rangularly based on a hand-like expansion of the end of the shaft; a straight large shaft more or less beset with long thorn-like spines, most numerous towards the centre where they are vertical, and at the extremities where they are divergent, each slightly curved and microspined; and a smaller kind in which the rays are straight smooth and capitate."

In 1875, in his Classification of the Spongida,[1] Carter erected within the family of the Vitreohexactinellida a special group—the Scopulifera—in which he noted, as type, *Aphrocallistes bocagei*, Wright.

Marshall (1876)[2] ranked the genus *Aphrocallistes* in his group of Pleionacidæ, and characterised it in the following words:—"Polyzoic, walls with prismatic anastomosing radial tubes; individuals more or less tubular or ball-shaped, astomate, arranged into groups by partition walls. Framework-tissue possessing an apparent regularity. Spicules do not throughout constitute the groundwork of the siliceous beams. The latter are often strangely bent."

Zittel[3] (1877) based his family Mellitionidæ on the genera *Aphrocallistes*, Gray *Fieldingia*, Saville Kent, *Stauronema*, Sollas, and noted the following characters:—"Sponge body branched, spherical or plate-like. Wall completely perforated by numerous tubular water canals and thus divided into honeycomb-like chambers. Skeletal spicules with thick intersections. Surface (naked? or) overspread by a delicate meshed or porous siliceous skin, which also covers the openings of the canals. Root absent."

Oscar Schmidt found *Aphrocallistes* abundantly among the sponges of the Gulf of Mexico.[4] He believed that the peculiar structure of the six-sided prismatic parietal meshwork could be explained by a modification of the fundamental hexradiate spicules—in which all the six rays do not cross at an angle of 90°, but two at an angle of 120°. He compares the lattice-like retiform transverse walls to the sieve-plate of *Euplectella* and suggests that they had been formed during pauses in the growth. The shaft provided with prongs on both ends and on the middle, which was proposed as a characteristic feature of the species *Aphrocallistes beatrix*, O. Schmidt declares to be an accidentally intruded element, and expresses the belief that this species is not specifically distinct from *Aphrocallistes bocagei*.

During the "Porcupine" Expedition a cup-shaped sponge fragment, 1½ cm. in height, was dredged off the south-west coast of Spain from 1095 fathoms. This formed the swollen base of a Hexactinellid and was carefully described by Duncan in 1881[5] as a new species of *Aphrocallistes*. If this sponge belongs to the genus *Aphrocallistes*—which, however, according to Duncan's description of the continuous skeletal framework, can

[1] *Ann. and Mag., Nat. Hist.*, ger. 4, vol. xvi. p. 199.
[2] *Zeitschr. f. wiss. Zool.*, Bd. xxvii. p. 124.
[3] Studien über fossile Spongien, *Abhandl. d. baier. Akad.*, ii., vol. xxii., div. 1. p. 36.
[4] Spongien des Meerbusens von Mexico, 1879-80, p. 48.
[5] *Journ. Linn. Soc. Lond.*, vol. xv. pp. 324–328.