

**WEIRD SCIENCE****● Cloning by Parthenogenesis**

A snake is born to a mother that did not have a mate. Although this may sound impossible, or like some headline in a tabloid magazine, this can actually occur in nature. Parthenogenesis (pah-r tuh-uh noh JEHN uh sihs) is a type of reproduction in which a new individual develops from an unfertilized egg. Since there is no male that contributes genetic material, the offspring is a clone (genetically identical) of the mother. Clones are usually produced in nature by asexual reproduction. Parthenogenesis, however, is a special form of cloning.

**Why Does Parthenogenesis Occur?**

Parthenogenesis in snakes has usually occurred in older females that have lived many years without male companionship, such as those in a zoo. It is hypothesized that the mother snake copies her own chromosomes in place of the missing father's chromosomes, thereby self-fertilizing her egg. Other scientists think that after a long absence of males, some unknown signal (such as a hormone) triggers the egg to start dividing.

**Many Different Organisms Undergo Parthenogenesis**

Organisms capable of reproducing by parthenogenesis include dandelions, hawkweeds, and some fishes, lizards, and frogs. Whiptail lizards are all females that lay eggs that hatch without any male contributions. Honeybees also produce male drones by parthenogenesis.

Parthenogenesis is not thought to be possible in mammals. Embryos of mammals that do not have genes from both a female and a male parent do not develop normally. The only natural mammalian clones known are identical twins, which develop when a fertilized egg splits and two individuals develop.