

In No. 829 the larger chela is 54^{mm} long; 15^{mm} high; breadth of carapace, less spines, 66^{mm}. This appears to be the adult of *A. Smithii*.

This species appears to be very rare in Bermuda. It has been reported only by Dr. Rankin. Its recorded range is from off Cape Hatteras, 13 fathoms (Smith),* to Rio Janeiro, Brazil.

Florida (Stimpson). Bahia, Brazil, and Egmont Key, W. Florida (Smith). Bahamas in *Sargassum* (Rathbun).

Achelous spinimanus, var. or subspecies **Smithii**, nov.

Achelous spinimanus (*pars*) Smith, Rep. Decapod Crustacea, Ann. Report U. S. Comm. Fish and Fisheries for 1884, p. [30], 1886.

FIGURES 32, 33. PLATE XIX, FIGURES 2, 2a. PLATE XXI, FIGURE 2.

Carapace strongly areolated, and with unusually prominent, arched, transverse ridges, which are coarsely granulated on the front edge; elsewhere the surface is closely covered with minute hairs and granules; a fringe of long marginal hairs between and on the lateral teeth.

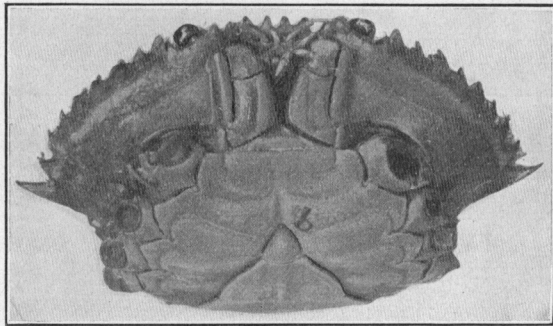


Figure 32.—*Achelous Smithii*; ventral side of young female, about $1\frac{1}{4}$ nat. size. Phot. A. H. V.

The inner orbital tooth is bilobed, so that there are six frontal teeth, not counting the inner lobe of the orbital, which is rather shorter than the outer lobe. The four true frontal or rostral teeth are a little prominent, subacute, the two middle ones a little smaller and scarcely more prominent than the others.

* The smaller specimens from this locality, which I have examined, proved to be a distinct form (*A. Smithii* nov.), but there were larger ones that I have not seen, now in the U. S. Nat. Museum, which may be the *spinimanus* of Edw., 1879.

Of the lateral teeth, the first eight are subequal, all acute and curved forward; the third is a trifle wider; posterior lateral tooth not very large, about twice as long as the preceding, acute, curved a little forward. Merus of chelipeds with four strong anterior spines directed forward, and sometimes a small or subobsolete distal posterior one, which may be wholly lacking; two carpal spines rather short. Manus with a strong dorsal carina, ending in a sharp divergent tooth at about the distal fourth. Merus of swimming feet broader distally, its posterior distal angle armed with a very small sharp spine and several more minute, acute denticles.

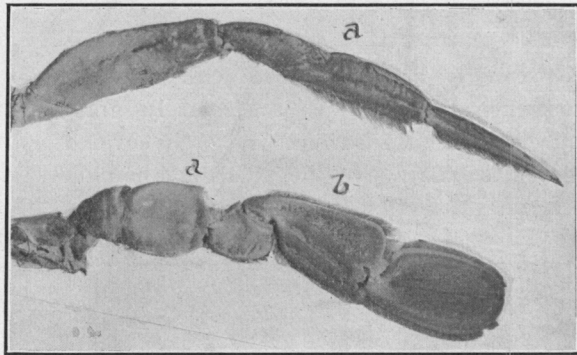


Figure 33.—*Achelous Smithii*; *a*, first ambulatory leg; *b*, swimming leg; *d*, denticulated angle of merus, enlarged. Phot. A. H. V.

This form is very closely allied to *A. spinimanus*, from which it is best distinguished by the less prominent front; the smaller and nearly equally prominent frontal teeth; the shorter and weaker posterior lateral spines; and by the small or nearly obsolete posterior distal spine of the merus of the chelipeds. The chelipeds are also longer. Some of our specimens (No. 4035) were catalogued as *A. spinimanus* by Prof. S. I. Smith, who depended on the figure of A. M.-Edwards. The type specimens, here described and figured, are from that lot.

Measurements of Types and Cotypes.

No.	Sex	lgth	—Carapace—		Front bet. orbits	Chelipeds		Locality
			br'dth total	br'dth —spines		length	height —spines	
4035a	fig. ♂	26	42	36	9.5	r. 29	7.5	Off Hatteras
4035b	♀	29	48	42	10	33	8	Off Hatteras
4049	♀	26	44	37	11	1. 28	7	Ft. Macon

The ratio of length to breadth, not including large lateral spines, is 1:1.40 to 1:1.45.

Young specimens of this form were not uncommon at Bermuda, in masses of *Sargassum*, associated with *Portunus Sayi* and *Planes minutus*. It was also taken by the Bermuda Biological Station in July, 1905, in *Sargassum*.

