



On the use of red ant *Oecophylla smaragdina* by the indigenous people of Binpur, Jhargram, West Bengal.

Atanu Mitra¹, Angsuman Chanda and Srimanta Kumar Raut*

PG Department of Zoology, Raja N. L. Khan Women's College (Autonomous), Gope Palace, Midnapore, Paschim Medinipur, West Bengal, India. Corresponding e-mail: mramitra70@gmail.com

* Department of Zoology, University of Calcutta, 35, B. C. Road, Kolkata – 700 019.

ARTICLE INFO

Received: 12.07.2020

Revised: 10.10.2020

Accepted: 18.10.2020

Key words

Red ant, Jhargram, Food, Chutni, Cough

ABSTRACT

The red ants (locally known as *Kurkut*) *Oecophylla smaragdina* in the Purnapani and Jorum forests of Binpur-I and Binpur-II block respectively of Jhargram are collected by indigenous people during September to February period to use them as food, medicine and marketing commodities. They prepare delicious food by using the adult and larva of the ants. Also they are habituated to use these ants to get relief from the trouble of cold and cough. The live and dry ants as well as 'chutney' prepared by using these ants are sold in the market and the festival fairs.

INTRODUCTION

Ants are found almost everywhere in possible niches on the earth except the Antarctica and islands like Greenland, Iceland, parts of Polynesia and the Hawaiian Island (Thomas, 2007; Jones, 2008). They play an important role to regulate the ecosystems to ensure pollination and dispersal of seeds in many plant species and also serve as food and medicinal resources for human (Long, 1901; Mahawar and Jaroli, 2008; Lengyel et al., 2010; Rastogi, 2011; Van Huis et al. 2013). In India tribal people are habituated to use certain ant species as their food, medicine as well as a source of income on way of selling the same in the market (Oudhia, 2002; Narzari and Sharmah, 2015; Jena et al., 2020) in Chhattisgarh, Assam and Odisha. However, no information on the said aspect is on record from Jhargram-tribal dominated areas of West Bengal. But, the indigenous people of the Binpur area are accustomed to use the red ants (local name *Kurkut*) *Oecophylla smaragdina* as food,

medicine and commercial item and information on the said aspect is presented in this article.

METHOD

We visited the tribal people-residing areas of Purnapani and Jorum forests of Jhargram District (formerly Paschim Medinipur) of Jangalmahal under Binpur-I and Binpur-II blocks (22°36'0 North, 86°55'0 East) respectively several times since 1994 to collect data on the use of ants by the local people. Attempts were made to note the ant species, their nesting sites, collection techniques of the adult and larvae of the ants by the local people from the trees and the mode of use of ants and the collection period during January to December.

RESULTS

It is revealed that the tribal people collect only the red ants *Oecophylla smaragdina* (Fig. 1) from the nests constructed in the trees collectively by two or more people (Fig. 2). They are habituated to collect these ants during

September to February period when large numbers of ants' nests are found in different trees.



Fig. 1. Red ants on leaf

The collected *Oecophylla smaragdina* are used as food and medicine by the local people. Also, they were seen to use these ants as commercial item. Most of the rich families are accustomed to prepare an item known as 'Chutney' which is considered a palatable food item to all people. This said chutney is prepared by adding required amount chili, mint, onion, ginger, garlic, cumin, mustard oil and salt. As this type of preparation of ants is costly, the poor families are habituated to use these ants by different means. They have developed the art of pasting these ants by the help of a mortar. The paste thereafter is mixed with pieces of onion, drops of mustard oil, chili and salt. These preparations are used for 2 to 3 days with rice at their lunch or dinner. Sometimes, these ants are boiled and consumed by the people as such. The chutney, because of its good taste is also sold in the market and festival-fair (Fig.3) at high price.



Fig. 2. Collection of kurkut at Purnapani of Jhargram by the local people

Also the people are used to keep the sun-dried ants in containers for selling the same in high price during other months of the year when these ants are not found in forest. The people are accustomed to sell the live, dried and readily consumable ants in the market. Thus the local people earn money to a great extent.



