Bee-eaters.

a. What is the extended family in bee-eaters?

A multigenerational group consisting of 3 to 17 individuals. A typical family contains two or three mated pairs plus a small assortment of single birds (the unpaired and the widowed). A young bee-eater matures in a group of close relatives, and most continue to interact with parents, siblings, grandparents, uncles, aunts, nephews and nieces into adulthood. Families can even include step-relatives (step-parents and half siblings) when individuals re-mate after the death or divorce of a partner. As a result, bee-eater families often have very complex genealogies

b. Who are the helpers and how do they help?

They are usually genetic relatives/family to the one being aided. They help the success of their nondescendent kin while not getting any direct benefits, showing they are a cooperative species. Helpers aid in digging the nest chamber, which can take up to 10 to 14 days. They also bring food to breeding females when they are ovulating as well as to the young while also defending them until they can handle themselves.

1. c. Why would one sex be more willing to help?

Males are more likely to become helpers in order to I crease their relative fitness due to the fact that they are more likely to be surrounded by close genetic relatives as it is the female young that leave the unit.

Males tend to be helpers more. This is due to the fact a son is as closely related to his parents future offspring (his full siblings) as he is to his own children. The genetic cost of helping is minimal because young males are often unsuccessful in defending their own nests . They also stay in the same family unlike their female partners.

1. d. What sex usually leaves the nest and why?

Females typically leave the nest and relocate to a new one with their mate in order to continue reproducing.

Females usually leave the nest in order to find reproductive options. The sons are willing to stay because as they grow older, they gain dominance status and have a chance to take over the nest of their father. The female, once mated, lives with its new family. The males may be more willing to help within their extended family group as they are related in some way to the majority of birds in that group. Females who recently entered the family to join her mate receives no benefit to her inclusive fitness if she does not have grown children of reproductive age.

1. e. What role do parents play?

The parents use their children to increase the parents’ own fitness by disrupting their children’s mating to gain new helpers.

f. What are the female's basic options regarding pairing?

They can choose to leave their nest and attempt to mate or be a helper in their home nest. If their prospective mate is the dominant one in his nest, the female will usually choose to mate with him, as there is a low risk of him being coerced into helping. If her prospective mate is not dominant and her parents are breeding, however, she will usually become a helper for them.

g. What are the female's options if her own nest fails?

The female can deposit the remaining eggs in the nest of another bee-eater, playing it off as one of theirs. The number of active nests make it easy to do. It is hard to time it perfectly that the egg goes unnoticed and hatches alone with the rest. She can also attempt to return to her natal family to help at the nest, risking dissolving the pair bond.

If her own nest fails she may return home, but that was not seen very often. Her other option was to lay her egg in another nest, acting parasitic.