



# AGRI MAGAZINE

(International E-Magazine for Agricultural Articles)

Volume: 03, Issue: 03 (March, 2026)

Available online at <http://www.agrimagazine.in>

© Agri Magazine, ISSN: 3048-8656

## Practices of Entomotherapy in the State of Nagaland

Lhajomla Bhutia, \*Kylie K. Sangma and Dr. Ngangom Uma Devi

College of Agriculture (CAU-Imphal), Kyrdemkulai, Meghalaya-793105, India

\*Corresponding Author's email: [ky.sangma23@gmail.com](mailto:ky.sangma23@gmail.com)

Entomotherapy, the use of insects and their products for medicinal purposes, remains an important yet often overlooked aspect of traditional knowledge in Nagaland. Among the indigenous communities of the state, insects are not only valued as food but are also widely used in treating a range of common ailments affecting both humans and livestock. This study documents the diversity of insect species used for therapeutic purposes, along with their modes of preparation, application, and cultural significance. Information was gathered through field surveys and semi-structured interviews with local informants. Several insect species, including ants, bees, beetle larvae, and aquatic insects, are used in remedies for digestive issues, respiratory problems, skin infections, and general weakness. Preparation methods vary from direct consumption to topical application or mixing with plant-based ingredients. However, rapid socio-economic changes, environmental degradation, and declining interest among younger generations are threatening the continuity of this traditional knowledge.

**Key words:** Entomotherapy, Entomophagy, Entomotherapeutic, Medicinal insects, Traditional knowledge.

### Introduction

Insects, belonging to the phylum Arthropoda, represent one of the most diverse and abundant groups of organisms on Earth. It has been widely reported that insects are used as a source of food in many parts of the world, a practice known as entomophagy. *"In recent years, insects have gained recognition as a sustainable alternative to conventional animal protein, offering potential solutions to environmental and food security challenges"* (Juan A Morales Ramos et al, 2023). Entomophagy is particularly common in regions such as Asia, Africa, and Latin America. In India, entomophagy is prevalent mainly among indigenous communities of the northeastern states, where a variety of insect species are traditionally consumed as part of the diet. In addition to their role as food, insects have also been documented as a source of traditional medicine, a practice referred to as entomotherapy. *"Entomotherapy practice has been reported to cure various kind of ailment. This traditional therapeutic knowledge can provide a huge contribution in modern medicine by analyzing the therapeutic component of the medicinally valued insects"* (Deepanti et al, 2023). As Lobeno Mozhui also said *"It has been reported that worldwide at least 1000 species of insects are used therapeutically and given the dearth of knowledge in this field the real figure may be considerably higher"* (Lobeno Mozhui et al, 2021). In parts of world where conventional medical care is scarce, insects represent as feasible substitute (Cherniack, 2010). This practice forms an important component of ethnomedicine in many indigenous cultures worldwide. Nagaland has been frequently cited for its rich indigenous knowledge systems and use of numerous insect species both as food and as medicine. These findings suggest that such practices are closely linked to the region. The present article, therefore, seeks to compile and report the available information on the use of insects in traditional practices, with particular emphasis on their therapeutic applications in Nagaland.

Nagaland is one of the biodiversity hotspots within the Indo-Burma region of the world, the state enjoys a unique geographical location and varied altitudinal range. Some of the insect species used by the ethnic groups in Nagaland for treating various human health conditions are listed below (Lobeno Mozhui, et al 2021)

