able. As the case is similar to others which have to be decided one way or the other, it is worth while to discuss it briefly.

Schlegel in 1846 described a fish from Japan as *Monacanthus oblongus*. It turned out, however, that his description really covered two entirely different fishes. The description of the adult related to a *Pseudomonacanthus,* that of the supposed young, and also the figure, to a *Stephanolepis*. Now, I should say that in such a case the description purporting to relate to the adult fish should go with the name, although as a matter of fact the alleged young may also have been adult. This would be because (1) the author's conception of the species would surely be primarily based on the adult, and (2) the description of the adult presumably would in all such cases have priority of place over that of the supposed young or of the plate figuring the latter.

Supposing, however, that these contentions are not held valid, I would then say that the first name given to one of the two species should hold, the residue (*i. e.,* the other species) carrying the original name. Now it happens that the first new name given was *Monacanthus Broeki,* Bleeker, 1857.* This name pertains to Schlegel's supposed young, so on both counts the name given by Schlegel belongs to the fish described as adult. Nevertheless, Dr. Jordan and Mr. Fowler, following Dr. Günther, give the Schlegelian name to the fish described as the young, and call the other by Günther's name, *modestus,* proposed as late as 1877. According to my view, the fishes should be:

1. *Stephanolepis Broeki = Monacanthus Broeki,* Bleeker.

2. *Pseudomonacanthus oblongus = Monacanthus oblongus,* Schlegel (part);=*M. modestus,* Günther.

It is also to be remarked that the name *oblongus* is more suggestive of the latter than of the former fish, judging from the figures.

T. D. A. COCKERELL.

EAST LAS VEGAS,
    NEW MEXICO.

* According to Jordan and Fowler, *M. frenatus,* Peters, 1855, is possibly applicable; if so, it is an earlier name for the same fish.

COMPARATIVE STRENGTH OF ANIMALS.

TO THE EDITOR OF SCIENCE: In the letter entitled 'The Strength of Ants,' in your issue of September 26, it was observed that an ant weighed 3.2 mg. and a grasshopper which it was dragging weighed 190 mg. If one desires to magnify the ant and calculate the corresponding strength which might be expected, it appears that if the animal be doubled in lineal dimensions its weight will be multiplied by the cube of two or 8, while its strength, which is doubtless determined by the cross-section of its muscles, will be multiplied by the square of two or 4. Now suppose that this small animal is multiplied in size 300 times in length and correspondingly in breadth and height, so that its weight will approximate to 3.2 mg. multiplied by 300 cubed = 86.4 kg. Whereas if its strength is represented by a weight of 190 mg., this multiplied by 300 squared = 17.4 kg. These figures will correspond to a man weighing 190 pounds dragging 38.5 pounds, a proportional strength with which we are very familiar.

F. P. DUNNINGTON.

UNIVERSITY OF VIRGINIA,
    October 20, 1902.

A BIOGRAPHICAL INDEX OF THE MEN OF SCIENCE
OF THE UNITED STATES.

AT the request of the executive committee of the Carnegie Institution I am compiling a biographical index of the men of science of the United States. It is intended in the first instance for the use of the institution, but it will probably also be published. The index should include all those who have carried on research in science, the term, however, being used in its narrower sense so as not to include on the one hand philology, history, economics, etc., nor on the other hand medicine, engineering, education, etc., except in so far as these applied sciences may contribute to pure science.

During the summer I sent to a large list of names (some 8000) a blank with the request that it be filled in and returned. The blank asked more especially for information in regard to the scientific career and work of those to whom it was addressed. The re-