		
865	40 05 00	70 23 00	65	fne. S. M.	Sept. 4	1	
870	40 02 36	70 22 58	155	fne. S. M.	Sept. 4	4	
871	40 02 54	70 23 40	115	fne. S. M.	Sept. 4	30+	+
874	40 00 00	70 57 00	85	sfr. M.	Sept. 13	30+	+
877	39 56 00	70 54 18	126	sfr. M.	Sept. 13	3	
878	39 55 00	70 54 15	142	M.	Sept. 13	10	
1881.							
919	40 16 18	70 41 18	53	gn. M.	July 16	1	
920	40 13 00	70 41 54	63	gn. M.	July 16	4	
921	40 07 48	70 43 54	67	gn. M.	July 16	24	+
940	39 54 00	09 51 30	134	hrd. S. and sponges.	Aug. 4	2	
949	40 03 00	70 31 00	100	yl. M.	Aug. 23	12	
1038	39 58 00	70 06 00	146	S. Sh.	Sept. 21	1	
OFF CHESAPEAKE BAY.							
896	37 26 00	74 19 00	56	S. Sh.	Nov. 16	1	
899	37 22 00	74 29 00	57	S.	Nov. 16	1	
BLAKE DREDGINGS; A. AGASSIZ.							
344	40 01 00	70 58 00	129	fne. S. M.		1	
345	40 10 15	71 04 30	71	gn. M. brk. Sh. S.		3	

Parapagurus pilosimanus Smith, Trans. Conn. Acad. New Haven, v, p. 51, 1879; Proc. National Mus. Washington, iii, p. 428, 1881; Bull. Mus. Comp. Zool. Cambridge, x, p. 20, pl. 2, fig. 4-4^d, 1882.

(Pl. 5, Figs. 3-5; Pl. 6, Figs. 1-4 a.)

Specimens examined.

Station No.	Locality.		Depth of fathoms.	Nature of bottom.	When collected.	No. of specimens.		
	N. lat.	W. long.				♂	♀	With eggs.
GLOUCESTER FISHERIES.								
	Off Nova Scotia, 42° 41' N., 63° 0' W.		250		1878.	1	1	0
OFF MARTHA'S VINEYARD.								
880	39 48 30	70 54 00	252	M.	1880. Sept. 13	2	1 y. 1	1
893	39 52 20	70 58 00	372	{sft. bn. M. and sml. St.}	Oct. 2	2	1 y.	

Specimens examined—Continued.

Station No.	Locality.						Depth in fathoms.	Nature of bottom.	Where collected.	No. of specimens.	
	N. lat.	W. long.									With eggs.
OFF MARTHAS VINEYARD—Continued.											
	o	i	"	o	i	"			1880.		
894	39	53	00	70	58	30	365	{sft. bn. M. and sml. } St.	Oct. 2	1	3 0
938	39	51	00	69	49	15	317	gn. S. M.	Aug. 4	3	1 0
947	39	53	30	71	13	30	319	S. M.	Aug. 9	148	245 191
994	39	40	00	71	30	00	368	M.	Sept. 8	1	
997	39	42	00	71	32	00	365	yl. M.	Sept. 8	1	
998	39	43	00	71	32	00	302	gn. M.	Sept. 8		1 0
1029	39	57	06	69	16	00	458	yl. M. S.	Sept. 14		1 y.
1124	40	01	00	68	54	00	640	fne. S. gn. M.	Aug. 26	10	
1140	39	34	00	71	56	00	374	fne. S. sft. M. P.	Sept. 8	1	
OFF CHESAPEAKE BAY.											
898	37	24	00	74	17	00	300	M.	1880. Nov. 16		4
BLAKE DREDGINGS; A. AGASSIZ.											
306	41	32	50	65	55	00	524	fne. dk. gy. M.	1880.		1 y.
309	40	11	40	68	22	00	304	dk. gy. S. M.			4
322	33	10	00	76	32	15	362	Glob. S.			2

The large number of specimens which have been obtained since this species was first described enables me to supplement to a considerable extent the original description, drawn from a single specimen from which the oral appendages were not removed.

The labrum, metastome, mandibles, and the first maxilla are essentially as in *Eupagurus bernhardus*. The lobes of the protognath of the second maxilla are very nearly as in *Eupagurus bernhardus*; the endognath is a little longer than in that species, reaching nearly as far forward as the distal lobe of the protopod; the scaphognath is very different from that of *Eupagurus bernhardus*, the anterior part being very much larger and narrowed to a triangular tip reaching much beyond the middle of the endognath, while the posterior part is elongated, somewhat ovate in outline, about two-thirds as long as the anterior, and very little more than half as broad as long. The lobes of the protopod and the endopod of the first maxilliped are nearly as in *Eupagurus bernhardus* except that the endopod is united with the exopod for a considerable distance from the base; the endopod itself, however, is very different, being a simple, unsegmented lamella, shorter than the endopod, broad and truncated at the extremity and setigerous along the outer and terminal edges. Just back of the base of the exopod the edge of the protopod is setigerous and projects laterally in a slight prominence apparently representing the epipod. The second and third (external) maxillipeds are essentially as in *Eupagurus bernhardus*.

The branchiæ are the same in number and arranged in the same way as in *Eupagurus bernhardus*, as indicated in the following formula :

	Somite—								Total.
	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	
Epipods	0	0	0	0	0	0	0	0	0
Podobranchiæ	0	0	0	0	0	0	0	0	0
Arthrobranchiæ	0	0	2	2	2	2	2	0	10
Pleurobranchiæ	0	0	0	0	0	0	1	0	1
									11

But, as stated in the original description, they are trichobranchiæ, not phyllobranchiæ as in ordinary Paguroids. In the original specimen, and in all those not preserved with special care, the branchiæ are flaccid and the papillæ of which they are composed are collapsed, apparently cylindrical throughout, and without definite arrangement along the stem of the branchia; but in specimens carefully preserved in strong alcohol the papillæ in the thicker parts of the branchiæ are seen to be slightly flattened toward their bases in the direction of the axes of the branchiæ, and to have a definite arrangement in four longitudinal series, showing, in a transverse section of the branchia, two papillæ either side of the central axis in place of the thin lamella attached by one edge to either side of the lamelliform central stem of the phyllobranchia of ordinary Paguroids. Toward the tips of the branchiæ the papillæ become truly cylindrical as in *Homarus* or *Astacus*, and in some of the smaller branchiæ, as in the arthrobranchiæ of the external maxillipeds, the papillæ upon one side of the branchia are very small or rudimentary; but in all cases the ultimate divisions of the branchiæ are apparently strictly trichobranchial in structure, the blood vessels on either side of each papilla giving off capillary branches in opposite directions to the surface of the papilla. The structure is essentially as in *Astacus*, and the difference is not apparent without close examination. From ordinary Paguroids, like *Eupagurus bernhardus*, however, it is widely different, but this difference is partially bridged by the structure of the branchiæ in *Sympagurus pictus* about to be described, although there the branchiæ are essentially phyllobranchiæ.

In the chelipeds the merus, carpus, and chela are very densely clothed, except at the tips of the digits, a space on the under side and at the base of the chela, and the inner side of the merus, with a very fine and soft pubescence usually loaded with fine mud when the specimens are first taken.

Individuals differ considerably in the form and proportions of the chelipeds. In one large male, measurements of which are given in the last column in the accompanying table of measurements, the right cheliped is only very slightly longer and scarcely stouter than the left, and the chela differs from that of the left only slightly in form. The defective development of the right cheliped in this specimen probably resulted