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SHORT COMMUNICATION

Red Weaver Ant: An essential component of the forest ecosystem & community

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India has a wide and varied biodiversity that includes an array of different plants and animals (Singh and Kushwaha 2008). There are so many unexplored corners in this area. Faunal food is one of them, it was considered the main food source in the past, but now it is limited to some tribal communities all over India. Some of the faunal species consumed as food are insects, molluscs, crabs, prawns, snakes, birds, etc. (Rout et al. 2023; Hanumant et al. 2023). In this aspect, the knowledge of their harvesting and consumption is known to some of the tribal communities like Santal, Munda, Bhuian, Kisan, Oram, Ho, etc., in Odisha state (Padhy et al. 2020). Faunal foods are considered one of the main income sources for the tribal communities. One of the most commonly consumed faunal foods by indigenous tribes is insects. They are sold in markets, especially Red Weaver Ants (RWA). "Kai", "Kurkuti", "Hau" & "Tapang" are popular names of RWA (Figure 1) in different districts of Odisha. These ants are consumed as a chutney with rice water, rice beer, and pickles by the tribe (Kumar et al. 2022). RWAs are essential in maintaining forest ecosystem balance; they make nests on trees, representing a good relationship with their hosts, and they serve as prey for

several predators like Indian pangolins, thus playing a major role in the survival and conservation of the scaly ant-eater.



Figure 1: a) Red Weaver Ant; b) Nest of RWA on Mango tree



Figure 2: Red Weaver Ants sold in the markets of Odisha, India



Figure 3: Field survey in the markets of Odisha, India

The Red Weaver Ant is scientifically known as *Oecophylla smaragdina*. They are social insects belonging to the family Formicidae. They are arboreal and known for their unique ability to build nests using larval silk. The nests are made up of leaves that have been pulled and rolled together with larval silk. These nests are located at the periphery of the colony, near the tree trunks. The nests are easily visible on the trees in the forest and are generally found on *Shorea robusta*, *Mangifera indica*, *Cocos nucifera*, *Syzygium cumini*, *Madhuca longifolia*, *Ficus benghalensis*, *Azadirachta indica*, *Butea monosperma*, *Psidium guajava*, etc. They are aggressive and prey upon other organisms entering their territory. They are considered bio-control agents against various insect pests in crop fields (Kumar et al. 2022). RWA is a traditional food used as medicine against colds, coughs, fevers, asthma, and other respiratory ailments. The oil prepared from preserving Red Weaver Ants in mustard oil for 30–40 days is used to treat joint pain and skin infections, as well as prevent rheumatism. RWA are 3-5 mm long and reddish to orange-brown in colour. Their body is divided into a triangular head, a short trunk, and a large abdomen. They have a short and strong pair of mandibles used to kill prey. Their colony is monogynous, consisting of a single queen, minor workers, and major workers. The mated queen lays about 35 eggs within 5–10 days after losing their wings.

