

Our figure 7 shows a map of the Walk Nest of figure 1. It shows the short paths which lead for a foot or two from the larger openings. These paths escape notice easily as they are generally arched over by grass. During 1939 there was *never any debris* about this nest. Even pupal cases were carried out far beyond the edge of the nest and were scattered. In figure 7 the areas about the nest openings free of debris are shown stippled.

2. The first nest taken in deep soil was discovered by Professor A. C. Cole and Kennedy, April 17, 1931, on the bank of a road running up the side of Toll Hill, southeast of Peebles, Adams Co., Ohio. On the edge of this bare, three-feet-high clay bank the top of the nest covered an area two by five feet. This area was a low clay mound averaging 4 inches high and bare except for an occasional spray of grass. Scattered over it were a dozen or so of the usual funnel openings and among them were a few clay "chimneys" two inches tall (fig. 2). It was the only nest Kennedy has ever seen with chimned openings. Except for the chimneys, this low, clay-dome type of nest surface is characteristic of *Formica fusca subsericea* nests in the hills of southern Ohio. Such structure occurs on those well defined slopes where the water-table does not approach the surface by a vertical distance of many feet. This low dome-type of *subsericea* nest has been observed by Professor C. A. Dennis and Kennedy in the hills of Tennessee. We have seen such bare clay areas ten feet in diameter though two or three feet is the usual size.

The first one to two inches was irregularly chambered but the next six inches was a mass of interlocked flat brood (?) chambers (fig. 2). Below this, level galleries ran downward in all directions connecting here and there with irregular chambers below. In the top foot of the side of the nest there were ten *fusca* workers to each *sanguinea* worker. The nest was then recovered to be opened at some later date in the hope of collecting winged forms.

On August 5, 1932, Professor C. A. Dennis and Kennedy dug this Adams County nest to below its last bottom chamber. The bottom cell was 36 inches below the top surface. Our notes indicate the first four inches were with flat interlocked chambers in which were a few *fusca* workers. No mention is made of the curious clay chimneys found in April of the preceding year on this same nest. Next below the surface brood chamber irregular galleries ran down to about 24 inches, these averaging six inches apart and wandering in all directions. They varied in diameter from that large enough to pass one ant, to those the size of a lead pencil. Chambers one to two inches in diameter

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EXPLANATION OF PLATE III.

- Fig. 5. *Formica sanguinea subintegra* nest in a *Formica fusca subsericea* mound on the Bronson farm, Kipton, Ohio. A mound associated with a high water table.
- Fig. 6. Diagrammatic sketch showing the meager nature of flight activities in a *sanguinea* colony, in this case a queen producing nest.
- Fig. 7. Sketch map of surface openings of the "Walk Nest" on Gibraltar Island. Stipple indicates areas free of debris. Short paths are shown by parallel lines radiating from the blackened nest openings.