of Europe; the second, which I have named *Pleurobrachia rhododactyla*, occurs on the eastern shores of the northern United States; and the third was recently observed on the north-west coast of America by my son, Alexander Agassiz.

Though, at first sight, our Pleurobrachia appears spherical, it is slightly compressed in a direction at right angles with the base of the tentacles; so that the cœliac diameter is really shorter than the diacœliac. As it is of great importance from the range of differences observed among individuals of different ages of the species I have described as Pl. rhododactyla, I hold that the two species described by Forbes and Patterson are one and the same with Pl. Pileus, the rows of locomotive flappers being comparatively broader, and the number of flappers less, in young than in old specimens, and the tentacles, having generally not yet sustained any injuries, are longer and more active. I therefore consider Cydippe Flemingii *Forb.*, Cydippe pomiformis *Patters.*, Beroe ovatus *Flem.*, and even Cydippe Infundibulum *Esch.* (Beroe Mülleri *Less.*), as synonymes of Pleurobrachia or Cydippe Pileus. Whether the Mediterranean representative of this genus, described as Cydippe densa *Esch.*, to which Beroe Pileus *Risso* and Beroe albens *Forsk.* also belong, is identical with the northern Pl. Pileus, or not, I have no means of ascertaining; the red tentacles seem to indicate a specific difference, and the circumstance that this species has thus far only been noticed in the Lusitanic fauna, while Pl. Pileus belongs to the Celtic fauna, would justify this inference. The Beroe Pileus of Fabricius (which must not be confounded with Cydippe Cucullus, as was done by Eschscholtz) is very likely the North American Pl. rhododactyla. This Beroe Cucullus, erroneously called Cydippe Cucumis by Lesson, is a Mertensia, identical with the Beroe Pileus of Scoresby (Mertensia Scoresby *Less.*), and also identical with Beroe ovum *Fabr.* (Cydippe ovum *Esch.*). Lesson has made another mistake in referring Cydippe bicolor *Sars* to his Cydippe Cucumis. Sars's species is a genuine Pleurobrachia, distinct from Pl. Pileus, but closely allied to our Pl. rhododactyla. It is, in fact, the European representative of the Pl. rhododactyla, and, like this, belongs to the boreal fauna; while Mertensia Scoresbyi, which should be called M. Cucullus, is an arctic species. Pl. Bachei, discovered by my son on the shores of Washington Territory, is another species with red tentacles, but differs from Pl. rhododactyla in having a longer funnel, a shorter cœliac cavity, and the actinal part of the tentacular sac also shorter. Pl. bicolor, judging from Sars's description, has white lateral threads, the tentacle itself being alone red. To these species must be added Beroe Basteri *Less.* from the coast of Peru, Beroe rosens *Q.* and *G.* from the straits of Timor, and Beroe Santonum *Less.*, which is probably identical with Pl. Pileus. Lesson refers these three species to the true Beroids, but they unquestionably belong to the genus Pleurobrachia: the tentacles must have been overlooked. No true Beroid ever has the form of these Acalephs. The genus Janira, which comes nearest to Pleurobrachia, embraces, as far as I know, only the following three species: Cydippe elliptica *Esch.*, Beroe Cucumis *Mert.*, and Beroe elongatus *Q.* and *G.* Janira hexagona is a Callianira, and Janira octoptera a Martensia, well to distinguish from Mertensia, though both belong to the family Mertensidæ. To Eschscholtzia I refer only Cydippe dimidiata *Esch.*; Eschscholtzia glandiformis *Less.* is the type of the genus Dryodora (Mertensia Gegenb.); while Eschscholtzia cordata is the type of the genus Gegenbauria *Ag.*, and belongs to the family of Mertensidæ. Cydippe hormiphora is also the type of a distinct genus, for which I would propose the name Hormiphora: it is closely allied to Eschscholtzia and Pleurobrachia, and belongs with them to the family of Cydippidæ proper. Cydippe brevicostata *Will.* and Cydippe quadricostata *Sars* are very likely young Ctenophoræ Lobatæ, according to the observations of McCrady.