

Multiple uses of *Artemisia* species in Japan and Nepal

Krishna H Gautam¹, Chieko Imakawa and Teiji Watanabe²

Graduate School of Environmental Earth Science, Hokkaido University,
Sapporo, Japan^{1,2}

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khgautam@ees.hokudai.ac.jp

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日本とネパールにおけるヨモギの多様な利用

クリシュナ・H・ゴータム、今川智恵子、渡辺悌二

要約

日本とネパールでよく見られる植物のヨモギは、精神面でも物質面でも利用され、役立っている。昔ながらの方法で家庭の中でしかヨモギを利用していないネパールに対して、日本ではヨモギからさまざまな製品が作られている。ヨモギを製品化することになれば、ネパールの農村の人々に雇用の場が提供され、収入にもつながり、結果的に経済状況の変化を期待することができるようになる。日本との経験の共有はネパールの発展に貢献できること大となろう。ヨモギの製品化の研究と促進に際し、日本の協力を示唆するものである。

NOTE: The abstract of this document also appears in Japanese. If the Japanese section is unreadable, you may need to install the proper fonts on your browser.

Summary

Mugwort (*Artemisia* spp.), common plant in Japan and Nepal mountains, has been valuable species for spiritual and material uses. Various products are produced from mugwort plant in Japan, whereas it is still limited to traditional and domestic uses in Nepal. Industrial use of mugwort plant may change the economy of rural people in Nepal through generating employment and income. Sharing Japanese experiences could be a great contribution to the development of mugwort products in Nepal. Further research and development of mugwort plant product is suggested.

1. Introduction

Artemisia, a shrubby species, is distributed widely in different geographical regions.

International

Plant

Name

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Query

(http://www.ipni.org/ipni/query_ipni.html) showed 2058 entries for genus '*Artemisia*', reflecting richness of species and varieties of *Artemisia* genus. *A. vulgaris* and *A. Montana* are widely distributed in mountain regions of Nepal and Japan respectively. These two species look alike based on their appearances, sizes and overall site-characteristics; however, genetic closeness cannot be claimed without further investigation. Vernacular name for *Artemisia species* is 'mugwort', and this study considers that mugwort represents both the species cited earlier. Mugwort plants are used for spiritual and material needs by many races around the world. We attempt here to list the different uses of these plants in Japan and Nepal. As the present paper constitutes a part of the study on Ainu's indigenous forest management practices, the information relating to the uses in Japan were collected mainly from Ainu's homeland Hokkaido, the northernmost island of Japan.

Mugwort plant, 'yomogi' in Japanese and 'noya' in Ainu languages, is called 'pati' or 'titepati (bitter-leaf plant)' in Nepal. Different uses of mugwort in Japan and Nepal are detailed in the next section.

2. Evolution of mugwort use in Japan

The major traditional uses of mugwort by Ainu people are listed below; however, the present-day continuations of such uses are yet to be investigated.

- a) Ainu people have high spiritual value associated with mugwort plant. They believe that the stems and leaves of mugwort plant protect them from the demons of sickness related to smell. This belief was based mainly on the smell of *Artemisia*, which they think would discourage the demons to come near that plant.
- b) Mugwort was used for treating people with psychogenic disturbances. The patient had to be slapped with the plant while shouting 'hussa!', 'husse!' or 'hus!' for chasing the devils away. Chasing started from patient's head to down through to the feet, and repeated the process through back.
- c) Heat and smoke from mugwort-stem fire are thought to be effective in purifying the person affected by psychogenic disease. Withered mugwort stems were bundled and piled for forming six house-like objects on the riverbank. Once the objects were on fire, the patient was forced to pass 12 times through fire (to and fro for 6 times).

Dr Kayano Shigeru, a prominent Ainu researcher and President of Kayano Shigeru's Nibutani Ainu Museum, wrote in one of his books on Ainu culture "Mountain silkworm (empikki) was one of the most disliked worms in Ainu community. Ainu people considered the sighting of an empikki as the omen of bad things. So when they happened to see the empikki, they beat it to death and stuck it through the body of the empikki with the 3-years-old dried mugwort stick (riya-noya). Ainu believed the empikki would never come back to life (revive) after that."

- d) While walking/working in the places where devils were thought to be present, Ainu people used to put branches of mugwort on their head, usually along two ears wrapping by a scarf, and facing the upside of the branches forward (see figure below).



