HOKKAIDO UNIVERSITY

Title	北海道產熊の冬穴の觀察
Author(s)	犬飼, 哲男
Citation	札幌博物学会会報, 12(2-3), 175-179
Issue Date	1932-07-10
Doc URL	https://hdl.handle.net/2115/64008
Type	journal article
File Information	Vol.12No.2-3_017.pdf

Hokkaido University Collection of Scholarly and Academic Papers : HUSCAP

OBSERVATIONS ON THE HIBERNATION LAIR OF THE YEZO BROWN BEAR

BY

TETSUO INUKAI

(With 5 Text-figures)

The Yezo brown bear, *Ursus arctos yesoensis* LYD. still found rather frequently in the forests and mountains of Hokkaido enters hibernation during the winter which lasts 4 months from December until March, the ground being covered with snow about a meter deep. As no desire of storing food for the winter use prompts the bear to provide any kind of food-hoard, the animal becomes particularly voracious towards autumn to be fattened preparing for hibernation. Appearing in the cultivated districts bears often inflict much damage upon grain and if the opportunity arises they will seize the cattle and even the human beings, though the animal in nature lives chiefly upon fruits, berries and nuts of all kinds, on roots and grass, sometimes on fishes, on the crayfish and on the flesh of the hare. Ants, wasps and other kinds of insects when obtainable form a favorite addition to the bear's food.

It is generally known that the bear after November popularly called "the bear without den" is most dangerous of any, sometimes fearlessly making an attack upon a village as otherwise there is nothing to eat in nature. Accordingly serious damage by the bear in this season to men, cows, horses, pigs, sheep, rabbits and even the fowls of the farmers has been occasionally reported in Hokkaido.

Usually most of the bears retire by the end of November to go into the winter sleep. The animal is apt to have its hibernation den in the mountains at an elevation as low as possible without any kind of molestation threatening him. Therefore it often happens that we are frightened at the bear coming out from hibernation after having lived in the lair so closed to us.

Either a natural cave or a hole dug out by the bear new or old is used for the hibernation den. However, as PEELLE* (1931) has mentioned, the den

* PEELLE, M. L. 1931. Notes on the Hokkaido bear *Ursus arctos yesoensis* Lydekker leaving hibernation as reported in Etorofu Island of the Kurile Group. Trans. Sapporo Nat. Hist. Soc, Vol. XII. Pt. 1.

[Transact. Sapporo Nat. Hist. Soc., Vol. XII, Pt. 3, 1932]

is located as a rule on a mountain slope in order to avoid any trouble there might be from surface or snow water. It is in this den during the hibernation that the female bear produces her cubs which number one to four. She leaves the lair with the cub to take care of it during the first year and takes it again with her into the den as she hibernates for the next winter. Otherwise it is known in general that more than one bear never gets into the same den for hibernation.

The brown bear in Hokkaido has also a so-called summer lair which is temporary and therefore very simple in structure consisting of not a cave but a mere ditch deep enough to hide the body below the ground level as the bear lies down.

Fortunately the present author had the opportunity to observe two rare examples of the hibernation den in Hokkaido one each in 1930 and in 1932, and he proposes herewith to describe them briefly as there has been lacking hitherto any exact knowledge in this respect.

Example I. On March 14, 1930 a bear's den was found in Mt. Teine near Sapporo and a female bear aged 4 years with a just born cub was driven out of it to be killed. The den was located on the mountain side about 500 meters above from the foot of the mountain and only 2 kilometers distant from the nearest village. It was in a birch forest where the breathing hole of the hiber-

