Fig. 3. The spider on the shell ($\times 4$)

In 1959 no male was found on the scarp. During early April 1960 the scarp was searched. At that time only the earliest plants were growing and grass was still scarce. One male spider, similar to the females found before, was seen on the ground. There were, however, no suspended shells. In May the search was repeated, and 18 suspended shells with a female in each of them and eggs in some were seen.

The spiders were taken to the laboratory, where systematic observations have been conducted on the behaviour of the adults and of the young.

I am grateful to my assistant, W. Kokociński, for the photographs.

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Flowering Behaviour of Vanilla

THE vines of *Vanilla planifolia* Andrews will climb to heights of 60 ft. or more, if provided with a sufficiently tall support plant. The vine must therefore be trained to a height convenient for pollination and harvesting in the commercial production of vanilla. The prevention of the natural tendency to climb is thought to enhance the production of flowers¹. It is believed that flowering will not occur as long as the vine can climb upward²⁻⁷. Childers³ suggests that "bending of vine appears to be an important factor in causing it to flower and fruit beyond the bend, which may be due to an accumulation of carbohydrates and possibly other flower-forming materials in this region of the vine".

Observations on the flowering and fruiting of *V. planifolia* have recently been made in an abandoned vanillery in western Puerto Rico, which had not been under cultivation for at least 15 years. Since the plants in this area were growing on both short and tall supports, the plants were of both a rambling and a climbing habit of growth. Both types were inspected for flowering. Five plants of the low-growing type gave a total of 65 inflorescences on horizontal and descending branches, while no evidence of flowering was observed on the few short ascending stems present. Ten vigorous, climbing plants were selected at random, and counts were made of flower

spikes on ascending and descending stems. Ascending, or climbing stems had a total of 82 inflorescences, while descending stems had a total of 29 flower spikes. One plant with 18 flower spikes consisted entirely of two main branches which had grown to a height of 60 ft. and were still climbing. The majority of inflorescences occurring on ascending vines were 30–50 ft. above the ground, and were on stems that were free of bends for at least 10 ft. in either direction. The absence of flowers on the lower 30 ft. of the climbing plants suggests that a considerable amount of growth may be necessary before flowering occurs, and that flowers should not be expected to occur on the short basal stems of rambling plants.

The inflorescences on ascending vines were capable of bearing fruit, and on one plant with 27 pods all occurred on climbing stems.

These observations indicate that *Vanilla* will flower and set fruit, whether climbing or not, and that a change in the direction of growth is not necessary for flower formation.

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Striate Mosaic: a New Disease of Sugar Cane

THE term 'striate mosaic' is proposed for a new disease of sugar cane found in the varieties Pindar and Q.57 in the Lower Burdekin district in north Queensland. The most obvious features are the short, fine striations which can just be separated by the naked eye. They are a lighter colour than the normal leaf blade and show first on the youngest exposed leaf and reach their best development as the leaf expands, but are difficult or impossible to find on mature and older leaves. They occur less in the region of the large vascular bundles than in the tissue between and so in the aggregate often give a marked striping effect on the younger leaves, or even a yellowing to the entire top. Severe stunting is usually associated with the striations but striations without obvious stunting have been found in Pindar.

The disease is sett-transmitted and heat treatment of the setts in water at 50° C. for 3 hr. or in air at 54° C. for 16 hr. (as used in the control of ratoon stunting disease¹) failed to free them from the disease. Inoculations into healthy setts did not produce the disease but the striations alone or with the stunting may be transmitted by the Sein inoculation technique². It spreads very slowly in the field, and the use of disease-free planting material should prevent it ever causing serious losses.