

crevices on the tops of enormous boulders twelve to fifteen feet high and twenty to thirty feet across. The base of each of these boulders was embedded in the gravel and sand of the canyon floor and the back face of each was buried in a mass of rubble that formed the bottom of a talus slope extending downward from the steep canyon wall. It may be seen that the crevices in which *clydei* was living were at least twelve feet above the canyon floor and even further removed from the talus slope at the rear of the boulder. The nests appeared to be completely isolated from any contact with soil although, since it was impossible to determine the extent of the crevices, there was a remote chance that they might extend through the boulder to the soil at its base or to the talus slope at the rear. The action of the foragers made this seem unlikely, for if there had been any soil connection at the bottom or rear of the boulder heavily laden minors would scarcely have struggled to the top of the boulder when returning to the nest with food. But the character of the nest at Horse Tanks definitely ruled out any chance of a connection with the soil. This nest was situated on the face of a ledge which overhung the pool or "tank" at its base. The ledge was about twenty-five feet high and so nearly vertical that it could not be climbed. All that could be done was to watch the ants until they went out of sight up the ledge. But it was plain that there could be no connection with soil here, for the ledge was a part of a basin of solid stone in which the pool lay. Thus it seems clear that *clydei* customarily nests in the crevices of large boulders or ledges and not in the soil.

The writer knows of no other North American species of *Pheidole* which behaves in this fashion. While several species of *Pheidole* (*grallipes*, *subdentata*, *hyatti*, etc.) will sometimes nest in the crevices between separated layers of stone, these crevices are always filled with soil and the nest passages run into the soil in which the layers of stone are buried. Such nests are not isolated from the soil, as are those of *clydei*. This peculiar nesting response of *clydei* is not easy to explain. The writer at first believed that *clydei* selected nest sites that would protect it from flash floods, which are heavy and destructive both in Deep Canyon and in the Split Mountain area. There is enough truth in the above view to make it dangerous, for the elevated position of the *clydei* nests undoubtedly puts them above flash flood levels. But this view fails to take account of the fact that *clydei* might secure equally good flood protection, as do most of the ants which live in Deep Canyon, by nesting in the talus slopes above the flash flood levels. The protection afforded by nests in rock crevices may be of another sort. In several of the areas where *clydei* occurs