An Ainu woman with mugwort leaves (Copied from a publication of Foundation for Research and Promotion of Ainu culture)

- e) Ainu people consider that mugwort has special power to chase devils away; they believed that eating stems and leaves (decocting and drinking leaves

and stems of mugwort) drove the disease god away, effectively protecting against any parasite into their body. They used to eat rice gruel and the leaves and stems of mugwort (sprinkling sliced young leaves over rice gruel boiled hot) to prevent infection with or for vermifuge of roundworms and tapeworms. The most reasonable method of treatment for vermifugal action was to eat regularly noya (mugwort)-sayo (rice gruel) or to decoct mugwort for drinking.

- f) Mugwort was easily available medicine for emergency hemostatic and antiseptic treatments on cuts. Ainu people used to pick the soft leaves of mugwort growing nearby, crush them and press them on the affected part for sometime. After that they used to tie the leaves on with cloth, other large leaves or bark of the *Betula* spp. This treatment was said to prevent suppuration.

Pharmaceutical research has traced the anti-inflammatory action in the poultice of the leaves of *Artemisia* as well.

- g) The technique of treatment for cold (diaphoretic treatment) was called Yay (oneself)-su (pan)-maw (steam)-kare (to cause to do). Method followed by boiling the decocted mugwort in a large pan. The patient sitting near the hearth holds the pan. Patient's head needs to be covered with a hood-like cloth (a blanket would be good), covering his/her face and the pan. Then the steam/vapour causes the patient to perspire. Sometimes the patient drinks the decoction to accelerate the process. The process lasts for 5 to 8 minutes depending upon the steam flow and condition of the patient. The patient perspires profusely.
- h) Ainu people used to treat venereal disease such as syphilis and gonorrhoea with mugwort plants. Washing genitals by leaves and stems of mugwort or/and drinking the decoction were found to be effective for controlling such venereal diseases.
- i) Some eye diseases were treated with leaves of mugwort plant. Broiled leaves of the plant used to be attached to the eyelid of the affected eyes.
- j) Mugwort was also said to be appropriate for relieving from dental problems. Mugwort leaves used to be grounded and mixed with salt, then applied to the root of the aching tooth/teeth. Sometimes boiled leaves were chewed with aching tooth/teeth.

- k) Mugwort plant was considered as insect repellent as well (see the following box).

A Japanese elder woman's recollection

In the early-1940s, I was visiting my elder sister's family. The windows in their house had nothing to stop the insects/mosquitoes coming in. Neither the mosquito-coils were available. So we burnt the dry mugwort stems and slept. In the morning while we could see some dead mosquitoes inside the house, but not a single bite on us. However, I felt some discomfort with my throat for sometime.

On the basis of these traditional experiences, various products are developed from mugwort plants in Japan. The Japanese custom of eating rice cakes containing mugwort could have been derived from the same idea as Ainu have, although further studies are needed to understand if the idea had been distributed from Ainu. Most of the Japanese are familiar with the products, such as mochi, dango (Japanese sweets), chiffon cakes, cha (tea), sekken (soap), essensu (essence), zeri (jelly to apply on insect bite) and mogusa (a rice grain-size balls used in Okyu, an eastern medical technology), from mugwort plants. These products are available in departmental and convenient stores, including sweet shops and pharmacy in city such as Sapporo. Besides these products, dried or fresh leaves of mugwort plant are put into furo (Japanese traditional bathtub).

During spring, people prepare mochi, dango and cha from mugwort leaves for own use. Yomogi sweets are popular in festivals like hina-matsuri (doll's festival) and kodomo-no-hi (children's day). Sweet factories, such as Rokkatei, use fresh yomogi during spring and procure frozen to use in other times of the year. As the spring in Hokkaido is relatively late, sweet factories in Hokkaido procure yomogi in early spring from Honshu. However, some sweetshops (confectioners) procure frozen yomogi from a company in Otaru, indicating the economic activities relating to yomogi in Hokkaido.

3. Mugwort uses in Nepal

- a) Mugwort has high spiritual value in Nepal; it is one of the most religious plants in Nepal, and is offered in almost all ritual celebrations. Mugwort and flower are synonyms. Whenever people build new houses the foliage of mugwort is kept on the ridge of the roof, so that it can protect the new houses from the evils.