| Sl. No. | Scientific name                   | Common name              | Habitat      | Stage of Insect/Product used | Diseases treated                                   | Therapeutic knowledge   |
|---------|-----------------------------------|--------------------------|--------------|------------------------------|--|---|
| 1.      | <i>Crocothemis servilia</i>       | Scarlet skimmer          | Aquatic      | Nymphs                       | Body ache, cold, healing of operational wounds.    | Boiled nymphs are eaten.                                      |
| 2.      | <i>Mylabris</i> sp.               | Mylabris beetle          | Wild         | Adult                        | Blisters<br>Warts                                  | Blister beetle extract is externally applied.                 |
| 3.      | <i>Melanoplus</i> sp.             | Short horned grasshopper | Paddy field  | Adults                       | Indigestion  | Boiled or roasted grasshoppers are eaten for quick recovery   |
| 4.      | <i>Melanoplus</i> sp.             | Short horned grasshopper | Paddy field  | Adults                       | Diabetes   | Roasted grasshoppers are eaten to control blood sugar level   |
| 5.      | <i>Tarbinskiellus portentosus</i> | Giant cricket            | Burrows      | Adults                       | Headache<br>Indigestion<br>Loose motion<br>Malaria | Boiled or roasted crickets are eaten                          |
| 6.      | <i>Gryllus</i> spp.               | Field cricket            | Wild         | Adults                       | Dysentery  | Boiled or roasted crickets are eaten                          |
| 7.      | <i>Pseudophyllus titan</i>        | Giant false leaf katydid | Wild         | Adults                       | Fever  | Roasted katydids are orally administered to young children    |
| 8.      | <i>Elimaea securigera</i>         | Bush cricket / Katydid   | Paddy fields | Adults                       | Nutrient supplement                                | Cooked katydids are eaten to strengthen the body              |
| 9.      | <i>Tenodera sinensis</i>          | Chinese mantis / mantid  | Wild         | Adults                       | Warts  | An adult mantis is allowed to masticate on warts              |
| 10.     | <i>Hierodula coarctata</i>        | Giant Asian mantis       | Wild         | Adults                       | Enuresis   | Roasted mantises are orally administered to young children    |
| 11.     | <i>Epilampra</i> sp.              | Forest roaches           | Aquatic      | Nymphs and adults            | Appetizer<br>Bloating                              | Raw or roasted cockroaches are eaten                          |
| 12.     | <i>Macrotermes</i> sp.            | Termites                 | Burrows      | Adults                       | Nutrient supplement                                | Fried termites are eaten                                      |
| 13.     | <i>Carausius</i> sp.              | Stick insect             | Wild         | Adults                       | Calluses<br>Warts                                  | Paste of stick insect is externally applied for quick removal |

|     |                             |                       |         |                  |   |  |
|-----|-----------------------------|-----------------------|---------|------------------|---|--|
| 14. | <i>Darthula hardwickii</i>  | Treehopper            | Wild    | Nymph            | Body ache<br>Jaundice   | Nymphs are boiled and eaten  |
| 15. | <i>Lethocerus indicus</i>   | Giant water bug       | Aquatic | Adult            | Blood purifier<br>Gastritis   | Decoction of boiled nymphs is orally administered daily for two to three days                          |
| 16. | <i>Notobitus meleagris</i>  | Bamboo bug            | Wild    | Adults           | Stomach ache  | Roasted stink bugs are eaten for quick healing   |
| 17. | <i>Myrmeleon</i> spp.       | Doodle bugs/ antlions | Sand    | Larva            | Boils<br>Warts  | Paste of antlion is externally applied to cure boils and warts   |
| 18. | <i>Cybister limbatus</i>    | Diving beetle         | Aquatic | Adult            | Diarrhoea   | Boiled diving beetles are eaten  |
| 19. | <i>Apis cerana indica</i>   | Indian honey bee      | Wild    | Honey            | Blood pressure<br>Cholera<br>Cold<br>Common illness<br>Cough<br>Diarrhoea<br>Hangover<br>Sinusitis<br>Vertigo | One table spoonful of honey is mixed in a cup of warm water and orally administered for quick recovery |
|     |                             |                       |         | Honey            | Mouth ulcers  | Raw honey is applied on affected parts   |
|     |                             |                       |         | Honey            | Asthma<br>Cancer<br>Gastritis   | One table spoonful of honey is mixed in a cup of warm water and orally administered once daily         |
|     |                             |                       |         | Larva, Pupa      | Nutrient supplement   | Boiled/cooked larvae and pupae are eaten   |
|     |                             |                       |         | Honey / bee comb | Bone fractures<br>Body ache<br>Facial wound healing   | Raw honey is externally applied<br>Poultice of bee comb is externally applied                          |
| 20. | <i>Apis dorsata dorsata</i> | Giant honeybee        | Wild    | Honey/ bee comb  | Appetizer<br>Cold<br>Cough<br>Vertigo   | One table spoonful of honey is mixed in a cup of warm water and orally administered                    |
|     |                             |                       |         | Adult            | Oedema  | Soup of boiled adult is orally administered  |

