

The Ainu Constellations

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What is Ainu and Ainu People



1904 photograph, taken from the book
"Ainu: Spirit of a Northern People "(from Wikipedia)

Ainu people is an indigenous group of people who now lives in Tohoku and Hokkaido in Japan, Sakhalin and Kuril Islands in Russia.

In old days, they also lived in the other part of Japan and one of the origins of the Japanese people.

The word "Ainu" means human in Ainu language.

What is Ainu and Ainu People



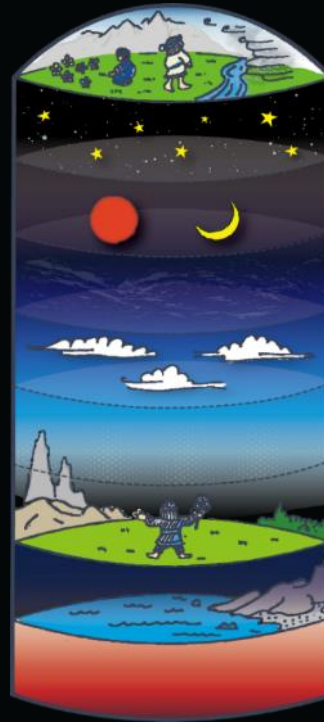
1904 photograph, taken from the book
"Ainu: Spirit of a Northern People" (from Wikipedia)

Sakhalin

Hokkaido

Before 19th century, Ainu people used Ainu language and lived on hunting. In 19 and 20th centuries, the Japanese government forced cultural assimilation. As a result, Ainu people use Japanese language and a lot of original customs have been lost.

Everything has soul
And
Significance to exist in this world



Ainu's religion is Animism.
The basic concept is "Everything has soul and significance to exist in this world."

What is Ainu and Ainu People



Photos: © Ainu museum

Today, Ainu people use Japanese language as their first language. The Ainu culture is being preserved, handed down and outreachd mainly in Hokkaido but many have been lost.

What is the Ainu Constellations

Dr. Tomio Sueoka (1931 - 2002)



Dr. Sueoka (left)
Ainu man (right)

Dr. Tomio Sueoka have collected the Ainu constellations in mid 20th century. He visited many Ainu people in Hokkaido and compiled his hearing investigations.

What is the Ainu Constellations

Dr. Tomio Sueoka (1931 - 2002)



Dr. Sueoka (left)
Ainu man (right)

His research was summarized in his books, but they are not highly evaluated among the Ainu researchers. This is because Dr. Sueoka was an engineer and his data collection method did not meet the academic requirements in ethnology.

Dr. Sueoka collected more than 100 Ainu constellations.

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【Method】

Organizing the Existing data

Literature Research

Field Research

I investigated the meanings and origins of the Ainu constellations. My point is “why did the Ainu people give certain names for constellations?”

Based on the Ainu’s animism, everything has soul and significance to be in this world. So I assume that there should be certain meanings behind the constellations.

First, I organized the Ainu constellations collected by Dr. Sueoka. That includes the names, their locations in the sky, and geographical area where the constellations were used. Then I made a star chart and a planisphere.

The Ainu Constellations

The Ainu Constellations reflects the view of the nature of the Ainu, an indigenous people in Hokkaido, Japan. Today, only few people can realize the Ainu Constellations even among the Ainu people and they seldom attract attentions. However, an old literature "ezo hougen moshiogusa", the Japanese-Ainu translation corpus published more than 200 years ago, includes a dozen or two Ainu constellations.

The Ainu Constellations in this planisphere were collected by Dr. Tomio Sueoka (1931-2002), who have visited many Ainu people for decades from 1950s. He compiled his hearing investigations and included the constellations with high reliability in his books "Ainu no hoshi [Star of Ainu]" and "Ainutari no mita seiza [Constellations and Traditions of Ainu people]". One asterism may have different names in different places, and the total number of constellations well surpasses 100. By compiling the constellations in the books written by Dr. Sueoka and overlaying them on a star chart, we can find Ainu's humor and keen eye to the nature; the constellations reflect history of Hokkaido, life of wild animals, and climate changes. This planisphere includes selected 50 Ainu Constellations. Please enjoy them and feel the Ainu people's view of the world.

