# Nests of Silk

Weaver ants use their larvae in a skilled demonstration of their engineering techniques.

**Text: Indranil Banerjee**

I am an insect photographer and extremely passionate about my hobby. Starting my journey in 2015 with my first macro lens, I have come a long way now. After spending more than a thousand hours of field work, I have learnt the hard way to be there when action happens in nature. While preparing for shoots, I have no specific destination or subject in mind – only a strong hunch depending on my experience and intuition. So I just pack up my gear and start travelling where my soul tells me. Upon reaching my destination (either a remote jungle or the forest next door), I don't identify or follow any specific route. Strong observation skills have led me to places where moments are being created. Sometimes, it makes me feel as if the drama of nature was just waiting for me to unfurl its magic!

It was a very humid summer. The mercury was touching almost 40°C as I went out in search of new subjects for my macro-shoot that evening. Venturing into a different zone inside a forest in South Bengal, this time I wanted to focus on hard red soil for an unknown discovery.

The forest was dry with only scattered bushes found at ground level. I found a bushy area with trees from the citrus family. The air was heavy with the fragrance of wild flowers and very intoxicating. I entered the bushes to check if I could spot something new when a group of ants desperately climbed on to me. Before I could realize, they started crawling up in hundreds. Even though most of my body was covered, the ants found and bit some parts. I could smell something like strong formic acid, when the ants started biting me around my neck. I managed to brush them off and as I started to move away, my instinct made my feet heavy. They had attacked me without provocation, which meant that the ants had sensed my presence to be a threat. The ants were surely upto something which they don't want others to be privy to. My inner voice told me to stay put and observe.

As I focused my eyes and my gear, strange things began to happen. One group of ants scurried briskly, forming a queue to climb onto a branch. Another group was carrying a white object. On close observation, I found that the white object had an ant-like body and vivid eyes. However, I was unable to figure out what exactly it was. The ants held on to the large, white object

A weaver ant nest seen its final stages of completion

The white objects being carried by weaver ants to build their nest

First attempt to pull the leaf edge

Weaver ants applying sticky, silky glue to build their nest (top and right)

very carefully and carried it away from the location. I followed their trail but to my utter disappointment, they disappeared beyond my line of vision as it was late afternoon. I observed a nest made out of leaves nearby and an under-construction nest with some sticky, silky mesh lying around it. I started observing the incomplete nest. When I magnified my vision through my lens, I was surprised. A group of ants that was travelling in a queue assembled, held on to the edge of a leave together and tried to pull it together. When they were unsuccessful, another group extended its support to bend the leaf edges so that they could attach the lacy net mesh onto the leaf edges. With their skilled collaborative effort, the leaves got attached and slowly turned into a nest-like structure. In an indication of violent thunderstorms, a thick dark cloud covered the sky and I had to use the focus lamp for spotting my subject. I was astonished and shocked but kept capturing all that was happening to carry back home for further studies.

I was rain-drenched, but happy, when I returned home. I had a clear feeling of having discovered something about those little creatures. As I was studying the next day I found out about the unique engineering employed by weaver ants and the justification of their name. As per scientific reports, the larvae of these ants produce a type of silk, which the adults cleverly use to build their nests. Adults carefully carry the larvae in their jaws (so as not to harm them) and squeeze them gently until a drop of silk falls on a leaf's edge. Meanwhile, the other ants of the group roll up the leaf edges and attach them to each other. The larvae are basically used as a living, silky bottle of glue used to stick leaf edges together. The workflow that I had observed was the clever nest-building activity of weaver ants.

I am still surprised at the terrific engineering technique that ants have developed and adopted. No wonder that they are supposed to be the most social creatures on Earth. I learnt a new aspect of insect life and my respect for nature's mysteries ways has increased manifold.