three to six short obtuse spines. The madreporic plate is sunk into the thick skin. Back rose-coloured; ventral surface yellowish red.

The authors remark that from their investigations upon the genus *Solaster* they are led to the conclusion that neither Müller and Troschel's division of the genus into *Crossaster* and *Solaster*, nor the new genus *Lophaster*, established for *Solaster furcifer*, can be sustained. Their reasons will be given in a forthcoming part of the general report upon the results of the expedition.—*Nyt Magazin för Naturvidenskaberne*, Bd. xxvi. (1881), pp. 177–194, tab. i. & ii.

On Dr. Karsch's Subdivision of the Phrynidia. By A. G. Butler.

My attention has just been called to a short paper in the 'Archiv für Naturgeschichte' for 1880, in which Dr. Karsch makes an effort to answer my criticism upon his previous memoir (see Ann. & Mag. Nat. Hist. ser. 5, vol. iv. p. 313); how far he has succeeded may be gathered from the following sketch of it.

Dr. Karsch commences where I left off, with the serious fact that his genus *Charon* was based upon the *Phrynus Grayii* of Gervais, the type of which he had never seen, and which I find does not possess the characters ascribed to this genus; and he says that I am illogical when I state that this fact necessitates the rejection of the generic name "*Charon*." Dr. Karsch proceeds to explain why this is so: he says that the specimens which he calls *P. Grayii* were so named by Dr. Gerstaecker, and they agree with Hoeven's figure of *P. medius*. If, then, the species described by M. Gervais is distinct, he proposes the name of *C. Hoeveni* for the *P. medius* of Hoeven, and regards the latter as the type of his genus. I must be very obtuse; for I fail entirely to see how this subsequent action on the part of Dr. Karsch proves me to have been illogical in rejecting a genus which, for all practical purposes, had no type at the time when I wrote my article.

In the second place, it may be a matter for grave question whether the genus *Charon* can be retained under that name, since the type is the *P. Grayii* of Gervais and not the *P. Grayii* of Gerstaecker or Karsch. When a man relies upon the authority of a friend, who, however learned he may be, has himself not examined the type of a species, and upon that species bases a new genus, he must be prepared to see it overturned. But Dr. Karsch says he thinks the type of *P. Grayii* may be a monstrosity, or it may have had its hind legs broken off and those of another species stuck on; or, in short, any thing may have happened rather than that the generic name *Charon* should be superseded; and, after a little cogitation, he convinces himself that something certainly has happened to this type, and concludes his paper thus:—"Figure 4 is the hind leg of *Charon*, and, indeed, of that species which is identical with *Phrynus medius*, Hoeven (nec Herbst), and which I believe must indicate *Phrynus Grayii*, Gerv."

The remainder of Dr. Karsch's paper is taken up with an attempt

to convince arachnologists that the inconstancy of a generic character is no reason for not relying upon it, his plan evidently being to regard as monstrosities all specimens which do not answer to the generic diagnosis.

On the Influence of the Marine Currents in the Geographical Distribution of the Amphibious Mammalia, and particularly of the Eared Seals. By M. E. L. Trouessart.

In a memoir recently presented to the Academy Prof. Milne-Edwards has demonstrated the influence of the antarctic currents on the geographical distribution of the Penguins. By applying the same laws to the class Mammalia, and more particularly to the group of the Otaries (or seals with external ears), which have a mode of life analogous to that of the penguins, I have arrived at some very important results, which confirm, in the most complete manner, the views put forward by M. Milne-Edwards.

The Eared Seals, in the present geological epoch, seem, like the penguins, to be native to the Antarctic lands, whence they have spread towards the north. Carried by the blocks of ice which the regular currents detach every year from the great southern glacier, these animals have colonized the shores of Cape Horn, the Falkland Isles, the Cape of Good Hope, Kerguelen Island, New Zealand, and Australia—in one word, all lands situated in the south of the New and the Old Worlds. Humboldt's current, in the west, has carried them, like the penguins, as far as the Galapagos Islands, under the equator; but while this extreme limit has not been passed by the penguins, the eared seals, on the contrary, have penetrated into the northern hemisphere. They are found on the shores of California and in the north of the Pacific Ocean; but they have certainly not arrived there by the direct route; for these animals are absolutely unknown on the west coast of America, from Peru to the north of Mexico—a stretch of more than 20 degrees; and, besides, *the Otaries of the Galapagos Islands and those of California belong not only to different species, but to different genera.*

This peculiarity seems at first sight inexplicable; but if we note on a good map of marine currents, and according to the method introduced by M. Milne-Edwards, all the stations where eared seals have been observed, we can easily explain the route followed by these animals before reaching the northern part of the Pacific. It is not the too great temperature of the tropical regions, as might be supposed, but the *presence of contrary currents*, that has banished them from these regions.

The equatorial current of the Pacific Ocean north of the Galapagos Islands, and that of the Atlantic north of the Falkland Islands, are directed precisely in opposition to the migrations of the Otaries. Those of these animals which, having reached the island of Tristan d'Acunha, have then tried to gain the western coast of Africa, have been seized by this current and driven to the west, onto the coast of Patagonia.