into the body of the bee. The presence of propolis in the anterior thoracic spiracles of *Apis florea* is recorded here for the first time. It is interesting in the view of the fact that blocking of the corresponding spiracles with wax in *Apis mellifera* L. results in the total loss of the power of flight according to White[3] (1924). He attributed similar effects when the prothoracic spiracles are severely infested with the mite *Acarapis woodi* (Rennie). But in *Apis florea* such a blocking does not seem to have affected their power of flight. This is so because the second thoracic spiracles serve as an alternative mechanism to provide thorough ventilation in the thorax, a region of relatively high carbon dioxide production. Bailey[1] (1954) ignored the second thoracic spiracles of *Apis mellifera* as functionally unimportant because of their exceedingly small size. But in *Apis florea* the second thoracic spiracles are functional and account for the retention of the powers of flight.

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THE REGULATION OF PETAL NUMBER

IN 1955-56, I examined 76,753 flowers from three plants of *Nyctanthes arbor-tristis*. The gamopetalous flowers are shed nightly and daily collections were made from 26-9-1955 to 11-1-1956. The number of petals varied from 4 to 9 with a high mode at 6. The totals for the three trees are given in Table I.

TABLE I

Total number of flowers with different numbers of petals for three trees

Petal number	4	5	6	7	8	9
Number of Flowers	134	10,975	55,732	9,431	471	8

The mean petal numbers for the three trees were $5{\cdot}924 \pm {\cdot}0030$, $6{\cdot}050 \pm {\cdot}0030$, and $5{\cdot}984 \pm {\cdot}0050$. The second differs significantly from the others. It will be seen that 72·6% of all the flowers had the "standard" number of 6 petals. In most earlier work on variation of petal number[3,4,5,11] only a minority of flowers had the modal number. Here we clearly have a condition intermediate between the variable sepal number found in *Anemone nemorosa*[15] for example, and the selection where thousands of flowers must be examined before a deviation from the standard is found. My data are superficially comparable with those of Browne[2] who found that 77·1% of a thousand jellyfish *Aurelia aurita* had the modal number of 8 tentaculocysts. However he was studying a population, whilst I was studying individual plants.

There is clearly a strong but not overwhelming tendency to produce the normal number of six petals. It is reasonable to tabulate the percentage of "abnormal" flowers, *i.e.*, those with a petal number other than six. This is closely related to the standard deviation, but is easier to calculate, and its sampling error does not involve the calculation of the fourth moment. The percentages of abnormality for the three plants were $25{\cdot}37 \pm 0{\cdot}25$, $26{\cdot}48 \pm 0{\cdot}24$, and $33{\cdot}69 \pm 0{\cdot}40$. That is to say, regulation was far looser in the third.

The mean petal numbers altered significantly, being lowest about the end of November. And the trend was marked. On the other hand, the percentages of abnormality increased with time which in the first five and the last sixteen days were as given in Table II. The number of flowers produced per day during the end of the season was much less than that in the earlier part of the season. And the reason for considering five days initially and sixteen days at the end was to reduce difference in the sample size of the two groups which were compared.

TABLE II

Percentages of abnormality in the first five and last sixteen days

Plant	1	2	3
First 5 days	$20{\cdot}93 \pm 0{\cdot}99$	$23{\cdot}48 \pm 1{\cdot}44$	$28{\cdot}02 \pm 1{\cdot}76$
Last 16 days	$30{\cdot}75 \pm 2{\cdot}16$	$37{\cdot}24 \pm 2{\cdot}44$	$37{\cdot}61 \pm 2{\cdot}30$

It will be seen that the regulation was greatly reduced in each case.

These data open up a nearly new field of research, since previous workers have seldom counted enough organs on the same plant to

establish differences in the variation between different plants, still less with time. This applies to the work of Pearson[11] and his colleagues on homotyposis. Perhaps the most comparable results are those of Price-Jones[12] on diameters of human red blood corpuscles. Here the coefficients of variation differed between normal individuals and were greatly increased in pernicious anæmia. Attfield[1] subsequently observed significant increase in variance of the diameters of red blood corpuscles of mice in anæmia.

There are, of course, a number of more or less comparable data on the variation between individual members of different clones of Protozoa[10] and of pure lines of mice[6,9] and the like.[7,8,13,14] The regularity with which members of a genotype develop has been described as the effect of developmental homœostasis. Here it can be studied on a very large scale.

The work is being extended to the study of other individual plants and other characters. For a character as well regulated as petal number very large samples are needed. Samples of 500 flowers or less would not reveal differences of the order found. Since most work of this kind has been done on herbs, no comparable observations are on record.

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PERIODICITY OF WUCHURERIAN MICROFILARIÆ IN HUMAN BLOOD

THE present investigation was undertaken to find out if microfilariæ of Indian species of filarid worms may also show diurnal incidence. As at present the blood for detection of Indian Wuchurerian parasites has to be collected at late hours of night which is rather an inconvenient time if large-scale survey in a rural area has to be conducted. It would solve much of the difficulty if the diurnal blood could provide us some index for determining the extent of filarial endemicity in the country.

With that object in mind, peripheral blood, about 20 c.mm., of certain subjects was collected in the field at different hours of the day and night for study, and the results are summarised in Table I.

TABLE I

Bancroftian microfilariæ count at different hours

No. of persons	7 A.M.	7 P.M.	9 P.M.	Midnight	2 A.M.	4 A.M.
1–6	4*					
7	6	..	24	19	23
8	..	3	..	4	11
9	..	nil	43	..	48
10	..	2	25	..	19
11	..	6	8	16	..
12	24	..	34	..	..

* Out of six persons examined, only one showed the parasites at the hour shown: at other hours of the day, 9, 12 and 15, the blood was free.

Blood of six persons (7–12) only could be obtained at different hours involving the night: these patients were either from Bankura (Rajagram), Burdwan (Kotalhat) or Hooghly (Kotrung). The study shows that the microfilariæ are most abundant towards midnight. There are two peaks, one at midnight and the other toward early hours of 4 A.M.

In only one patient from Burdwan out of six examined at different intervals during the day the blood proved positive for 7 A.M. sample. The parasites disappeared from the blood after this. Further study around Contai (Midnapore) where *malayi* type of parasites predominates indicated that the microfilariæ are not likely to appear again before 5 P.M., when certain subjects proved positive, but the count was meagre.

The results show that the filarial parasites although not altogether absent in day blood, the rate did not exceed 3% of that observed in night blood from the same locality. Iyengar (1938) observed the same in *malayi* infection