

Thapsia garganica, L.; Sprengel, in 1807, to *Ferula tingitana*, L.; Link, in 1808, to *Laserpitium gummiferum*, Desf.; in the *Dictionnaire d'Hist. Naturelle*, to *Ferula Asafoetida*; while Mace, in his *Numismatique de l'ancienne Afrique* (1857), comes to the conclusion that it is *Laserpitium Siler*, L. In all the recently revived controversies, the exhaustive memoir of the late Prof. Cæsted, of Copenhagen, entitled, *Et Bidrag til Tydning af den i Oldtiden under Navn af Silphium meget anvendte og høit skattede, men senere forsvundne krydterplante* (Remarks on the interpretation of the famous plant, the identity of which is at present a matter of dispute, known in ancient times under the name of Silphium), in the *Oversigt over d. K. D. v. Selsk. Forhandl. o. s. v. f.* 1869, pp. 21—30, has been neglected. Cæsted believed that it was a plant allied to *Narthex Asafoetida*. If the figures of Silphium on ancient coins or vases are brought to the same scale with those of *Narthex Asafoetida*, it will be found that the two plants agree very exactly. The stem, the form and the position of the leaves and the inflorescence are the same. The rhizomes of the two plants are the same in form and even ramification. The thick stem, straight and marked with deep longitudinal furrows, so characteristic of *Narthex* is also seen in Silphium, and these furrows are always very distinctly marked on the figures on the ancient coins. The leaves of the two plants, especially if we take as comparison those figures of Silphium on coins which are apparently the best executed, are very much alike. The form and size of the inflorescence are the same in both plants. The fruit is of the true umbelliferous type, though in the rude figures it might belong to either *Ferula* or *Narthex*, indeed rather to the latter than the former genus. But the general character and habit of the plant forces us to consider it as coming within the genus *Narthex*. Cæsted, however, considers that it can scarcely be considered identical with *Narthex Asafoetida*, both on account of the different shapes of the two fruits, but especially from the well known fact that the *Asafoetida* furnished by the *Narthex* is entirely different from the valuable spice which the ancients obtained from Silphium. He proposed the provisional name of *Narthex Silphium* for the ancient plant. At the time of writing his paper Professor Cæsted was quite aware that Viviani (*Flora Libyæ Specimen*, 1824) had named an Algerian plant *Thapsia Silphium*, which Cosson afterwards pronounced to be a slight variety of *Thapsia garganica*, and that this was looked upon by Desfontaines as the ancient *Σελφιριον*; but with this identification he was not, like many others who had studied the subject, at all satisfied. I confess, after paying a little attention to the subject, that I agree with my lamented friend, though whether he was right in classing it as a near ally of *Narthex Asafoetida* is quite another matter. *R. B., Edinburgh, November 7.*

Wintering Echeverias.—Echeverias which have served for borders, beds, or floral inscriptions during summer, if potted to pass the winter, are liable to rot or to spindle up. A method of preserving them, which occupies practically no room whatever, and which avoids the above-mentioned inconveniences, is to shake out the earth from their roots when taken up in autumn and suspend them, heels upwards or anyhow, tied in small bunches, on strings stretched horizontally, like linen hung on a line to dry, beneath the roof of a cool greenhouse, which just keeps out the frost. *E. S. D.*

Ilex latifolia.—On p. 591 of your last issue, I notice Mr. Strickland's request for information respecting *Ilex latifolia*. In reply to his question—"Is there not a specimen of it at Carlew?" I beg to state that we have a plant here of *I. latifolia*, 15 feet high, its general appearance reminding one very much of a plant of *Magnolia grandiflora*. We have also a nice specimen of *Ilex diphyrena* some 20 feet in height. *G. P.*

Wasps.—The statement of M. Van Hulle, mentioned in the number for October 24, that he saw Tomatoes planted in a vinery to keep off wasps, reminds me that some ground vineries which were infested with wasps last year were this year completely free from them, not a wasp appearing near them, and that this year there was a bed of Tomatoes along the side of the frames which was not there previously. *A. Boyle, Whitland.*

Long Cucumbers.—As there appears now quite a rage for long Cucumbers I think it will be as well for judges and societies to lay down specific rules for judging. The late George Glenny, in his last Almanac, ridicules the idea of length as a test. His rules for judging are, I think, good, and should be adopted—"Length, nine diameters; skin, smooth; spines, black, the thicker the better; colour, dark green; bloom, perfect; shape, round—equal the whole length—except half a diameter for neck, and half a diameter for the nose; the flowers remaining on the fruit." *W. S. G.*

Reports of Societies.

