d. Radiol., p. 91, Taf. ix. fig. 4). He too observed only fragments of destroyed and incomplete shells, and was led by their striking similarity to fragments of *Aulosphæra elegantissima* to unite it with the genus *Aulosphæra*. But the accurate description and the figure given by him of the fragments observed leaves no doubt that it was a true *Sagoscena*.

In the collection of the Challenger the Sagosphærida are so common and so richly represented, that we may describe here not less than seven genera and thirty-three species, but this may be a small part only of the numerous species of this family, which seems to be widely distributed over all oceans, in the Arctic and Antarctic as well as in temperate and tropical zones. The majority are inhabitants of the surface, but a few species have been found only in deep-sea soundings. A striking fact is their usual association with the similar Aulosphærida. The majority of shells of both families were found entangled in one another.

The shell of all Sagosphærida seems to be spherical or nearly spherical in the complete state; but complete spheres can be observed only very rarely, and it is not impossible that deviations from the spherical form exist just as in some Aulosphærida (*e.g.*, the lenticular *Aulophacus* and the spindle-shaped *Aulatractus*). The diameter of the spheres usually seems to be between 1 and 2, often also 3 millimetres; very rarely shells occur which are less than 1 or more than 3 (4 or 5) millimetres.

The siliceous network or lattice-work of the Sagosphærida exhibits a very characteristic shape, and this enables one to distinguish it at first sight from all the other Radiolaria. It is constantly composed of triangular, very large meshes, which are separated by very thin and delicate, flexible and elastic bars. With respect to the arrangement of these meshes we distinguish two different subfamilies; in the Sagenida the wall of the spherical shell is very thin and composed only of a simple lattice-plate; in the Sagmarida the wall is thickened and spongy, with a complete wicker-work of threads, interwoven in different directions.

The typical triangular form of the large meshes is usually regular or subregular in the fenestrated Sagenida, more or less irregular in the spongy Sagmarida. In many cases, however, irregular triangles also occur in the former, and regular triangles in the latter subfamily. Very rarely irregular polygonal meshes are found in a part of the network, small connecting bars being developed accidentally between two neighbouring sides of the triangles. The diameter of the meshes is usually between 0·1 and 0·2 mm., often also greater, between 0·2 and 0·3, rarely smaller, 0·05 to 0·09 mm. The triangular meshes of the Sagosphærida are therefore on an average ten times as large as the usual meshes in the network of the common Sphæroidea.

The filiform bars, or the thread-shaped, very long and thin rods between the triangular meshes, are scarcely less characteristic of the Sagosphærida than the form and size of the meshes. Their length is usually between 0·1 and 0·2 mm., often also