

Michx., *Bolelia* Raf. for *Downingia* Torr., *Ptiloria* Raf. for *Stephanomeria* Nutt., etc. In these changes from the usage of the "Botany of California," there is no suggestion of the fifty-year limit proposed by the Berlin botanists and there is little evidence of mercy toward names which, according to some writers, have become so consecrated by long usage as to be out of the reach of modern nomenclatural legislation. Yet several generic names equally vulnerable, like *Capsella* Medic., *Echinocystis* T. & G., and *Dicentra* Bernh., are retained. But these possibly await modification in the second edition, which the manifest merits and popular qualities of the work will doubtless soon make a necessity. [M. A. H.]

CORRESPONDENCE

"A SIMPLE DYNAMOMETER"

The discussion of this particular apparatus would not deserve more space, did not the criticism involve a principle applicable to a number of instruments for measuring the force exerted by plants. In his reply* to my former letter, Dr. Richards implies that I misunderstood his experiment; rather, I think, he has missed the point of my objection. I had no thought of criticizing his device because it does not measure the force of imbibition in all directions. The difficulty is that the proposed dynamometer does not register correctly *any* component of the force of swelling, for the simple reason that the spring scale is not adapted to do it. Gravitation can act through an indefinite distance and the weight in the pan descends until the distortion of the spring is as great as the force acting can produce. In swelling, on the contrary, the force to be measured acts through a very limited distance only, and when the limit of its thrust is reached the index stops, whether it indicates an ounce or a ton. The principle is that distortion of a system, however registered, can never be used to measure correctly any force, unless the possible distortion is greater than that necessary to produce the maximum registration of the instrument.

The caution regarding overloading, therefore, is not pertinent,

* TORREYA, I: 48. Ap. 1901.

because, owing to the limited displacement by the swelling, the spring could not easily be loaded beyond its capacity to register, although any component of the force acting is really vastly in excess of its powers to register in units of weight.

The objections made above do indeed apply to any apparatus not used in accordance with the principle enunciated. But Detmer is careful to say that his device* is only for the purpose of showing that external work is done by swelling seeds.

C. R. BARNES.

Notwithstanding the careful explanation given above by Professor Barnes the writer is still of the opinion that overloading from the standpoint of the *strength* of the spring is, as previously stated, entirely possible, and it seems too that this is the critical point.—H. M. RICHARDS.

NEWS ITEMS

Volume 7 of the Contributions from the Department of Botany of Columbia University has recently been completed by the publication of the 175th number of the series.

Dr. H. M. Richards, Dr. P. A. Rydberg and Miss Louise B. Dunn are spending their summer vacations in Europe.

Dr. D. T. MacDougal left New York on June 2d to conduct some special botanical investigations in western Montana.

Tracy Elliot Hazen, Ph.D. (Columbia University, 1900), has been appointed Director of the Fairbanks Museum at St. Johnsbury, Vermont, and enters upon the duties of the position this month.

Mr. Frederick H. Blodgett, recently a graduate student in Columbia University, is now an assistant in the botanical department of the Field Columbian Museum, Chicago.

Edward W. Berry, of Passaic, N. J., a member of the Torrey Botanical Club, has been awarded the Walker Prize of fifty dollars by the Boston Society of Natural History for an essay on *Liriodendron*.

* Pflanzen-Phys. Prakt. 119.



Barnes, C. R. 1901. "'A Simple Dynamometer'." *Torrey* 1(6), 70–71.

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