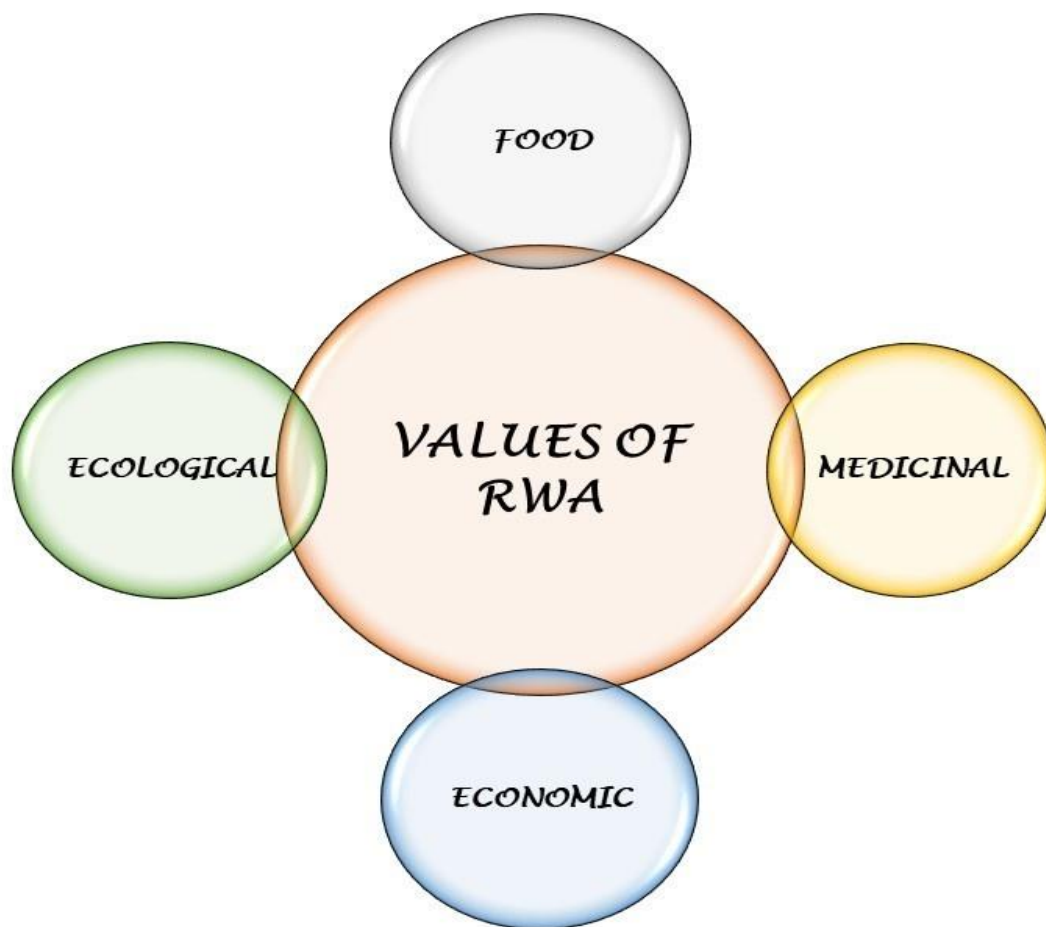


Figure 4: Services of RWA in Odisha, India

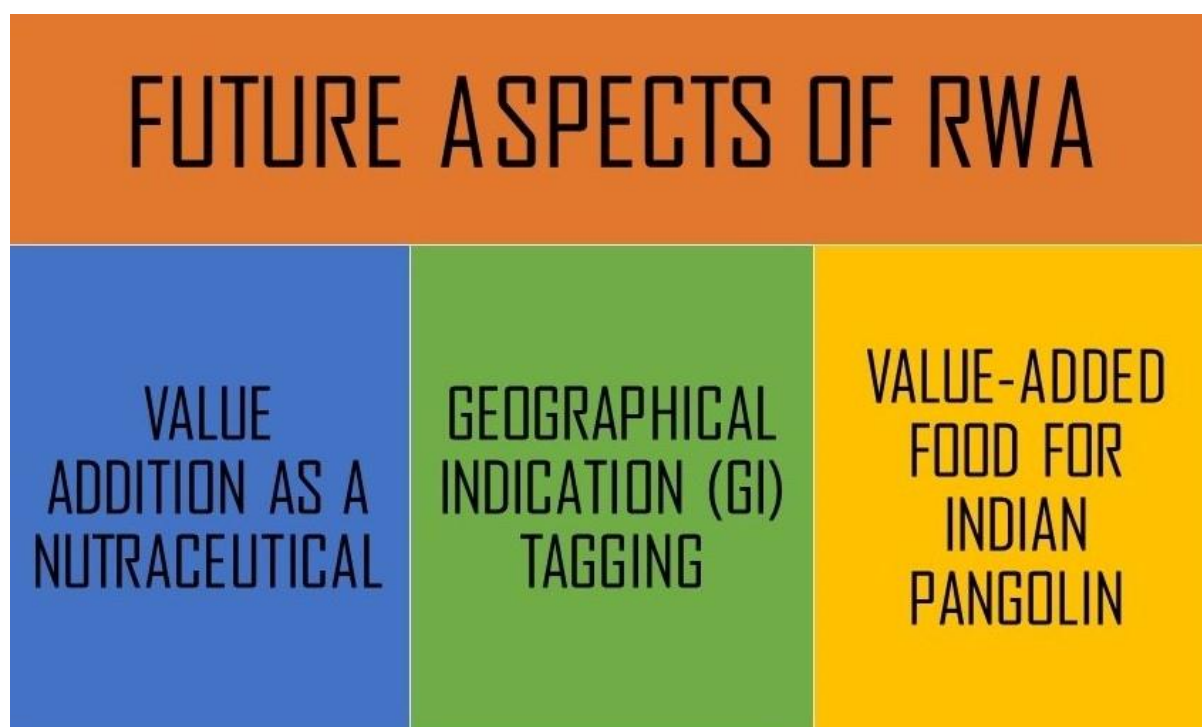


Figure 5: Future aspects of RWA

Minor workers tend to the larvae in the brood chambers, whereas major workers defend the colony territory and assist with the queen's care and foraging (Kumar et al. 2022). The colony produces worker ants throughout the year, but sexual forms are only generated at particular times of the year. The sexual forms have wings when they haven't mated and are called virgin queens. The queen's nest is generally present at the top of the tree and near the trunk. RWA provides livelihoods to the tribal communities of Odisha. They are sold in the markets (Figure 2; Figure 3) at a rate ranging from Rs 10–30 per leaf packet (Raut et al. 2022). RWA possesses many nutraceutical values as it is consumed as food and has medicinal importance (Figure 4). The food and economic utility of RWA compels its further study and scientific validation. Therefore, there is a need for value addition for the Red Weaver Ants to offer new nutraceutical products with high longevity for consumption and G. I. Tagging the products to specify their geographical origin (Figure 5).

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