

**GYNANDROMORPHISM IN THE ANT *PHEIDOLE DENTATA* MAYR
(HYMENOPTERA: FORMICIDAE)**

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Abstract.—A gynandromorph of the ant *Pheidole dentata* Mayr is described. It was found in a colony collected on the Texas Tech University campus, Lubbock. While the most notable differences occur in the head, the specimen is intermediate in size, with the right half of all body regions exhibiting discrete male characteristics. The external genitalia are predominantly male, whereas the internal reproductive system is female.

Gynandromorphism is a condition in which both male and female characters are discretely present in one individual (Donisthorpe, 1929; Hall and Smith, 1953). In ants, the various combinations of male and female forms include queen-male (gynandromorph), worker-male (ergatandromorph), and soldier-male (dinergatandromorph) (Donisthorpe, 1929). Berndt and Kremer (1983) have proposed several new categories of gynandromorphism in ants based not only upon the dominant sex, but the dominant caste as well. These new categories include gynergatandromorph (queen-worker), ergatogynandromorph (worker-queen), and androergatogynomorph (male-worker).

Insect gynandromorphism has been studied both genetically and cytologically. From such studies, various mechanisms have been derived to explain the phenomenon of gynandromorphism, most of which include fertilization anomalies and cytogenetic abnormalities during embryogenesis (Morgan and Bridges, 1919; Rothenbuhler et al., 1952; Brust, 1966). Although Wheeler (1903) suggested causes for gynandromorphism in ants, the definitive causes remain unknown (Berndt and Kremer, 1982).

Gynandromorphism has been reported from 41 species in 22 genera of ants (Donisthorpe, 1929; Wheeler, 1931, 1937; Buschinger and Stoewesand, 1971; Hung et al., 1975; Cokendolpher and Francke, 1983; Berndt and Kremer, 1983). However, Vandel (1931) has provided the only record of a gynandromorph from the genus *Pheidole*. A dinergatandromorphic specimen of *Pheidole pallidula* Nylander was discovered in which the right side of the head contained soldier characteristics, and the left side of the head contained male characters. Therefore, the specimen described herein represents not only the first gynandromorph of *Pheidole dentata* Mayr, but the first description of a gynandromorph *sensu stricto* from this genus.

The specimen was discovered in a colony collected from the campus of Texas Tech University, Lubbock, on July 1, 1984. It is preserved along with normal