
Debating Division of Labor in European Ethology. An Epistemological Analysis of the Pardi-Deleurance controversy about the Organization of Wasp Societies in 1950.

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Abstract

Session: Individuality and division of labor (Rebolledo-Gomez, Nyhart, Caniglia) In March 1950, during the international meeting Structure et Physiologie des Société Animales in Paris, an important controversy exploded about the mechanisms that underpin the organization of wasp societies. The main actors of the controversy were a young Italian ethologist, L. Pardi, and a well established French neurophysiologist, E.P. Deleurance. In his work from the 1940s, Leo Pardi had provided a new conceptual framework for the understanding of social life in Polistes wasps that pivoted around the idea of Social Dominance. He had also shown that ovarian development underpins the hierarchy relationships that characterize social dominance. In his intervention at the Paris conference, Deleurance vehemently attacks both results of Pardi's research causing the young entomologist to abandon the field of study of social research for about 20 years. The idea of Social Dominance, according to Deleurance, was a typical example of the anthropomorphic fallacy; also, the occupancy of empty cells in the nest rather than ovarian development was the mechanism underpinning division of labor. Relying on the analysis of archival material, published papers and interviews, in my talk, I show that the Pardi-Deleurance debate went to the heart of our understanding of division of labor in insect societies. I argue that, by focusing on this historical case, we can highlight important and controversial patterns of reasoning that characterize the way scientists investigate and explain division of labor in animal societies even in contemporary science.

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