

OR289*The superorganism: problems and perspectives***Richard Gawne**

The superorganism concept has become a fixture in the literature on social insects, but a number of questions regarding its viability, and capacity to drive research remain unanswered. I explore these existing questions, and raise several new challenges to the legitimacy of the concept. First, I show that a review of the literature reveals that there is not a single superorganism concept, but a host of distinct superorganism concepts, many of which are, at best, vaguely delineated. In short, there seems to be no mutually agreed upon notion of what it means to assert that colonies are superorganisms, and the related question of whether some or all eusocial species form superorganismic colonies has rarely even been discussed. The fact that problems such as these have not been addressed casts doubt on the validity of the concept. I conclude by emphasizing that the question of whether colonies are superorganisms is anything but a superficial semantic quibble. Among other things, this is because the concept has often been used to support the claim that the advent of eusociality represents a major transition in evolution. I analyze the superorganism concept in light of what is known about the other major transitions, and suggest that the perspective provided by such an approach provides additional reason to believe that it is, at best, a convenient heuristic device, and at worst, a deceptive metaphor that has led to a distorted view of evolutionary history.