

To find out, the researchers tracked 208 ant raids of sixteen *Megaponera analis* colonies in a humid savanna woodland in northern Ivory Coast. The colony sizes ranged from about 900 to 2,300 ants. The scientists found that it was the injured ants, rather than the paramedics, that determined whether they would be carried home or left to die. That is because the wounded ants behaved differently depending on their physical state. The ants with less serious injuries walked more slowly and stumbled* more often when their mates were nearby. They also curled up in a pupae*-like position when another ant felt them with her antennae* — probably this made the injured ant easier to carry.

The scientists are not sure why the ants with relatively minor injuries slow down. But if the raiding party passed them by, they would quickly speed up and follow the group home. So you may guess the reason to some extent. The gravely injured ants, on the other hand, struggled wildly, making it very difficult for potential rescuers to pick them up and take them home. After a few attempts, the helping ant would give up and move on. In this way, ⁽⁴⁾ they may possibly keep their fellow ants from wasting any efforts on them.

At the nest, the paramedic ants pulled any tenacious* termites off the injured insects' bodies and cleaned open wounds by licking them intensely, sometimes for several minutes in one sitting. The researchers think that the insects may have antimicrobial* agents in their saliva* that might help stop infection. Whatever the reason, their “emergent medical aid” worked: only 10% of the ants that got treatment died. Without that attention, 80% of those ants would die. “These results are in line with earlier studies concerning rescue behavior and support the hypothesis for the evolution of pro-social behavior without the necessity of empathy or cognition,” the scientists say.

*raiding 「襲撃」 termite 「シロアリ」 mandible 「大顎」 stumble 「よるめく」
 pupae 「さなぎ」 antennae 「触角」 tenacious 「しつこい」 antimicrobial 「殺菌性の」
 saliva 「唾液」

問1 下線部(1)について、なぜそのように考えられるのか説明しなさい。(15点)

問2 下線部(2)について、それはどのようなものか、本文中から例を1つ挙げなさい。(10点)

問3 下線部(3)について、“benefit”の内容を具体的に説明しなさい。(15点)

問4 下線部(4)について、どういうことが簡潔に説明しなさい。(10点)
