

UNUSUAL INTERACTION BETWEEN A BUTTERFLY AND A BEETLE: "SEXUAL PARAPHILIA" IN INSECTS?

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On 15 March 1991, in the rainforest at the Fazenda Rancho Grande, Rondonia, southwestern Brazil, I observed and photographed an unusual behavioral interaction involving two different orders of insects. A butterfly species of the genus *Dynamine* (Lepidoptera: Nymphalidae) and a rove beetle species (Coleoptera: Staphylinidae) entered into the following interaction.

The rove beetle was sitting on a leaf when first observed, posed in a position typical for the family, with an elevated abdomen. A *Dynamine* butterfly landed and approached the beetle from the posterior end. Uncoiling its proboscis, it started to explore the beetle's anogenital organs. The interaction lasted about 6 to 7 seconds, long enough for me to focus the camera and take the photograph shown here. Unfortunately, the butterfly retracted its proboscis a fraction of a second before the photograph was taken, so that the proboscis is shown already partly recoiled.

Because of the calm nature of the behavior of both participants, I do not doubt that both of these quite different insects "cooperated" with each other during the several seconds of this interaction. There is no evidence that the rove beetle was solely luring the butterfly to itself with a chemical attractant in order to catch it and devour it. Indeed, rove

beetles feed as omnivores on detritus and living insects much smaller than themselves. Nonetheless, it appears that the butterfly's behavior was induced by some chemical substance emitted by the beetle or present on the glands of the beetle's anogenital area. J. B. Heppner (in litt.) (Florida State Collection of Arthropods, Gainesville, FL) has suggested that the butterfly aimed its proboscis at the orange spot on the rove beetle; perhaps the color serves as a releasing stimulus. T. C. Emmel (in litt.) (Dept. of Zoology, University of Florida, Gainesville, FL) has noted adult *Euptychia hesione* (Sulzer) butterflies (Nymphalidae: Satyrinae) feeding on anal exudates from aphids (Homoptera: Aphididae) which were feeding on *Piper* stems (Piperaceae) in the lowland tropical rainforest at Limoncocha, Rio Napo, eastern Ecuador.

A psychologist and behaviorist has observed such behavior in other classes of animals, such as in Mammalia. This behavior would be equivalent, for example, to orogenital contact between a human and another mammal: such behavior would be classified as "sexual paraphilia." In the case noted herein, a more accurate term might be sexual zoophilia, as the contemporary international psychiatric terminology and classification is restricted in reference to humans.