

Chapter 3

Red Weaver ants and *Shorea robusta*: a relationship between a tribal food and tree

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Abstract

Red weaver ants are locally known as Kai among the tribal communities. It is a tribal food with medicinal uses. Its host plant is very specific. They have food, medicinal, ecological, and economic values, which are presented here. The relationship with the *Shorea robusta* (Sal) tree is also illustrated to draw attention to the plant-insect relationship.

Keywords: Tribal communities, medicinal food, insects, plant-insect relationship

Introduction

Community depends on forest, and forest depends on community. Since years, tribal communities have depended on forests and forest products (Devi *et al.*, 2024; Kumar and Manjula, 2024). They collect plant parts, insects, medicinal agents, forest foods, crabs, fish, and many more (Dimri *et al.*, 2024). They use them for various purposes (Nayak and Kumar, 2023) and the practices are known as indigenous traditional knowledge (ITK). ITK is going to decline due to several

negative factors throughout the world (Kakiso, 2023). Climatic changes, global warming, and environmental issues bring attention to the preservation of ITK globally. The forest components are closely linked to each other, but they are ignored as subjects. Therefore, keeping in mind both of these contemporary situations, an attempt has been made to document the uses of red weaver ants (Figure 1) and their relationship with sal trees (Figure 2). The chapter highlights the importance of tribal foods and their association with forest components.

Methodology

During the floristic study in different forest and tribal areas of Odisha state, the uses of red weaver ants and their host plants, *Shorea robusta* (Sal tree), were observed and noted down (Kumar *et al.*, 2022; Das *et al.*, 2024). Data on uses were collected from local tribal weekly markets and interactions with communities (Kumar *et al.*, 2021). Red weaver ants and *Shorea robusta* were identified by the authors (Figures 3–4).

Results and discussion

During the survey, the common names of red weaver ants were noted, and it was found that they are commonly known as Kai, Kurkuti, and Hau (Figure 5). It was noticed that they collect them from forests, process them, and consume them as relish (chatni) with meals and country liquor. The authors discussed with communities and noted down the medicinal uses. Usually, tribal communities consume it to reduce coughs, colds, and weakness. It was noticed that the powder of red weaver ants is also consumed to improve eye sight. During the survey, it was noticed that the major host plants are *Shorea robusta*, *Combretum roxburghii*, *Syzygium cumini*, *Schleichera oleosa*, *Madhuca longifolia*, and *Buchanania lanzan*. During the survey, it was observed that most of the nests are available on the leaves of *S. robusta*, which might be due to the good population of the Sal tree in the northern parts of Odisha. In this case, both are important to each other. It was found that red weaver ants kill the pests of *S. robusta*. Therefore, red weaver ants act as biological controllers for the pests of *S. robusta* inside forests, and the leaves of *S. robusta* provide shelter and nesting platforms. The leaf of *S. robusta* is an important part of tribal life. Tribals also collect the seeds and extract the oil.



Figure 1: Red weaver ants in sal forest



Figure 2: Sal trees in wild



Figure 3: Folding of leaf by the red weaver ants



Figure 4: Nest of red weaver ants in Sal tree

Resin of *S. robusta* is used as medicinal agents and for religious practices. The flowers are closely attached to the tribal culture and festival like Baha bonga. Tribals worship to the tree of *S. robusta*.



Figure 5: Discussion with local communities on Sal tree & Red weaver ants

Conclusion

Both *Shorea robusta* and red weaver ants are significant elements of Odisha's sal forest and are highly beneficial to the region's tribal populations, according to the study's findings. For sustainable use, the present study recommends conservation measures of both species.

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