Fig. 3. Red ants' chutney

Oecophyllas maragdina are also used rather eaten by the tribal people to get rid of the suffering from cold and cough. Many non-tribal people were seen to purchase the live ants, both adults and larvae to feed their pets especially the birds and fishes.

DISCUSSION

From the results it is evident that the red ant *Oecophylla smaragdina* are used by the tribal and other indigenous people of Binpur, Jhargram, West Bengal as food, medicine and commercial item. Though, Long (1901) reported the use of red ants as food by the different ethnic groups of India in 1901 the second report was came into the sight while Roy and Rao (1957) stated in their article that the Muria tribal people of Bastar district of Chhattisgarh are accustomed to consume 'chutney' prepared using these ants.

Subsequently, Veeresh (1999) in his article stated that the people residing at Kanara region of South India and Nagaland consumed red ants either in raw form or as chutney or following cooking. Consumption of red ants by the tribals of Madhya Pradesh did not escape the sight of Srivastava et al. (2009). Narzari and Sharmah (2015) reported that the Bodos of Assam are habituated to swallow the roasted, smoked and fried *Oecophylla smaragdina*. Also, in Arunachal Pradesh certain section of people used red ants in different forms in their regular diet (Chakravorty et al. 2016). After few years, information on the consumption of fried pupal and adult morphs of the said ant species by the Koch Rajbongshi of North Salmara subdivision of Bongaigaon district of Assam was forwarded by Das and co-workers (2019). Moreover, recently Jena et al. (2020) reported on the habit of consumption of chutney prepared by using red ants in the tribal families of Mayurbhanj district of Odisha.

The use of *Oecophylla smaragdina* as medicine by various tribes and ethnic groups of India is

also well documented from the studies of Oudhia (2002), Mahawar and Juroli (2008), Padmanabha and Sujana (2008), Kumari and Kumar (2009) and Rastogi (2011). According to Oudhia (2002) *Oecophylla smaragdina* are used extensively as medicine in Chhattisgarh. Though Padmanabha and Sujana (2008) stated that the paste made of red ants *Oecophylla smaragdina* is eaten as a remedy for myopia, Mahawar and Juroli (2008) opined that the said ant is used as medicine to cure various diseases. Kumari and Kumar (2009) reported the use of larval, pupal and adult morphs of red ants to cure gout and joint pain as well as to recover from weakness following suffering from typhoid, gastritis and bronchitis by the local people of Panch Pargana area of Jharkhand. Rastogi (2011), more specially stated the use of red ants as a remedy for cold and flu, headache and to stimulate the secretion of gastric juices.

Besides these uses of red ants, many of the above-mentioned workers have reported the collection of *Oecophylla smaragdina* in large quantities from the forests with a view to earn money on way of selling the same in the market. But, from the present studies it is well evident that the concerned people of Binpur area are accustomed to sell not only the live red ants but also the prepared food item viz. the chutney in the market and/or festival fair in Binpur, West Bengal.

It is to be mentioned here that the red ants *Oecophylla smaragdina* are used as food and medicine in Africa (Nkouka, 1987; Bani, 1995) as well as in Australia (DeFoliart, 1989). The food values of these ants have been discussed

at length by Chakraborty et al. (2016) while specific report on the components of *Oecophylla smaragdina* acting as medicine to cure various ailments is still wanting.

Thus it is concluded that the red ants *Oecophylla smaragdina* are used as food, medicine and commercial commodities in many parts of the globe and the present article confirming the use of ants in West Bengal, India for the first time. Certainly these red ants are very much involved with the socio-economy of the ethnic groups and the said aspect will be highlighted through subsequent publications.