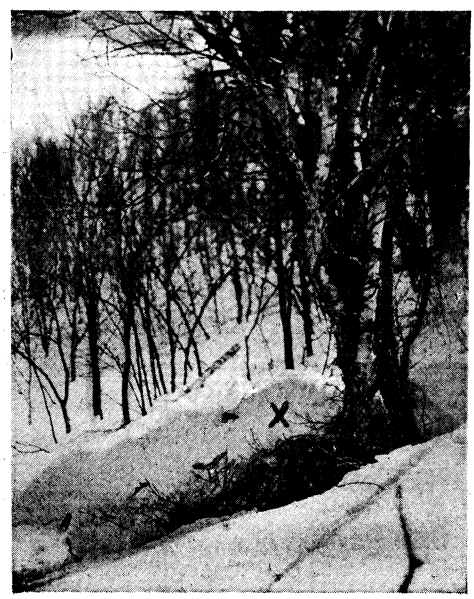

Fig. 1

Fig. 2

nating bear beneath was first found in the snow at the root of a big tree (Fig. 1, ×). Then the hunting was undertaken by several hunters. On visiting there after the killing and by taking off the covering snow the appearance of the entrance of the den which faced directly north became evident. So we were enabled to enter into the den to make observation.

Considering the size of the mother bear which emerged from the den (it measured 1.7 meter in body length) the entrance of the lair was rather small having a transverse diameter of 65 cm and vertical of 40 cm (Fig. 2). It was just capable of passing the human body. A narrow path from the entrance led directly into the inner part of the den going a little downwards about ½ meter distance.

The den was 1.3 meter in breadth and 2 meters in length, the height which became lower towards the periphery was 95 cm at the center of the den. Many rootlets of various length from 5 to 10 cm were hanging from above. The floor was spread with dried leaves and culms of the *sasa*bamboo as a litter which was 30 cm thick in the central deepest part covering a round area of 1.1 meter diameter. The den had a small hole which was about 40 cm in depth opposite to the entrance. It seems probable that the hole just mentioned was secondary, having been dug out quite newly by the bear and apparently from the fear of the hunter's attack. At any rate the inside of the den was completely protected against weather and cold of the outside. No sign of any unpleasant element like the faeces or the remains of a meal were found whithin the den and moreover the hay odour from the dried *sasa*bamboo made the den practically comfortable (Fig. 3) On visiting there in summer, the location of the den was hardly recognizable owing to the thick undergrowth of *sasa* which had grown much higher than human height. It is in this circumstance that the bear is understood to have dug out the den in the preceding autumn.

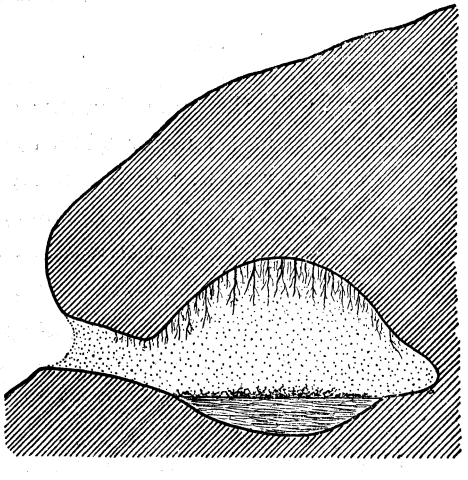

Fig. 3

Showing the inside of the den.

Example 2. Another case of the bear's den was observed in Shimamatsu mountain shortly after the killing of the bears, mother and young, on January 28, 1932. The age of the mother bear was estimated as 5 years and the

Fig. 4

young as just one year that is the second year of age. The location of the lair was on the east side of a hill which is continuous to the deep mountain range of Soranuma, at an elevation 250 meters above sea level. It was also in the thick bushes of *sasa*bamboo poorly forested by birch, being remote about 3 kilometers from human residence. The place around the den at the time of observation was not completely covered with snow as in the former case.