Royal Horticultural: Nov. 11.—W. A. Lindsay, Esq., in the chair. At this meeting the Rev. M. J. Berkeley directed attention to several of the subjects exhibited or brought before the Scientific Committee, a report of which appears elsewhere.

SCIENTIFIC COMMITTEE.—A. Murray, Esq., in the chair. The Rev. M. J. Berkeley commented on some specimens of the fungus (*Hemileia vastatrix*) now causing such ravages in the Coffee plantations of Ceylon, and which has been figured and frequently alluded to in our columns.

In allusion to this subject Professor Dyer read the following—

Extract from a Letter of Dr. Thwaites to Dr. Hooker.

"Peradeniya, Sept. 14, 1874.
"The Secretary of the Planters' Association in Ceylon has sent me for perusal to-day some reports from the estate superintendent as to the condition of the Coffee as regards the *Hemileia*. I can glean little news from these reports. They demonstrate the fecundity of the worst phase of the disease, so that in future the time of its occurring may be predicted. Flowers of sulphur would doubtless be useful if a few trees only were to be treated; but when their number is legion, and each tree carries upon it the seeds of infection to an inconceivable extent, a cured tree, as soon as the sulphur had been washed off by a heavy shower, would be liable to contract the disease again. I have ascertained that the filaments produced from a spore of the *Hemileia* can and do penetrate the stomata of the underside of the leaf from the outside. This was made evident in a specimen I was examining under the microscope, and of which I made a rough sketch. This simplifies matters very considerably. It was difficult to understand what should determine the outbreak of the disease in certain parts of the leaves, the intermediate parts seeming to be quite free from it."

Mr. Berkeley showed the scape of an Onion—*Allium rotundum*—which had been partially broken across, and which had produced small bulbs at the injured spot [A not very unfrequent occurrence under similar conditions in *A. vineale*. *Ens.*] The production of bulbs was the more remarkable in that the species in question does not usually produce bulbils in the inflorescence, as some other species do.

Mr. Berkeley also showed roots of Apple unusually severely affected with American blight—*Eriosoma lanigera*—and nodulated in consequence. As a remedy, Mr. Berkeley expressed his confidence in the application of a mixture of tar and grease, such as is used to prevent cracking of the hoofs of horses.

Mr. Webb forwarded specimens of Pears attacked by *Helminthosporium pirorum*.

Professor Dyer then read the following note from Dr. Kirkman Finlay, of San Fernando, to Dr. Hooker, on the *Dehiscence of the Pod in a Species of Swartzia*.

"I send you the pod of *Swartzia grandiflora*, the dehiscence of which presents a singular phenomenon, which I have observed in no other Leguminosæ, and that only recently. In a late botanical excursion I met with a fine bunch of the above pods in maturity. I secured them. On my return, on opening my vasculum, I found several of the pods lined with a row of seeds. This surprised me, for the pods had not changed at all in outward appearance. On pressing them, however, I felt they were empty. I took the remaining pods that had remained full, and hung them up to dry. The next morning I found the pods exactly the same in outward shape as when I had hung them up, only every one bore on one side a certain number of seeds hanging by their respective funicles. These seeds were very glossy, covered with a coat of unctuous mucilage, to facilitate, no doubt, their exit from the pod. The latter, as I said, was quite closed, and the coaptation of the sides through which the seeds had slipped was quite perfect, while the moniliform appearance was wholly preserved."

Dr. Gilbert contributed, on the part of Mr. Lawes, a very suggestive communication entitled—

Note on the Occurrence of Fungi on the various Plots devoted to Experiments with different Manures on Permanent Meadow-land, in the Park, Rothamsted, Herts. By J. B. Lawes, F.R.S., F.C.S.

November 5, 1874.—Fungi were more abundant, and a greater number of species was represented on the permanently unmanured than on any other plot. No fungus of more than 1 inch in diameter across the cap was found on any plot, excepting on the unmanured plot (3), that with superphosphate of lime alone (plot 4), that with superphosphate, and salts of potash, soda, and magnesia, for six years, after ammonia salts for thirteen years previously (plot 6), and that with superphosphate and salts of soda and magnesia, without potash (plot 8). On plot 6, that is the plot manured with superphosphate and salts of potash, soda, and magnesia, a Mushroom of 7 inches diameter was found.

In other words, there was no luxuriant growth of fungi excepting on the unmanured plot, and on the plots receiving mineral, without nitrogenous manure; and by far the most vigorous growth of grass in "fairy rings" was on the superphosphated plot, and that receiving superphosphate with salts of soda and magnesia, without potash.