It is also used extensively in spiritual treatment of patient. Local healers use the foliage in chasing the evils away from the patient's body.

Mugwort flower has special importance during dashain (biggest festival of Hindu in September/October) celebration. Senior people bless younger putting mugwort flowers/foliages on their head. Flowering of mugwort is also an indication of approaching dashain festival.

Author(khg)'s recollections about *Artemisia* in Nepal hills

1. In the early 1960s, I used to go with cattle in the forest during holidays (Saturdays and two month holidays in planting/rainy season). Sometimes I used to accompany my parents to paddy planting and weeding in the fields located in the lowland river valley (beshi). All kids were warned not to sleep in beshi saying them that they might get fever from evil ghost and/or witches presumed to be living profusely in the beshi (in fact it was malaria fever). However, someone who felt asleep badly was advised to lie on close to patighari (mugwort bush) within the sound of the flowing stream.

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2. Though there were a few local healers in our village, my parent relied most on the one who was in his sixties (about) when I was kid. Whenever any member of my family felt ill we used to rush to find him. He used to be busy all the time treating patients in the village. His treatment, indeed, were very effective. He used to prepare medicines from local plants, and used to feed with some rituals. One day he was telling me (I don't remember the sequence why he was telling me) the use of pati, he was so confident that he could treat any disease using different parts of this plant. He further added that collection should be made in different time of the year and also potency varies with the location. His tone was clear and demanding that I would guess now he would have some clues to use pati for treating serious disease, such as HIV/AIDS and cancer, too. So I would not be surprised if someone finds chemicals in mugwort plants to treat HIV/AIDS and cancer patients.

- b) Mugwort plant is the most reliable and accessible medicine to rural people in Nepal for treatments of cut and wounds. People squeeze the fresh leaves of mugwort and apply on cut wounds. They believe that the mugwort leaves' extract heals the cut-wound quickly by preventing infection.
- c) Mugwort is very effective in protecting from leeches. People who have to walk or work in leech-prone areas rub its leaves on their skin. If they find leeches biting on their body, they simply squeeze the leaves and drop the extract on the bite-spot. Then the leech immediately ceases biting and vomits blood.
Mugwort foliages are kept in the room to get rid of fleas.
- d) Broom made of its foliage is thought to be effective in maintaining healthy environment by repelling the insects.
- e) Mugwort is used as green manure, and more as insecticide. Usually the green foliages are used to mulch seedbeds. Its stems are also used for support for young bean plants, probably, presuming its insecticidal role to protect the young sprouts.
- f) Mugwort plant is the most favourite fodder of goat, and thus contributes to the rural economy in the hill regions of Nepal.

4. Discussion and conclusion

Both spiritual and material values of mugwort plant are recognised in Japan and Nepal. It can clearly be seen that the age-old spiritual values recognised the quality of mugwort plant, especially its characteristics for repelling, antiseptic and insecticidal uses.

Mugwort is used as fodder for goat in Nepal, indicating the use of this plant in feed production, whereas no such evidences were found in Japan. Furthermore, the mugwort is still used for manure and insecticide in cropland in Nepal, but such practice was not observed in Japan. The potentiality of mugwort to use in farm for manure and insecticide could fit in the people's increasing concern about organic farming.

Studies in Japan have confirmed the chemical contents of the plant in line with the indigenous uses. Based on the indigenous practices, various items of food and medicine are developed from mugwort plant in Japan, indicating clearly the reliability of indigenous knowledge; the instances suggest the scope of such knowledge in other fields as well.

Thus, mugwort plant is now used in Japan for industrial use, whereas its uses are still confined in the traditional/household uses in Nepal. In lack of

knowledge and technology, mugwort is still seen in Nepal as a weed plant. In this context, transferring Japanese knowledge and technology to Nepal could be an instrumental in converting the so-called weed plant to industrial plant. As the mugwort is distributed widely in the world, indigenous knowledge from different communities may yield substantial information on its varied uses. Such knowledge may guide future research on mugwort, and thus further research on the various uses of mugwort is suggested.

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Notes to readers

The first author, Krishna H. Gautam, may be reached at:
Fax: + 81 11 706 2213

The second author, Chieko Imakawa, may be reached at:
5-3-80 Hanakawa Minami, Ishikari-shi Hokkaido, 061-3205 Japan²