

1. The flowers of the African savanna tree are pollinated by different animals. The tree produces about 200 flower buds at the end of each branch. However, not all the flower buds open at the same time. On any one night in the flowering season, about 40 flowers open per branch. Each flower lives for a short while and then it withers and dies. In an investigation into the pollination of the flowers, the following observations were made:

Time	State of flowers	Animals visiting the flowers
17:00	Closed	None
17:30	Flowers begin to open and nectar production begins	Honey bees feed on the nectar
19:30	Flowers fully open	First bats visit the flowers
21:30	Very large amounts of nectar produced	Many bats visit the flowers
00:30	Anthers widely spaced and little nectar produced	Fewer bats visit the flowers
05:30	Very little nectar produced	Bats stop visiting flowers and honeybees collect pollen
06:30	No more pollen	Birds feed on remaining nectar
11:30	Flowers wither and die	None

- 1.1. how many hours do the flowers live after they open? (1)
1.2. Which are the first animals to visit the flowers? (1)
1.3. State why the bats stop visiting the flowers. (1)
1.4. State how the plant benefits from producing nectar. (1)
1.5. Explain the advantage to the plant of having only a small number of flowers open each evening. (2)

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