|     |                               |                      |             |                       |  |  |
|-----|-------------------------------|----------------------|-------------|-----------------------|--|--|
| 21. | <i>Lepidotrigona arcifera</i> | Stingless bee        | Wild        | Honey                 | Analgesic<br>Appetizer<br>Blood pressure   | One table spoonful of honey is mixed in a cup of warm water and orally administered                            |
| 22. | <i>Lophotrigona canifrons</i> | Woolly stingless bee | Wild        | Honey / nest entrance | Bone fracture<br>Body ache<br>Dog bite<br>Oedema<br>Joint pain<br>Mouth ulcers<br>Pneumonia<br>Skin burns<br>Snake bites<br>Wound healing<br>Tooth aches | Honey is externally applied on affected body Parts<br>Paste or poultice of nest entrance is externally applied |
|     |                               |                      |             | Honey                 | Conjunctivitis   | One or two drops of honey is applied on the eyes twice daily   |
|     |                               |                      |             | Honey / Nest entrance | Easy labour  | Paste or poultice of nest entrance is externally applied on the belly  |
| 23. | <i>Oecophylla smaragdina</i>  | Green tree ant       | Trees       | All                   | Analgesic<br>Coughs  | Cooked ants are orally administered  |
|     |                               |                      |             | Adult                 | Malaria<br>Typhoid   | Decoction of boiled ants are orally administered daily for a week  |
|     |                               |                      |             | Adult                 | Oedema   | Adult ants are made to sting on swollen body parts   |
|     |                               |                      |             | Adult                 | Fever<br>Headache  | Ants are cooked with local spices (garlic and ginger) and orally administered                                  |
|     |                               |                      |             | Adult                 | Sinusitis  | Fumes of ants are inhaled thrice daily   |
| 24. | <i>Provespa barthelemyi</i>   | Night hornet         | Wild        | Adult                 | Analgesic  | Wasp sting on affected body parts  |
|     |                               |                      |             | All                   | Insomnia   | Soup of boiled wasps are orally administered   |
| 25. | <i>Erionata torus</i>         | Sikkim palm dart     | Home garden | Larva                 | Aphrodisiac<br>Snake bite  | Cooked larvae are eaten  |
| 26. | <i>Tipula spp.</i>            | Crane flies          | Aquatic     | Larva                 | Eyesight<br>Fatigue<br>Measles   | Cooked larvae are eaten  |

Certain medicinal insect and insect products of Nagaland. (Kakati, et al 2021)

- a. Giant Water Bug
- b. Dragonfly nymphs,
- c. Large timber-boring larvae,
- d. Freshly harvested Red-Dwarf Honeybee comb
- e,& f. Nest entrances of stingless bees,
- g. Asian Giant Hornet comb
- h. Blister Beetle
- i. Larvae of Antlion,
- j. Larvae of Goat Moth,
- k. Larvae of Banana Skipper,
- l. Forest Roaches



Insect-eating by humans occurs globally, but remains rare or even taboo in most cultures in the developed world (Shelomi et al, 2015). The knowledge of insects not just as a food, but also as therapy is passed down verbally from generation to generation, but is in danger of being lost if not documented in a systematic way. Entomotherapy in Nagaland reflects a rich indigenous knowledge system where insects play important therapeutic roles alongside nutritional and cultural ones. With documented use across health conditions and strong tribal consensus on their efficacy, these traditional practices underscore the integral role of biodiversity in community health systems and holds promise for further Pharmacological research.

## References

1. Cherniack EP. Bugs as drugs part 1: Insects. The new alternative medicine for the 21st century? *Altern Med Rev*. 2010
2. Costa-Neto EM. Entomotherapy, or the medicinal use of insects. *J Ethnobiol*, 2005.
3. Lobeno Mozhui, L.N. Kakati and Victor Benno Meyer Rochow. *Journal of Ethnobiology and Ethnomedicine*. Entomo-therapy: a study of medicinal insects of seven ethnic groups in Nagaland, North-East India, 2021.
4. Shelomi M. Why we still don't eat insects: assessing entomophagy promotion through a diffusion of innovations framework. *Trends Food Sci Technol*, 2015
5. Wahengbam Deepanti Devi, Rajkumari Bonysana, Kokho Kapsea, P.K. Mukherjee, Yallappa Rajashekar. *Edible insects: As traditional medicine for human wellness*. *Science Direct, Future Foods*, Volume-7, June 2023.
6. Juan A Morales Ramos et al. Rearing methods of four insect species intended as feed, food, and food ingredients: a review (2023, *Journal of Economic Entomology*)