

Socha, J.J. 1998. A description of 'flight' kinematics in the flying snake, *Chrysopelea paradisi*. *American Zoologist* 38(5):150A.

Passive (gliding) flight has been studied in some vertebrate fliers, but is essentially unexplored in the flying snakes of the genus *Chrysopelea*. Four specimens of *Chrysopelea paradisi* were videotaped in 'flight' from a height of 11.5 meters. Seventy-three total 'flights' were recorded from dorsal and lateral views. *Chrysopelea paradisi* is capable of initiating its 'flight' either from a fall or a controlled launch. In most observed launches, the body coiled back against the substrate, then sprung forward horizontally. By the end of the launch, the body was flattened dorsoventrally from head to vent. In 'flight' the snake laterally undulated in a swimming-like motion with the body organized in a plane generally parallel with the ground. When landing, the snake contacted the ground progressively from tail to head. The snake is capable of active maneuvering in 'flight', using two types of turns - a gentle turn, which appears to be effected by banking, and a sharp turn, which is effected by a tail flip and subsequent rotation of the body. Selected video footage was digitized to quantify 'flight' variables. These analyses show that 'flight' is kinematically different from the snake's locomotion in water and on land - in air, the amplitude of undulation is greater and the frequency of undulation is lower. Video clips of the flight will be shown. Supported in part by The University of Chicago and Sigma Xi.