Testing the Sinistral Bias of Pheidole megacephala, Tapinoma melanocephalum, and Paratrechina longicornis

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This experiment was conducted to determine whether the Pheidole Megacephala, Tapinoma Melanocephalum, and Paratrechina Longicornis are sinistral or dextromanual or ambidextrous. It was hypothesized all three species of ants are not only sinistral but also dextromanual or ambidextrous. Pheidole Megacephala has a behavior of being dextromanual. Tapinoma Melanocephalum has a behavior of being dextromanual. Paratrechina Longicornis has a behavior of being ambidextrous. However, about 16% of the Pheidole Megacephala, and 7% of the Paratrechina Longicornis are sinistrality. Under a microscope, the mandible of a sinistral Pheidole Megacephala overlaps the right one, and the dextromanual ants, the right mandible, overlap the left. The mandible of a sinistral Paratrchina Longicornis overlaps the right one, and the dextromanual ants, the right mandible overlaps the left. The mandible of a Tapinoma Melanocephalum is not overlapping one another, but their mandible level is the same, and that may be why they are ambidextrous.

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