Claudia Markey

Final Project Summary

I was inspired to depict the *rafflesia arnoldii*, also known as "the corpse flower", endemic to the rainforests of Southeast Asia, in part because of its grotesque beauty. The *rafflesia* is eye-catching, usually composed of brilliant oranges, reds and yellow spots [1.] It is known not only for its stench (eau de corpse) but also for its enormity, the largest flower in the world. Its compelling nature makes it a particularly interesting subject because of these reasons and also because, like many flora, it relies on other species consuming and pollinating its seeds in order to reproduce [5.] Species such as the tree shrew [3.] use it as a food source and thus participate in a mutualistic relationship with the *rafflesia*. It's an ordinary occurrence within ecosystems, but an important one.

The rafflesia is a rare and unique flower but only in scent and sight. Like many species it is a parasite and it attaches itself to the roots and vine of plants, in particular, the *tetrastigma* vine [5.] This parasitic relationship along with the symbiosis it participates in with shrews and flies, reflect the interconnectedness of different species.

My digital illustration is an attempt to condense all of these facets into one comprehensible image. At the center, the *rafflesia* sits attached to roots and vines [2.] and emits a skull shaped plume of transparent stench, a sickly green color, which transitions to a more pleasurable pink when closest to the tree shrews [4.]. The shrews find the smell pleasant and it is a combination of the intense sight of the *rafflesia* itself as well as it's unique smell that attract the rodent, as well as flies [5], to the plant so that they may spread it's seeds [5.] Surrounding the scene with shrews eating and spreading the seeds, there are the beginnings of new *rafflesia*, small buds that are growing in the roots of the forest [6.]

As I've learned this semester, parasitism isn't necessarily one-sided. The imposing *rafflesia* is a perfect example of how symbiosis can be mutualistic, both host and parasite receiving benefits from their union. Despite the negative connotations of a term like "parasite", the *rafflesia* engages in a relationship that propagates unique plant life as well as helping sustain the species that feed on it. The corpse flower breathes life into the rainforest.

Annotated Bibliography

1. Smithsonian.com, “Earthly Wonders”, http://www.smithsonianmag.com/multimedia/photos/14442697.html?c=y&page=6, Accessed 23-April-2013.

   The small description of the *rafflesia* and its relationship to other species was helpful as a concise description to refer to. Mainly, I used the photograph as a visual reference for the central *rafflesia* bloom as well as the forest environment.

2. Flowering Plants of the World. Ed. VH Heywood. New York: Mayflower, n.d. 177-78. Print.

   The section on *rafflesia* in this book contains a basic overview of the plant and notes its parasitism, “The Rafflesiaceae are total parasites, invading the stems or roots of other flowering plants. The flowers of Rafflesia are the largest known, some being up to 1m (3ft) across…” As well as the nature of the edible part a tree shrew might eat, “The fruit is fleshy, and contains numerous hard seeds.”

3. Milius, Susan. "The Science of Big, Weird Flowers." Science News 156.11 (1999): 2. Web. 23 Apr. 2013. <http://www.sciencenews.org/pages/pdfs/data/1999/15611/15611-15.pdf>.

   This article briefly describes the tree shrew’s involvement in spreading rafflesia seeds: “…the tiny seeds catch in the rodents’ teeth and claws. Then, if the animal nibbles or scrapes one of the right vines, the seeds rub off onto susceptible tissue.”

4. Tree Shrew. Photograph. Britannica Online for Kids. Web. 23 Apr. 2013. <http://kids.britannica.com/comptons/art-163980>.

   The photograph was used as visual reference for tree shrews.

5. Beaman, Reed S., Pamela J. Decker, and John H. Beaman. "Pollination of Rafflesia (Rafflesiaceae)." American Journal of Botany 75.8 (1988): 1148. JSTOR. Web. 23 Apr. 2013. <http://www.jstor.org/stable/2444098>.

   This article describes a few key points, which I incorporated into the illustration, with particular mention to the host vine and the flies that pollinate the *rafflesia*, “The flower…on roots (rarely stems) of the genus *Tetrastigma* (Vitaeae)”, “Experimental Data indicate that both visual and olfactory cues are important in attracting flies to flowers…” etc.

6. N.d. Photograph. Parasitic Plants. 3 Apr. 2011. Web. 23 Apr. 2013. <http://www.parasiticplants.siu.edu/Rafflesiaceae/images/Rhizanthes.habitat.JPEG>.

   Photograph used as visual reference for rafflesia buds and forest environment, particularly the floor of the forest, which takes up a substantial amount of the illustration.