

The contributions of K lliker to the natural history of the Acalephs are as varied as they are important, though sometimes consisting simply of short notices. A report of the investigations made by him in Messina, in connection with Gegenbaur and H. M ller, and published in the "Zeitschrift fur wissenschaftliche Zoologie," vol. 4, p. 299, contains a vast amount of information upon the Acalephs of the Mediterranean. In his larger work on Siphonophora, "Die Schwimmpolypen von Messina," however, he has not only given a very full account of the species he observed in Messina, including new genera and the characteristics of new families, but he has also published a diagram of his views respecting the affinities of the lower animals generally, as follows:—

CLASSIFICATION OF K LLIKER, 1853.

The members of the class of Acalephs are so combined with the Polyps and Bryozoa by K lliker, that his views respecting their affinities can only be appreciated by a comparative study of his whole diagram of the Radiates with other classifications of the Invertebrates generally. He divides the Radiata in the following manner:—

I. RADIATA MOLLUSCOIDEA.

- 1st Group. HYDROIDEA. A. *Hydroidea sessilia*: Hydra.
- B. *Hydroidea nechalea*: Physophora, Diphyes, Athorybia, etc.
- 2d Group. HYDROMEDUSIDA: Coryne, Sertularia, Tubularia, Velella, and Gymnophthalmata: Oceania, Bougainvillea, etc.
- 3d Group. DISCOPHORA: Steganophthalmata: Medusa, Rhizostoma, Cephaea.
- 4th Group. CTENOPHORA.
- 5th Group. ANTHOZOA.
- 6th Group. BRYOZOA.

II. RADIATA ECHINODERMATA.

- 1st Group. HOLOTHURIDA.—2d Group. ECHINIDA.—3d Group. ASTERIDA.—4th Group. CRINOIDEA.

K lliker thus coincides with Leuckart in separating the Echinoderms from the Polyps and Acalephs as a primary group of the animal kingdom, and uniting the minor sections of the two latter classes into another great division. Disregarding, however, all the categories of the system of Zo logy by which animals may be divided into classes and orders, he divides the *Hydroidea nechalea*, which he calls also *POLYPT NECHALEI*, into five families:—

- 1st Family. Physophoridae: Forskalia, Agalmopsis, Apolemia, — Physophora, — Athorybia.
- 2d Family. Hippopodiidae: Hippopodius, Vogtia.
- 3d Family. Prayidae: Praya.
- 4th Family. Diphyidae: Diphyes, Abyla.
- 5th Family. Velellidae: Velella, Porpita.

Though Leuckart has not published a general classification of the Acalephs, he has done so much for the advancement of the natural history of that class of