

androgyny

As discussed elsewhere (see [here](#)), use of metaphorical language and titles taken from human social groupings to describe what is going on in a honeybee colony leads to confusion rather than clarity. “Queen” or “Mother Bee” are both confusing and inaccurate. “Queen-King” or “Mother-Father Bee” are bizarre and jarring terms, but might more correctly describe the role of the single egg-laying individual in the hive. Indeed, the queen, as she returns from her mating flight, has become an androgynous individual.



Androgyny (ἀνδρόγυνος) is a fusion word that derives from the Greek words ἀνήρ (man) and γυνή (woman). When a newly emerged virgin queen leaves the hive and flies out to a “drone congregation area” to mate, what is occurring is not “*mating*” in the sense we are accustomed to. Instead, the “virgin queen” is coupling in mid-air with a dozen or more haploid drones (see [here](#)), emissaries from various other hives. One after the other, each drone deposits his sperm package, which contains about 10,000,000 sperm. The queen stores these many millions of collected sperm in an organ called a “spermatheca”, where these male gametes are nourished and kept alive for years.

Reflecting a bit on the "male-ness" of the drone, recall that the drone is a *haploid* organism. The meiotic event in which chromosomal crossing-over occurs (that generates the huge diversity of spermatocyte genotypes) happens not in the drone, but rather in the ovum of his mother. The drone is a parthenogenetic spawn: his entire collection of spermatocytes are identical replicates - clones.

In honeybees, the fertilization event occurs as each ovum is released from the queen's ovary and moves through her oviduct; it is encased with nutrients in an eggshell and is laid at the bottom of a wax brood cell.

In a sense, therefore, when the honeybee queen returns from her mating flight, she is a transfigured being. Once "mated", she will never again consort with a male, though she will lay eggs, - sometimes over a thousand a day - for years, internally releasing a sperm to fuse with each ovum just as it is prepared for laying.



The queen was not born ***androgynous***, but in a sense, on that "*special day*" early in her life, as she returns to the hive, that is what she has become.