

The load had previously been increased from 0 to 10 kg with similar results.

Although Dr. Klopsteg expresses the belief that the apparatus for which the instruction sheet was written "would fall far short of sufficient precision to show the lack of proportionality," I find it is capable of giving results similar to mine. For, using the data of the first half of set number 2 of measurements made under laboratory conditions and given on page 8 of the instruction paper, I get the following ratios of strain to stress as the load increased from 1 to 10 kg. Since there is evidence that the load of 1 kg was needed to make the wire straight 14.7 was taken as the zero reading.

| Added load |       | Added load |       |
|------------|-------|------------|-------|
| in kg      | Ratio | in kg      | Ratio |
| 1          | 6.50  | 6          | 6.63  |
| 2          | 6.60  | 7          | 6.63  |
| 3          | 6.60  | 8          | 6.638 |
| 4          | 6.60  | 9          | 6.644 |
| 5          | 6.62  |            |       |

It is gratifying to see the apparatus argue on my side.

It is quite true that at present the champions of Hooke's law are "in good company," but let us not forget that we are here concerned with a question of fact, and that those men are in the *best* of company on whose side the facts are arrayed.

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#### SEYMOUR SEWELL ON "SALPS OF INDIAN SEAS"

IN this careful paper, which treats all but six of the recognized species, two errors of nomenclature made (and later corrected<sup>1</sup>) by Metcalf<sup>2</sup> are perpetuated, two wrong subgeneric names, *Apsteinia* (instead of *Ihleia*) and *Ritteria* (instead of *Ritteriella*), being used. As Professor Cockerell pointed out to me, *Apsteinia* and *Ritteria* were preempted for other groups, so I withdrew them and substituted other names, as above. My SCIENCE paper evidently did not reach Sewell's hands.

Sewell describes, but does not name, a clearly distinct form of *Salpa* (*Cyclosalpa*) *pinnata*, showing resemblance in its musculature to *pinnata* but in the aperture of its ciliated funnel being much simpler

even than *pinnata* subspecies *polae* though not so simple as *affinis*. I would recognize Sewell's form as a subspecies, the subgenus *Cyclosalpa* including thus *pinnata* (Forsk.), *pinnata polae* (Sigl), *C. pinnata sewelli*, *affinis* (Chamisso), *floridana* (Apstein), *bakeri* (Ritter) and *virgula* (Vogt).

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#### STORM DAMAGE AT LONG BEACH, N. Y.

THE unusually severe storm of Sunday, February 22, furnished a striking example of the value of well-constructed beach protective devices. The shore at Long Beach is protected for the greater part of its length by a series of fairly heavy wooden groins extending into the ocean at right angles to the shoreline; the landward ends of these groins are not tied to bulkheads, as is usually the case, but are extended into the slightly higher sand bank at the rear of the beach. On a short unprotected portion of the beach the waves undermined twelve or fifteen houses, which toppled forward on their faces and then frequently collapsed. No houses were destroyed on any portion of the shore protected by groins, so far as visited by the writer.

In a number of places the groins themselves were partially or completely destroyed by the pounding of the waves, but apparently had borne the brunt of the attack long enough to save the buildings under their protection. The destruction of the groins seemed to be due in some cases to the removal of sand from around their bottoms, whereupon they were floated by their own buoyancy often swinging around nearly parallel to the beach in such a position that the waves soon tore the floating part from the still firmly imbedded portion. In other cases it seemed that they were too weak to withstand the smashing onslaught of the waves, and were broken off like toothpicks. The frequent destruction of timber groins at Long Beach and elsewhere along the Atlantic coast causes doubt as to the advisability of using anything but the heaviest riprap for structures exposed to storm waves from the open ocean.

In one or two places on the western portion of the beach erosion had already started around the landward ends of the groins, and had cut a considerable channel. Fortunately no buildings were situated right at the ends of these groins, or an excellent example of the danger of omitting bulkheads would have been afforded. Due to the danger of such erosion around the inner ends of groins, it is usually unsafe to use them alone unless they can be extended so far into the shore that no apprehension need be felt about scouring around their ends under the combined attack of an unusually high tide and a severe storm. Tight

<sup>1</sup> Metcalf and Bell upon Salphidae: SCIENCE n. s. Vol. 6, No. 1278.

<sup>2</sup> Metcalf and Bell. "The Salpidae: A Taxonomic Study." U. S. National Museum Bulletin 100, Vol. 2, part 2.