point out that in its whole structure the flower seems rather adapted for cross-impregnation by larger insects, and that at least some varieties are attractive to humble-bees. On this view, the opening between the two lower anthers, described by Mr. Kitchener, is necessary for the escape of the pollen, which falls, according to Hildebrand, without the help of insects, into the groove beneath, where it is held by the lining hairs until removed by insects. Besides humble-bees, I have seen the small cabbage butterfly (*Pieris rapæ*) sucking the flowers of a cultivated pansy.

With regard to *V. cornuta*, besides the absence of the black mark on the style, mentioned by Mr. Kitchener, which is not universally present in *V. tricolor*, it differs from the latter in the uniform size of the unvariegated, pale blue, or white flowers, the somewhat looser disposition of the petals, the great length of the spur, and the sweetness of the flowers at night, all characters leading to the belief that it is, in fact, a pansy (if I may use the word in a sub-generic sense), adapted to uniform conditions of life, and to fertilisation by *Noctuidæ*. A comparison of the present condition of two beds of this species in our garden, in connection with their surroundings, helps to strengthen this belief, of the practical truth of which I have been able to satisfy myself by the capture of *Cucullia umbratica* in the act of sucking the flowers. One of these beds, in an exposed part of the garden little frequented by moths (as I can testify from long experience), still displays a profusion of blossoms in all their virgin beauty, with only a few small capsules among them; in the other, in a sheltered nook, an old favourite "mothing-ground," the flowers are mostly past their prime, and a great number of well-filled capsules are already formed. By day I have seen the flowers visited by a few humble-bees, which seemed to have difficulty in reaching the nectar, and by the meadow-butterfly (*Tiparchia janira*). Hosts of small flies run over the petals in bright sunshine, but rarely attempt to enter the nectary, and I have never seen such an attempt succeed. A remarkably long-beaked fly which I watched feeding on the pollen, as it repeatedly inserted and withdrew its proboscis, must probably have left some of the flower's own pollen on the stigma. W. E. HART

Kilderry, Co. Donegal, June 22

Spots on the Cherry-laurel

CAN any of your readers tell me of what use to the plants are the small spots—glands I suppose—on the back of the laurel-leaf near the bottom of the rib? Sometimes there are two pairs, sometimes one; but no leaves seem to be without them. They are most apparent in the young leaves. They evidently contain something delectable to the bees, which frequent the laurels very much this year, and always fly to these spots upon the leaves; and the microscope shows a drop of liquid. J. M. H.

Sidmouth

YOUR correspondent means, I suppose, the cherry-laurel. His observation is quite correct; such glands are to be found in similar situations on other leaves. I know of no explanation of their purpose or origin. W. T. THISELTON DYER

Turnham Green, July 10

Halomitra

THERE is a singular morphological coincidence between the specimen of *Orbitolites tenuissimus* Carpenter, figured on p. 91 of "The Depths of the Sea," and several specimens which I have seen of the corallum of a species of the *Fungia* group, genus *Halomitra* Dana. The *Orbitolites* has the appearance of having been developed on a nucleus formed by a frustum of a former specimen. The outer rings are altogether unconformable with those of the truncated segment composing the nucleus; and it is somewhat interesting to notice, as illustrated by the figure in Prof. Wyville Thomson's work, how the growth of the Foraminifer, oppressed at the corners and advancing *per saltum* at the excavated sides, has shaped itself towards the completion of its normal disc-like form.

An appearance precisely similar has come under my notice in the corallum of *Halomitra*. Two specimens in the Free Public Museum, Liverpool, from the Solomon Islands, exhibit this peculiarity, and of about eight or ten other specimens seen by myself, I cannot recollect more than one in which the large frustum of a former corallum, constituting an unconformable nucleus, did not distinctly appear.

In a single case the presumption would be altogether in favour

of attributing the peculiarity to an accidental fracture of a former corallum; but its frequent occurrence suggests that it may be worth while to inquire into the possibility of spontaneous fission taking place in the adult *Halomitra*. Some of the *Fungia* are said to possess powers of limited locomotion. It is quite conceivable that a great extension of size in the coral might interfere with its mobility and render division advantageous. That the Zoantharian Actinozoa are able to re-absorb solid portions of their coralla is variously illustrated, no example being more familiar than that of the young of several species of *Fungia*, which are attached to the under side of the parent polype by a strong neck of cœnenchyme, which is subsequently absorbed and the young are liberated.

Rainhill

HENRY H. HIGGINS

Periodicity of Rainfall

I HAVE observed in recent numbers of NATURE a discussion upon the subject of the Periodicity of Rainfall, and its connection with sun-spots, and I hoped by an examination of the Rainfall Returns of this island (Barbados), which I have collected for 30 years, 1843 to 1872, to have been able to confirm the theory broached by Mr. Meldrum and Mr. N. Lockyer, which is so interesting in itself, and might lead to such important results. But assuming that sun-spots affect all parts of the globe equally, and that periodicity prevails in all alike, the experience of Barbados is opposed to the theory, and I am led to the conclusion that it was "chance alone" that led to the coincidences noticed by Mr. Symons in his letter published in vol. viii. p. 143.

In the following calculation I state the years separately in order to show that not only the triennial and quinquennial averages, but the individual years, contradict the theory. I am able to furnish six periods—three of maximum and three of minimum sun-spots. Of the triennial averages two of each show an absolute equality; in the third the rainfall is in an *opposite* proportion to the sun-spots. The quinquennial averages do not materially disturb those results. As regards individual years, the rainfall was much above the average in two of the minimum sun-spot years; and was above it only in one of the maximum sun-spot years; in the second it was an average; in the third it was excessively below it. The average of the island for 25 years, from 1847 to 1871, is 57.74 inches, based upon the mean of 3 stations in 1843, and increasing to 141 in 1871.

		Yearly Rainfall.	Average of 3 years.	Average of 5 years.
Minimum	1843	45.31		
	1844	74.45	54.56	
	45	43.91		
Maximum	46	65.82		
	47	48.10		
	1848	63.77	54.86	59.67
	49	52.77		
	50	67.88		
Minimum	54	50.88		
	55	77.31		
	1856	48.49	62.23	56.56
	57	60.90		
	58	45.22		
Maximum	58	45.22		
	59	56.22		
	1860	57.91	61.98	58.09
	61	73.82		
	62	59.27		
Minimum	65	68.64		
	66	59.68		
	1867	69.93	58.07	58.27
	68	44.60		
	69	48.52		
Maximum	69	48.52		
	70	60.17		
	1871	41.46	50.00	52.71
	72	48.39		
	73	65.00		

I have ventured to estimate the rainfall of the present year with much confidence upon the data given in the accompanying notice, with which I need not trouble your readers.

Barbados

RAWSON W. RAWSON