by placing branches in air-tight connexion with a closed vessel of water communicating with a mercurial barometer. My experiments were made with not very large branches, and were few in number as they had to be suddenly brought to a close; but some of the results were sufficiently striking. Thus, with a branch of Cherry-laurel, the mercury sank 190 m.m. in four hours; that is, the suction-force of the branch was equal to one-fourth of an atmosphere.

I am now resuming the experiments, substituting a Bourdon's¹ vacuum-gauge for the mercurial barometer, and with still more striking results. Thus, a vigorous branch of Beech, bearing about 1,100 leaves, gave an indicated suction-force of rather over twenty-one inches of mercury (about 530 m.m.) within one hour. As I did not succeed in obtaining a higher reading, I am inclined to regard this as a measure of the suction-force of this branch. The record is briefly as follows:—

2.40 p.m.	indicator of gauge	=	0 inches of mercury
2.50	„ „ „	=	14 „ „
3.00	„ „ „	=	18½ „ „
3.25	„ „ „	=	21 „ „
3.40	„ „ „	=	21 „ „

Some indication of the nature of the relation between the suction-force and the leaf-area of a branch is afforded by the remarkable fact that the gradual reduction, to the extent of 900, of the number of leaves borne by the above-mentioned branch of Beech, produced no proportionate—or even perceptible—diminution in the indicated suction-force. Full details will appear in a subsequent number of the Annals.

S. H. VINES.

THE DIGESTIVE FERMENT OF NEPENTHES.—In view of statements which have appeared of late years throwing doubt upon the digestive function of the pitchers of *Nepenthes*, and upon the possibility of obtaining from them a peptic enzyme, I have thought it worth while to repeat the experiments on the subject which I made in the year 1876. I propose to publish a full account of these repeated experiments in a future number of this periodical: but I think it well to take this early opportunity of stating that, so far as the work has been carried at present, the results completely accord with those at which I arrived twenty years ago.

S. H. VINES.

¹ The Bourdon's gauges used in these experiments were kindly lent to me by Messrs. Elliott Bros. of St. Martin's Lane, London.

Vines, Sydney Howard. 1896. "The digestive ferment of *Nepenthes*." *Annals of botany* 10, 292–292. <https://doi.org/10.1093/oxfordjournals.aob.a088614>.

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