References:

- Bani G. (1995). Some aspects of entomophagy in the Congo. *Food Insect Newsletter*, 8(3): 4-5.
- Chakraborty, J., Ghosh, S., Megu, K., Jung, C. and Meyer-Rochow, V.B. (2016). Nutritional and anti-nutritional composition of *Oecophylla smaragdina* (Hymenoptera: Formicidae) and *Odontotermes* sp. (Isoptera: Termitidae) : Two preferred edible insects of Arunachal Pradesh, India. *J. Asia Pac Entomol.* 19: 711-720.
- Das, K., Bardoloi, S. and Mazid, S. (2019). A study on the prevalence of entomophagy among the Koch-Rajbongshis of North Salmara subdivision of Bongaigaon district. *Int. j. sci. basic appl.* 9 (3): 382-388.
- DeFoliart, G. R. (1989). The human use of insects as food and as animal feed. *Bull. Ent. Soc. Amer.* 35(1): 22-35.
- Jena, S., Das, S.S. and Sahu, H.K. (2020). Traditional value of Red Weaver Ant (*Oecophylla smaragdina*) as food and medicine in Mayurbhanj district of Odisha, India. Project : *Ethnoentomological value and antimicrobial evaluation of Red Weaver ant.*
- Jones, A.S. (2008). “Fantastic ants-Did you know?”. *National Geographic Magazine*. Archived from the original on 30 July 2008. Retrieved 5 July 2008.
- Kumari, B. and Kumar, S. (2009). An insight into the ethnozoology of PanchPargana area of Jharkhand, India. *J. Threat. Taxa.* 1(8):441-443.
- Lengyel, S., Gove, A.D., Latimer, A.M., Majer, J.D. and Dunn, R.R. (2010). “Convergent evolution of seed dispersal by ants, and phylogeny and biogeography in flowering plants: a global survey”. *Perspectives in Plant Ecology, Evolution and Systematics* 12 : 43-55.
- Long, A.M. (1901). Red ants as an article of food. *J. Bombay Nat. Hist. Soc.* 13: 536.
- Mahawar, M. M. and Jaroli, D.P. (2008). Traditional zootherapeutic studies in India: a review. *J. Ethnobiol. Ethnomed.* 18: 4– 17.
- Narzari, S. and Sharmah, J. (2015). A study on the prevalence of entomophagy among the Bodos of Assam. *J. Entomol. Zool. Stud.* 33 : 15-320.
- Nkouka, E. (1987). Insects as food among hunter gatherers. *Anthropology Today*, 24(1) : 6-8
- Oudhia, P. (2002). Traditional medicinal knowledge about red ant *Oecophylla smaragdina* (Fab.) [Hymenoptera: Formicidae] in Chhattisgarh, India. *Insect Environment* 8 : 114-115.
- Padmanabhan, P. and Sujana, K.A. (2008). Animal products in traditional medicine from Attappady hills of Western Ghats. *Indian j. Tradit. Knowl.* 7(2): 326-329.
- Rastogi, N. (2011), Provisioning services from ants: Food and pharmaceuticals. *Asian Myrmecology* 3(1):103–120.
- Roy, J.K. and Rao, R.K. (1957). Investigation on the diet of the Muria of Baster district. *Bulletin of the Department of Anthropology*, Government of India, Calcutta 6(1) : 35 – 45.
- Srivastava, S.K., Babu, N. and Pandey, H. (2009). Traditional insect bioprospecting - as human food and medicine. *Indian J. Tradit. Knowl.* 8(4) : 485-

494.

- Thomas, P. (2007). "Pest Ants in Hawaii". *Hawaiian Ecosystems at Risk project (HEAR)*. Retrieved 6 July 2008.
- Van Huis, A., Van Itterbeck, Klunder, H., Mertens, E., Halloran, A., Muir, G. and Vantomme, P. (2013). Edible insects: future prospects for food and feed security (PDF). *FAO Forestry Paper 171*.
- Veeresh, G.K. (1999). Pest ants of India. In : *Applied Myrmecology – A World Perspective* (Vander Meer R.K., Jaffe K. and Cedao A. eds) *Westview Studies of Insect Biology*, pp 17-24.