

Folk use of marmots in Mongolia

V.V. KolesniKov^{1,4}, O.V. Brandler² and B.B. B admaev³

¹ *Russian Research Institut eof Game Management and Fur Farming, 79 Engels Street, Kirov 610000, Russia* (E-mail: wild-res@mail.ru)

² *N.K. Koltsov Institut eof Developmental Biology, Russian Academy of Sciences, 26 Vavilov St., 119334 Moscow, Russia* (E-mail: rusmarmot@yandex.ru)

³ *Institut eof General and Experimental Biology of SB RAS, Ulan-Ude 670047, Russia* (E-mail: bbadm59@mail.ru)

⁴ *Всероссийский научно-исследовательский институт охотничьего хозяйства и звероводства РАСХН, ул. Энгельса, Киров 610000, Россия; wild-res@mail.ru*

² *Институт биологии развития РАН, Москва 119334, Россия, rusmarmot@yandex.ru*

³ *Институт общей и экспериментальной биологии СО РАН, Улан-Удэ 670047, Россия; bbadm59@mail.ru*

Received 6 September 2008, accepted 19 May 2009

Marmots are traditionally hunted for various valuable products. Marmots found at archaeological excavations reveal that people have used them for a long time. We used interviews and questionnaires to record aboriginal use of marmots in medicine and cookery from local residents during an expedition to study tarbagan populations in Mongolia in 2007.

Key words : marmots, tarbagan, traditional, medical practice, cookery, aboriginal experience.

INTRODUCTION

Marmots are common objects of hunting. Finding marmot bones at archeological excavations confirmed that marmots have long been used by humans. The availability of valuable products from marmots were the basis of hunting this animal. Presently there is no need to harvest marmots for their products, but a contemporary human should not lose a previous experience as a part of history and culture. In those regions where marmots have

METHODS

Questioning and interviewing local people on the use of different products of marmots were used as a research method during an expedition to survey tarbagan (*Marmota sibirica*) habitats in Mongolia in 2007. Seventy-two questionnaires were collected. Also, we interviewed local people, and recorded the information. Thus, we collected data on the aboriginal experience on the use of marmots in medicine and cookery.

RESULTS AND DISCUSSION

During recent years the Tibetan medicine and traditional national dishes became very popular in Mongolia again after many years of having been forgotten. Skin is a basic product tarbagan hunting. Mongolian people expressed the opinion that a high price for marmot skins was the principal cause of the decrease of tarbagan numbers in Mongolia early in the XXI century. According to responses to the questionnaires, the price for one skin ranged between \$ 2 and \$ 10, and averaged \$ 7.64. Interviewees considered it necessary to lower the prices.

Skin is used for manufacturing various fur products. For medical purposes a fresh-flayed marmot skin is used to treat myositis by putting the outer fur part of the skin against the sores (16.7% of interviewees).

The meat of the tarbagan is popular in Mongolia. It was used by 75% of the interviewees. Only Mongolian Moslems (mainly Kazakhs) do not eat marmot meat due to religious reasons (25% of interviewees said that they do not use marmot products). Most Mongolian people cook nearly all of the folk meat dishes using this meat. Most popular dishes are (1) bodog, meat mixed with red-hot stones and baked in its own skin; (2) khorkhog, meat and vegetables baked in a cauldron mixed with red-hot stones; (3) khavanaakhai, pieces of meat baked between two red-hot flat stones; (4) tsuivan, noodles with meat; (5) buuz, meat in steamed pastry; and (6) khoshur, meat in the pastry fried in a vegetable oil.

Stones used for cooking the above-mentioned dishes are later used for medical treatment. For example, after cooking khavanaakhai warm stones are used as a physiotherapeutic remedy as follows: a person sits on them with bare buttocks for 30 min while wrapped in skins or a sheepskin coat. Thereafter, it is necessary to avoid draughts and cold and to go to bed. Such treatment helps to cure radiculitis, osteochondrosis, colds, etc. Stones that were used for cooking khorkhog and bodog are considered useful for treatment while they are hot. They should be rolled for some time in the hands for the prophylaxis and treatment of arthrosis.

The meat of tarbagans is not a primary commodity. Eleven respondents reported that the price for a marmot carcass ranges between \$ 1 and \$ 8, and the price for meat for a holiday bodog reaches \$ 20. Meat is sold fresh, boiled and canned.

Fat of marmots is not a part of commodity trade. Only in southern Mongolia do aboriginal people sell it locally at a price ranging from \$ 1 to \$ 3 per liter (two records). Fat is mainly used by hunters and their relatives for

medical purposes such as for healing wounds, burns and frostbites. Crude fat is predominantly used for wounds. Rendered fat is used to treat catarrhal and pulmonary diseases *per os*. Mongols render fat in water and then carefully skim the oil from the water surface. According to the rules of Tibetan medicine, fat should be rendered in the sun. Marmot fat is used by 75% of the interviewees. Also, fat is often used for the treatment of wounds in horses caused by a saddle rubbing the skin.

Marmot bile is used as a remedy to accelerate the healing of fractures and as a bile-expelling remedy (63% of interviewees). In the second case 30 g of fresh bile are diluted in a glass of boiled water (spring bile is better) and are drunk. Mongolian healers do not recommend taking bile with the gallbladder; it is considered harmful to the stomach. But many sick persons swallow the whole fresh gallbladder. Bile as well as marmot liver is preserved by drying.

The liver of marmots is used mainly for medical purposes. Mongols use it dry or fresh. They consider marmot liver a good remedy for healing fractures (6%). Interestingly, Mongols do not eat fried liver. In general they prefer boiled or steamed food and avoid fried food.

Burnt and pounded bones of the tarbagan are used as a remedy to treat the lack of calcium, fractures and diseases of joints (4% of interviewees).

Brown fat of marmots (in Mongolian — «*khum makh*», which means human meat) has become popular only during the last 6 to 7 years as the Tibetan remedy for treatment of pancreatitis. It is consumed fresh and is washed down with vodka or vodka tincture (1:10). It is used also as a remedy for healing wounds and fractures.

Mongols have actively used the principle of similarity in medical practice. That is, they treat a diseased organ by eating a similar tarbagan organ. If a person has a diseased liver, it is necessary to eat marmot liver. If a person suffers from nephritis, it is necessary to eat marmot kidneys, etc.

According to our questioning, one Mongolian family uses for its own consumption 105.23 ± 16.91 marmots per season.

ACKNOWLEDGEMENTS

The work was supported by the Russian Foundation for Basic Researches.