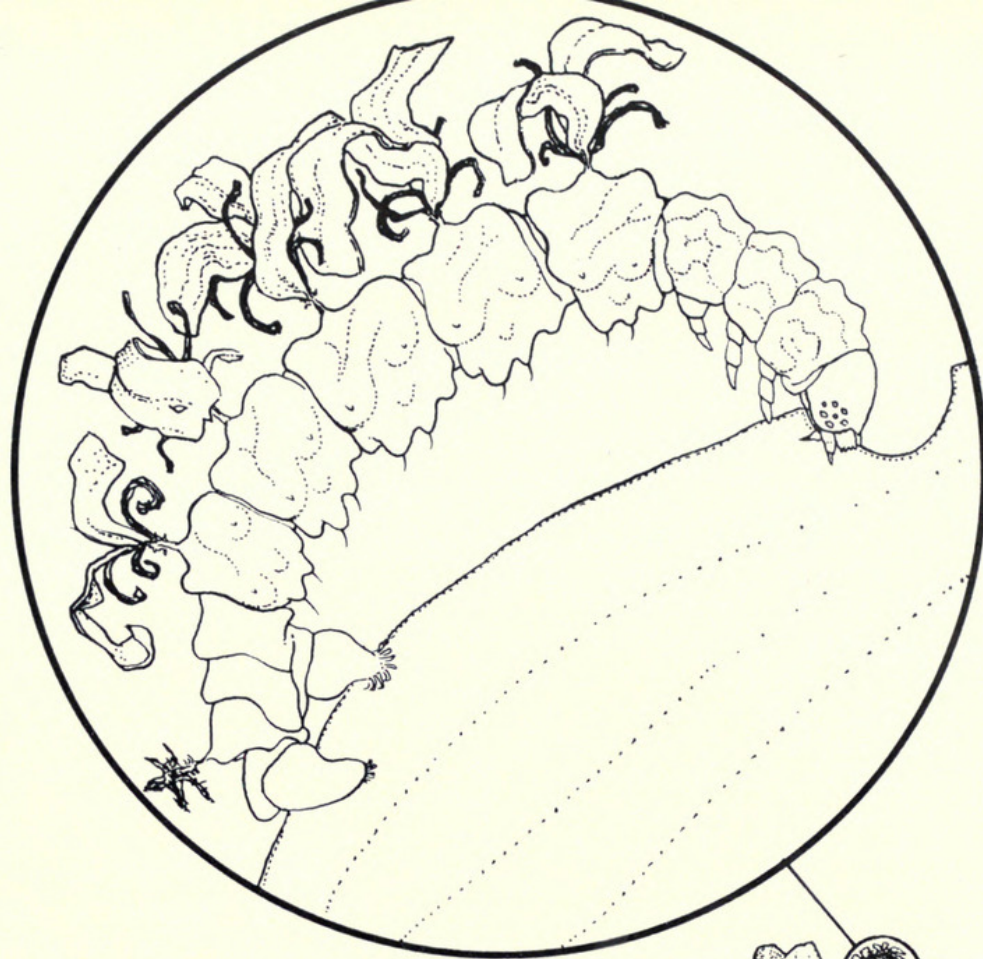
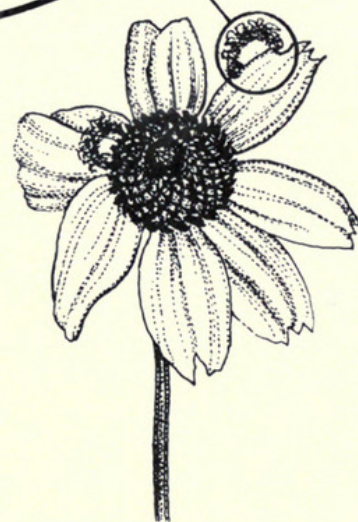


The camouflaged inchworm in the black-eyed susan is natural size; the enlargement shows how the camouflage is achieved. The flower parts—pieces of yellow petal and black parts of the florets—are bitten off and attached to the pair of spines on each segment. Silk spun by the caterpillar (and perhaps exuded by the spines) holds the camouflage in place. When the inchworm is on the "eye" of the black-eyed susan, it is very inconspicuous. Note the second caterpillar on the flower.



A DECORATED INCHWORM



WE FOUND one of the most intriguing examples of camouflage in nature in an ornamented or decorated inchworm on the black-eyed susans in our garden on the last weekend in August. The weather was hot, 95° F., and humid, and the black-eyed susans were thriving, drinking in the sunshine and radiating vitality, like zinnias.

This heat seems to suit insects, too, which never have been more plentiful than in these mid-day hours, and the black-eyed susans were favorite places for a host of them:—flies, some small and metallic green, some big, dull and brown, and many intermediate ones; gnats of various sizes; black-spotted, red ladybird beetles, little round, green beetles with long antennae, and slender orange and black beetles; leaf hoppers of several shapes and colors; little grey moths folding their wings along the stems; a red-bodied dragonfly; grasshoppers, some green, some brown; bees,

from tiny ones to black and buff bumble bees as big as the end of my finger; various sizes of wasps, and winged aphids. Such profusion of insect life feeding on the flowers, on nectars, juices, and tissues, or on each other, brought special predators, too, such as ambush bugs with their distinctive black markings, which lay in wait, as did the pale, yellowish white crab spiders.

Indicative of the minute animals hidden within the microcosm of a single flower head, we saw tiny, insect-caused galls on the florets, and a diminutive red mite which came out onto a petal and, as we saw through a lens, seemed to scratch its venter with four of its eight legs in quick succession before it ran back among the florets and disappeared.