The bear had dug out its den under a big fallen tree pulling out plenty of earth and stones of good size. The entrance of the lair which was almost round measuring 60 cm in diameter was a rather small one for the bear (Fig. 4). It had a long slightly right curved path about a meter and a half long with the same diameter as the entrance. The inner den measured 1.4 meter long and 1 meter wide, the height being 80 cm at the center of the den. The litter in this case consisted of fallen leaves and twigs of deciduous trees and also of those of *sasa*bamboo with a thickness of 35 cm measured at the center. We can see that the *sasa* around the den had been broken or

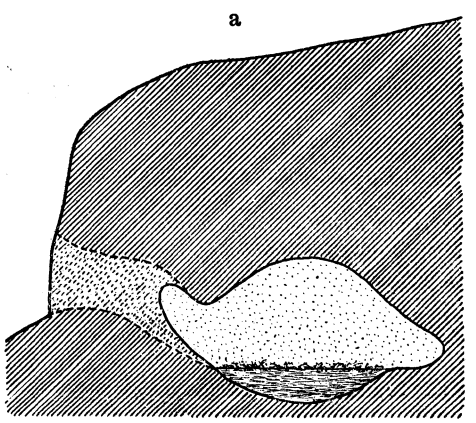

Fig. 5 Showing the inside of the den.
a. from side.
b. from above.

chewed off by the bear to be brought into the den as the litter. The inside of the lair has an air of comfort and safety from molestation. The den is also cleanliness itself (Fig. 5).

It is occasionally reported that the bear also hibernates in a lair in a forest of spruce trees which abound Hokkaido and in this case the leaves and twigs of the tree are used for the litter of the den. The broken branches of the spruce thus employed are said to give valuable indication to the hunter who is looking for the hibernating bear in the lair under snow.

Zoological Institute,
Hokkaido Imperial University,
Sapporo, Japan

摘　　要

北海道産羆の冬穴の觀察

犬　飼　哲　男

羆は平常は植物の莖葉、果實、魚類、ザリガニ、兎、昆蟲類等を食食し秋期に肥滿して十一月末迄には冬眠に入り、翌年三月末迄四ヶ月間は絕食のまゝにて冬穴中に籠居するものである。然し秋期に於ては往々人里に出沒して作物を荒らし且人畜をも襲ふことがある。十一月以後に現はれる羆は「穴持たず」と稱し好んで人畜を食害する危險なものである。

羆の冬穴は山の斜面に地上水の流入を防ぐために設けられ割合に人家に接近することもある。穴の中に於ては冬籠中にその仔を產し、その初年目は常にこれを供ひてその年の冬も共に穴に入るものであるが、普通他の羆と同居して冬籠することはない。尤も羆の夏穴は單なる凹地を利用したもので窟をなさない。

第一例、余の觀察したものは昭和五年三月十四日に手稻山にて四才の雌羆と當才仔の入つた冬穴で、人家を去る二キロの樺林中にあり (Fig. 1) 山の北斜面で從つて入口も北に向ひ横65、縱40cmの隨圓形をなし (Fig. 2) 半米斜下に下りて穴に達する。穴は間口 1.3 奥行 2米で奥に小穴を有し高さは 95cm である。その底には一面に乾燥した熊笹の敷藁を敷き厚さ 30 cm にも達し極めて清潔で且温く快きものである (Fig. 3)。但し夏期に於ては密生する笹のため穴の入口を發見するここさへ困難で、羆は斯る笹の中に穴を堀つたものである。

第二例、上鳥松陸軍用地奥の白樺林中にあり、昭和七年一月廿八日五才の雌と一才の仔熊を捕へし穴にて一月卅日の觀察である。入口は東に面した斜面に表はれ (Fig. 4) 60×60 cm の廣さで、1米半の細き右に迂廻する導路を有する穴である。穴の間口は 1米奥行は 1.4米で高さは 80 cm である。この穴の敷藁は闊葉樹及笹の莖葉で、手稻のものと同樣極めて清潔に保たれ且安靜で居心地よきものである (Fig. a 及び b)。羆は一方に於て又針葉樹林中にも冬穴を有するもので、この際樹木の枝の折られたものは穴中に敷藁の代用とされ往々狩獵者に發見され易い目安となるものである。