Where ammonia salts alone, or ammonia salts and mineral manure, or ammonia salts, mineral manure, and

organic matter (applied as cut straw), were used, scarcely any fungus was observed. On plot 17, with mixture of soda alone, one species, and on plot 16, with mixture of soda and mineral manure, two species, occurred.

It would appear, therefore, that the fungi flourish best where the development of the grasses was the least, and where the limited growth of these was due to a deficient supply for their requirements, of nitrogen, or of potash, or of both.

The question obviously arises, whether the general prevalence of fungi under such conditions is due to the manurial conditions themselves being directly favourable for their growth, or whether other plants, and especially the grasses, growing so sluggishly under such conditions, the plants of the lower order are the better able to overcome in the competition, and assert themselves? On this latter point the further question arises, whether the fungi prevail simply in virtue of the absence of adverse and vigorous competition, or whether to a greater or less extent as parasites, and so at the expense of the slight underground growth of the plants in association with them?

According to the published analyses of various fungi from one-fourth to one-third of their dry substance consists of albuminoids, or nitrogenous matter. Yet, as in the case of the highly nitrogenous leguminous crops, direct nitrogenous manures, such as ammonia-salts or nitrate of soda, do not seem to be specially favourable to their growth; but they develop and assimilate an enormous amount of nitrogen, under conditions in which the Gramineæ, which flourish so remarkably under nitrogenous manuring, languish. The dry substance of fungi is further shown to contain from 8 to 10 per cent. of mineral matter or ash, of which about 80 per cent. is phosphate of potassium. Yet the greatest development of the fungi was on plots on which, so far as the requirements of the grasses are concerned, potash was relatively deficient.

Mr. Berkeley determined the fungi exhibited as follows:—On the unmanured plot, *Boletus erythropus*, *Hygrophorus pratensis*, *H. coccineus*, *H. virgatus*, *Agaricus geotrupes*, *A. aeruginosus*. Where superphosphate of lime alone was used (plot 4) the species found were *Hygrophorus coccineus* and *Clavaria vermicularis*. On the plot manured with superphosphate and mixed alkalis (plot 6), *Agaricus arvensis* was the only species found. On a corresponding plot fine which potash is excluded (plot 8) two species were found—i.e., *Agaricus nudus* and *Hygrophorus virgatus*. Where the nitrate and mineral had been applied (plot 16), *Hygrophorus virgatus* and *Agaricus furfuraceus* were observed; and on plot 17 (nitrate of soda alone), the only fungus found was *Hygrophorus virgatus*.

In the discussion which followed on the reading of this paper, Dr. Voelcker confirmed the experience of Mr. Lawes to the extent that fairy rings occur most abundantly on poor pastures, and that one means of extirpating them consists in the application of nitrogenous manures.

Mr. Renny considered that the physical condition of the soil had much influence on the production of fungi. Rank-growing grass was not nearly so favourable for the growth of fungi as old pasture or common land.

Dr. Masters alluded to the fact that at present we knew very little of the parasitic habits of this class of fungi—an observation which elicited the statement that very few *Agarics* were known to be parasitic on grasses. Dr. Masters also remarked on the fact observed by Mr. Lawes, that in the plot manured with decaying organic matter, as also with ammonia salts, Fungi were not specially produced—a circumstance apparently antagonistic to generally received notions about fungi, and opposed to garden practice, &c., in the culture of Mushrooms.

The same gentleman exhibited some remarkable beautiful photographs of *Stapelias* and other plants taken by Dr. Bornet in the garden of M. Thuret at Antibes; and also laid on the table specimens of a curious variety of *Calluna vulgaris* gathered by Mr. James Salter, F.R.S., and in which the branches were so densely packed and so contracted in their growth as to suggest resemblance to a round-headed *Acacia*. Whether this peculiarity was due to browsing by cattle, or to exposure to winds, or to some internal cause not yet determined, could not be ascertained.

Mr. Bennett exhibited leaves tunnelled by the caterpillar of a moth.

CHRYSANTHEMUM AND FRUIT SHOW.—Great sums of about two hundred pounds, proportionately distributed over sixty-six classes, and it is very doubtful whether such a display as was brought together on Wednesday last in the conservatory and winter arcade could anywhere else have been got together, and the members of the Council may take the same unctious union to their souls that their vigorous management is meeting with its due reward in undiminished popularity amongst the craft. The display of *Chrysanthemums* in pots, which occupied the whole of the wide stage down the centre of the conservatory, was decidedly the best that has been held here for many years; while amongst the cut flowers, all of good merit, there were two of the finest groups of Japanese varieties that it has ever been our good fortune to see, and which earned deserved praise.