Then Mrs. Rand picked from a flower what seemed to be a tiny mass of debris of flower parts caught in a bit of spider web. It proved to be an inchworm, a half-inch long, with bits of yellow petals

and black floret parts stuck all over its back. Imagine our delight at finding one of these decorated insects—the caterpillars of a greenish, geometrical moth—about which we had read and wondered.

Last year, after having run across a photograph of one posed on a goldenrod, we spent several days in vain search through a nearby goldenrod field. From the photograph, which showed a caterpillar as big as a cigarette, we had not been prepared for anything this small. Now that we knew what to look for—such tiny things—we soon found two more, and installed them on flowers in a dish where we could watch them

(Continued on next page)

through a reading glass.

Without their decorations these inchworms, despite their small size, would still have been unusual. They were dark brownish grey with pale grey longitudinal stripes, and each of the central segments had a pair of projections. It was to these that the yellow pieces cut from the petals and the black pieces from the florets of the black-eyed susans had been stuck, presumably with silk spun by the inchworm. The result camouflaged the caterpillar wonderfully against the brown-black, yellow pollen-dotted "eye" of the flower.

Much of the time the inchworm looped along, in its half circle pose, and browsed on the florets as placidly as a cow in a meadow. Once, while we watched it, it actually broke off part of a floret and, bending back, stuck it onto its back. Sometimes the inch-worm's head was liberally covered with yellow pollen grains. The forelegs seem to come into play here, but whether they were wiping the pollen away or pushing it into the caterpillar's mouth we could not tell. Occasionally the inchworm made a short journey out onto a petal, where it was conspicuous against the yellow and where it ate scallops into the edge of the petal. But soon it would return to the dark "eye" with which it harmonized so well.

This type of camouflage seems as wonderful as that of the ocean crabs which put sponges and algae on their backs for concealment or protection. It is quite well known to the entomologists, but seemed dismissed in a very perfunctory way in some of our textbooks by "... the larvae of these geometrid moths conceal themselves by attaching bits of plants to their backs . . .," or some such phrase. In a more popular book with the photograph I mentioned above the phenomenon was dramatized on a scale that led me to look for a much larger caterpillar, one that could be watched without difficulty. When we did find it, our first response was one of chagrin,—"is it as tiny as this!" This well illustrates the razor edge we try to travel when we write of the wonderful happenings in nature.

Bulletin drawings by E. John Pfiffner. Cover photograph by Joanne Evenson.

BATS—

(Continued from page 5)

gave up and I slept undisturbed for the remainder of the night.

The following night, Fooden and I slept under mosquito net shelters. Just as the light of the lantern faded out, I felt the bat strike my net with its wings. Not finding an opening, it tried Fooden's net with no more success and then flew off to find a meal elsewhere. This bat's quiet but efficient inspection tours became routine, and one night its persistence was rewarded. It found the wall side of Jack Fooden's netting snagged and raised just a crack above the bedding of the cot. The vampire snuggled inside and scurried on its four limbs to the sleeper's face. Sensing the intruder, Jack awoke with a cry, jumped out of bed, seized a flashlight and searched for the bat. I aided, but the alarmed animal escaped through the same opening it had used for entering. Undismayed, the bat hopefully continued its regular nocturnal visits during the rest of our six-weeks' stay on the shores of the Sarumacca.



"The hungry [vampire] bat hanging nearby in watchful expectancy." Lower drawing shows skull with "scimitar-shaped front teeth."

Vampire bats, insect eaters, fruit eaters, nectar eaters, and the means they use for getting their food are shown in the Museum's Exhibit-of-the-Month—"Bats, The Only Mammals That Fly"—in Hall 15.

MUSEUM NEWS—

(Continued from page 6)

Children's Program

"Universe," a color motion picture about a journey through space, will be presented Thursday, August 9, at 10 A.M. and 11 A.M. in the James Simpson Theatre. It is the last in the Museum's summer series of free films for children. The program will also include a cartoon, "Romance of Transportation."

Evening Hours Continue

Summer evening hours of 9 A.M. to 8 P.M. on Wednesday, Friday, Saturday, and Sunday will continue at the Museum through Sunday, September 2. On Monday, Tuesday, and Thursday the Museum doors are open from 9 A.M. to 6 P.M.

The Museum's late evenings coincide with the nights of the free Grant Park concerts which begin at 8 P.M. Dinner is available in the Museum's cafeteria until 7 P.M. on these four evenings each week. Free parking is available in the north parking lot.

After September 3 the Museum will resume its fall schedule of hours—9 A.M. to 5 P.M. seven days a week.

In Memoriam

The Museum reports with regret the death of Cornelius Crane, Museum Benefactor, who died on July 9 at the age of 57 in his summer home in Belfast, Maine. Mr. Crane was the son of Richard T. Crane, Jr., former Museum Trustee, and a grandson of Harlow N. Higginbotham, Museum President from 1898 to 1908.

In 1928 and 1929, Mr. Crane led an eleven months' expedition to the south seas for the Museum, for which his brigantine yacht, *Illyria*, was fitted out with a scientific laboratory. The late Karl P. Schmidt, former Chief Curator of the Department of Zoology, accompanied the expedition as scientific leader. More than 6,000 zoological specimens were collected by Mr. Crane and his party in the Caribbean and in the Pacific. Upon his return, Mr. Crane was named a Museum Benefactor by vote of the Board of Trustees.



Rand, Austin Loomer. 1962. "A Decorated Inchworm." *Bulletin* 33(8), 7–8.

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