The larger specimens are from Fort Macon (Yale Mus., coll. Dr. Yarrow, 1871); off Hatteras, in 13 fathoms (U. S. Fish Comm. Steamer "Albatross," Oct., 1884, sta. 2285); West Florida (Coons coll., Yale Mus.); and Brazil.

Achelous Gibbesii (Stimp.).

Lupa Gibbesii Stimpson, Notes on N. Amer. Crust., i, Annals Lye. Nat. Hist. N. York, vii. p. 57 [11].

Achelous Gibbesii Stimpson, Notes, I, op. cit., vii, p. 22 [94], 1860 (Beaufort; N. C.).

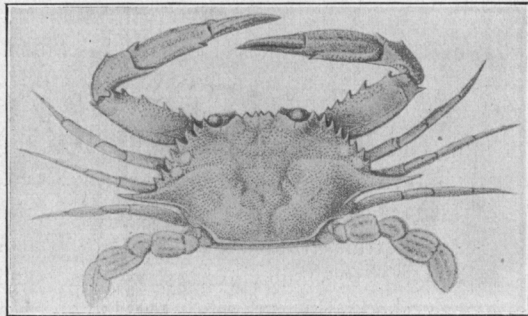
Neptunus Gibbesii A. M.-Edw., Nouv. Arch. Mus. Nat. Hist. Paris, x, p. 326, pl. xxxi, figs. 1, 1a, 1b, 1861; Miss. Sci. Mex., p. 213, 1879.

Achelous Gibbesii Smith, Ann. Rep. U. S. Comm. Fish and Fisheries, for 1882, p. 349, 1884 (off Hatteras); op. cit., for 1885 [p. 30], 1886 (off Hatteras), Kingsley, Proc. Philad. Acad., for 1879, p. 398.

Portunus (Achelous) Gibbesii M. J. Rathbun, Amer. Naturalist, xxxiv, p. 140, 1900.

FIGURES 34, 35.

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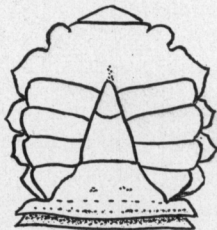


Figure 34.—*Achelous Gibbesii*, young, $\times 1\frac{1}{2}$. After A. M.-Edw.

Figure 35.—The same, abdomen of δ , enlarged. After A. M.-Edw.

This species, which is introduced here mainly for convenient comparison, is not yet definitely recognized as native of Bermuda. The few specimens most resembling it are too young for positive determination.

It has four small, nearly equal rostral teeth, besides the orbitals, which are slightly bilobed (scarcely at all in the young); the merus

of the chelipeds has five sharp teeth on the front margin; the lateral spines are long and sharp, curved forward a little; there are usually one or two round silvery spots near the bases of the anterior marginal teeth, on each side. It is a rather small species. A female with the adult form of the abdomen, from Egmont Key, Fla., has the carapace only 20^{mm} long, 40^{mm} wide, including spines.

A female from Ft. Macon, N. C. (coll. Dr. Yarrow, 1871, No. 4087), has the adult form of the abdomen, but no eggs. Its carapace is 25^{mm} long; 51^{mm} broad with spines; without spines, 40^{mm} wide; length of chelæ, 31^{mm}; height, 7.5^{mm}.

The four inner frontal teeth are about equal in length, but the two inner are narrower. The merus of the swimming legs has a row of 5 or 6 small acute spinules on its posterior distal edge, the outer ones longer. The anterior two pairs of legs are flattened, with the merus as well as the distal segments fringed. The distal end of the dorsal carina of the chelæ is sub-spiniform, so that in profile it looks a little like a second spine, in front of the principal one, which is sharp and divergent. The manus has five strong granulated ribs on the superior and outer surfaces, with deep hairy grooves between them. The dactylus has four ribs, besides an inner one. The surface of the ribs, when the hairs are removed, is shining or silvery. The carapace is strongly granulated and hairy; the small silvery spots* are very distinct. The merus of the right cheliped has six inner marginal spines, that of the left cheliped only five. They are sharp and directed forward, but not so near together as in the figure; usually there are but five.

The chelipeds are very long, being longer than in the figure. The length of the merus exceeds half the total breadth of the carapace. The chelæ and carpi are also elongated. When extended, the expanse of the chelipeds is seven times the length of the carapace. In a male (981*a*) the carapace is 24^{mm} long; expanse of chelipeds, 168^{mm}; when folded the end of the merus projects 15^{mm} beyond tip of the lateral spine. The ambulatory legs are also long and much flattened.

Off C. Hatteras, Str. "Albatross," Nov. 9, 1883, sta. 2107, in 16 fathoms, three, one with eggs (Smith); off C. Hatteras, 5 stations, 13-48 fath., 1884, 16 specimens, 1886 (Smith).

* These spots are variable in form and number and are often lacking on one side. They look as if they might have been made by the tips of the claws of the opposite sex during the mating season. The surface of the carapace becomes silvery whenever the hairs are rubbed off by friction.