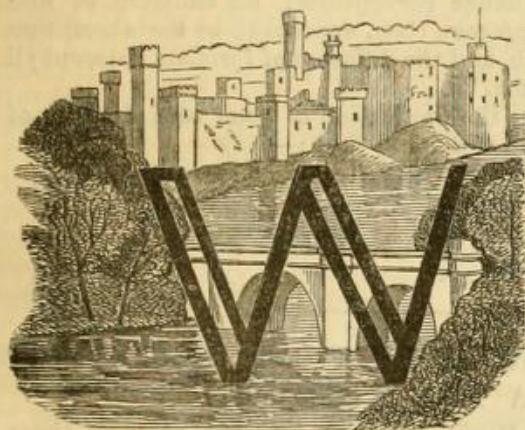


WEEKLY CALENDAR.

Day of M'nth	Day of Week.	APRIL 21—27, 1863.	WEATHER NEAR LONDON IN 1862.				Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.						
				degrees.			m. h.	m. h.	m. h.		m. s.	
21	Tu	Sun's declin. 11° 47' N.	29.950—29.948	64—37	S.W.	—	54 af 4	3 af 7	57 10	3	1 17	111
22	W	Alder Buckthorn flowers,	29.731—29.543	60—42	S.W.	.11	52 4	5 7	44 11	4	1 29	112
23	Th	Gooseberry flowers.	29.854—29.628	61—39	S.W.	.01	50 4	6 7	morn.	5	1 41	113
24	F	R. P. Knight died, 1824. G.	29.995—29.864	69—37	S.	.05	48 4	8 7	23 0	6	1 53	114
25	S	St. MARK. PRINCESS ALICE born	29.862—29.834	76—43	S.W.	.12	46 4	10 7	56 0	7	2 4	115
26	SUN	3 SUNDAY AFTER EASTER. [1843.	29.871—29.846	67—35	S.W.	.04	44 4	11 7	22 1	8	2 14	116
27	M	Wild Tulip flowers.	30.026—30.015	70—31	W.	—	42 4	13 7	46 1	9	2 24	117

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-six years, the average highest and lowest temperatures of these days are 58.2° and 36.6° respectively. The greatest heat, 80°, occurred on the 25th, in 1840; and the lowest cold, 18°, on the 24th, in 1854. During the period 139 days were fine, and on 113 rain fell.

FERTILISATION OF ORCHIDS.



ILLINGLY, according to Mr. Darwin's request, I forwarded him a few seeds of the abortive *Cattleya crispa* flower referred to, and also a few seeds from a capsule that set spontaneously on *Lælia cinnabarina*, with the view of instituting a

comparison upon the reproductive tendency of a perfect and an imperfectly developed flower. The results of his analysis will, in all probability, be already in your hands.

I also sent by the same post a few of each of the above seeds to Mr. Gosse, who, after a careful microscopic examination, embodies the results of his views and experiments in a form which cannot fail to be generally interesting.

I may state, in addition to what I have already said, that the more I examine the positions of the organs of reproduction in Orchids, the more I am astonished at their power of producing seed-capsules without insect or other agency. At all events, it seems inconceivable why the pollinium of a perfectly enveloped flower should find its way to the stigmatic surface so as to produce even 2 per cent. of fertile seeds.

Mr. Darwin speaking of Dr. Cruger and Mr. Scott having observed the emission of pollen-tubes from the pollen-masses, brings to my recollection seeing the long, white, stringy, elastic tubes, which have, in several instances, been faintly discernible to the naked eye when the pollen-masses were irritated with the sharp point of a pencil. All those who have tried their hand at Sikkim *Rhododendron* crossing will have observed the same stringy masses, although on a much larger scale, by irritating any of the stamens. There is, therefore, not much anomaly in a perfect flower producing fruit with little or no artificial agency; although I am strongly of opinion, after a series of trials, that the germinating power of these pods that have had, so to speak, a spontaneous existence, is exceedingly weak.

It appears to me that bees are not such useful agents as moths, especially in the hot climate of our Orchid-houses, for probing the orifices of this wonderful and beautifully constituted genus; for although we have occasionally seen bees in the interior of the houses, we were never sensible of their making an attempt to seek nectar from the flowers, as they seemed quite uneasy at their close confinement. There is a species of insect, however, which is one of the worst pests to be found in an Orchid-house, that is admirably suited, with its long proboscis, for all the requisites of promoting fertilisation; and it may be, for anything I know, an agent in this

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capacity. The insect I refer to is also exotic—a species of cockroach bearing the name of *Blatta orientalis*. They delight to feed upon the young roots and flower-shoots of all epiphytal Orchids, and require to be hunted down, else they would make such raids upon these valuable plants as to seriously deteriorate their value. Their time of working is at night; and although I have killed dozens of them upon the flowers, I have no mode in candlelight of discovering whether they ever detached the pollinia. In fact, we have all along only been too anxious to deal summarily with them.

Four out of the seven great divisions of Orchidaceæ comprise the greater number of plants cultivated for their ornamental appearance in our plant-houses; and out of these four the *Vandæ* form by far the most important division. It is a curious fact, if we except all those under the *Brassidæ* subdivision, not a single one of them, but the comparatively recent introduction *Sarcanthus Parishii*, has offered to set a seed-capsule. Of course, since I set about cross-breeding I have induced several to do so; but before I ever tried anything of the sort, none of the *Vandas*, *Ærides*, *Phalænopses*, *Saccolabiums*, *Maxillarias*, *Zygopetalums*, &c., made what I have, rightly or wrongly, called a spontaneous effort. The *Epidendrea*, on the contrary, have been conspicuous in seed-setting; and I only mention the fact for such scientific men as Mr. Darwin to ponder over and explain.

Cattleyas often produce seed-pods, and occasionally *Lælias*, *Chysis*, *Epidendrums*, *Phaius*, *Schomburgkias*. We had a plant of *S. crispa* imported from Trinidad among some other things. It is the least ornamental of all the tribe, producing ten or twelve dingy-coloured wavy-edged flowers on the top of a stem about 5 feet long. These flowers only remained expanded about a day, or at most two days, and every one of them produced a seed-capsule, which goes a certain way to corroborate Dr. Cruger's observations.

Dendrobiums are the only representatives in the *Malaxæ* division that have formed pods spontaneously. In the *Cypripediæ* I have only in my experience had one attempt at seeding, and that was the rare and beautiful *superbiens vel Veitchii*; but it was a feeble attempt, ripening-off prematurely, which was never the case with me in any other species.—JAS. ANDERSON, *Meadow Bank, Uddingstone, N.B.*

MICROSCOPIC OBSERVATIONS ON SOME SEEDS OF ORCHIDS.

The following observations may possess some points of interest for the readers of THE JOURNAL OF HORTICULTURE. They were made on samples of seed sent to me by Mr. James Anderson—viz., that of a *Lælia cinnabarina*, which had set spontaneously from a perfect flower; and that from the pod which was produced by an abortive flower of *Cattleya crispa*, referred to in his communication, JOURNAL OF HORTICULTURE, p. 207. I have added some notes on seed of another *Cattleya*. The observations were all made with a power of 300 diameters.

LÆLIA CINNABARINA.—About 20 per cent. of the whole contain an embryo; the remainder consist of the empty

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