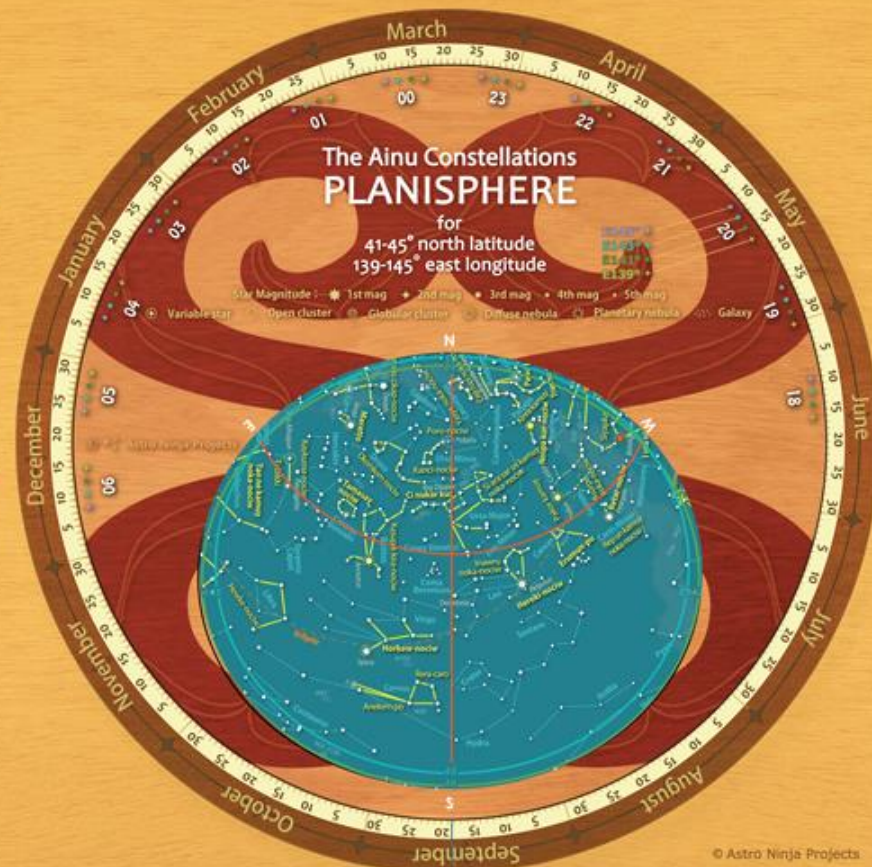
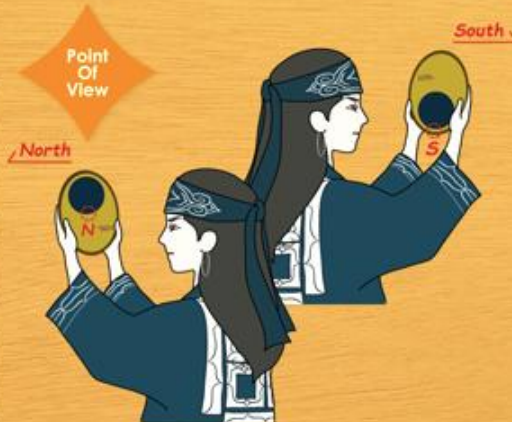
This planisphere is designed to show the sky seen from Hokkaido (41-45 degrees north latitude, 139-145 degrees east longitude). This planisphere shows the Ainu constellations and 88 modern constellations. 24-hour time is marked on the rotating disk and the calendar dates are written on the base plate with a star chart. The circular frames in the rotating disk show the areas of the sky seen from the places at latitudes of 40 and 45 degrees north. Adjusting the date and time by reference to the latitude/longitude table, you can find the locations and motions of the stars seen from Hokkaido.

* The names of the constellations are written with Roman characters based on the pronunciation of the Ainu language. The notations are based on the reference articles and may be different from the current Ainu language notations.

Reference: Tomio Sueoka (1979) "Ainu no hoshi [Star of Ainu]", Tomio Sueoka (2009) "Ainutari no mita seiza [Constellations and Traditions of Ainu people]", Masahito Chai (1976) "Lively Works of Masahito Chai".

Location of Hokkaido (East Longitude / North Latitude)

Abashiri 網走	[144°16'25" / 44°01'14"]
Asahikawa 旭川	[142°21'54" / 43°46'15"]
Esashi 江差	[140°07'39" / 41°52'10"]
Hakodate 函館	[140°43'45" / 41°46'07"]
Iwamizawa 岩見沢	[141°46'33" / 43°11'46"]
Kitami 北見	[143°53'45" / 43°48'14"]
Kucchan 倶知安	[140°45'33" / 42°54'06"]
Kushiro 釧路	[144°22'54" / 42°59'05"]
Monbetsu 紋別	[143°21'15" / 44°21'23"]
Muroran 室蘭	[140°58'25" / 42°18'55"]
Nemuro 根室	[145°34'59" / 43°19'48"]
Obihiro 帯広	[143°11'47" / 42°55'27"]
Rumoi 留萌	[141°38'13" / 43°56'28"]
Sapporo 札幌	[141°20'49" / 43°03'51"]
Urakawa 浦河	[142°46'06" / 42°10'07"]
Wakkanai 稚内	[141°40'23" / 45°24'56"]



【Method】 Organizing the Existing data

Literature Research

Field Research

I also investigated many articles to know the meanings
of the motif of constellations.

For example, I read Ainu ethnology books to know their customs. I also read books and
research papers on animals to know their biology.

【Method】 Organizing the Existing data

Literature Research

Field Research

In addition, I went to Hokkaido to hear local traditions and gather information on Ainu constellations. Of course, I watched the Ainu constellation by my eyes. As a result, I found many Ainu constellations are named based on their motion in the sky and related to many things on the ground.

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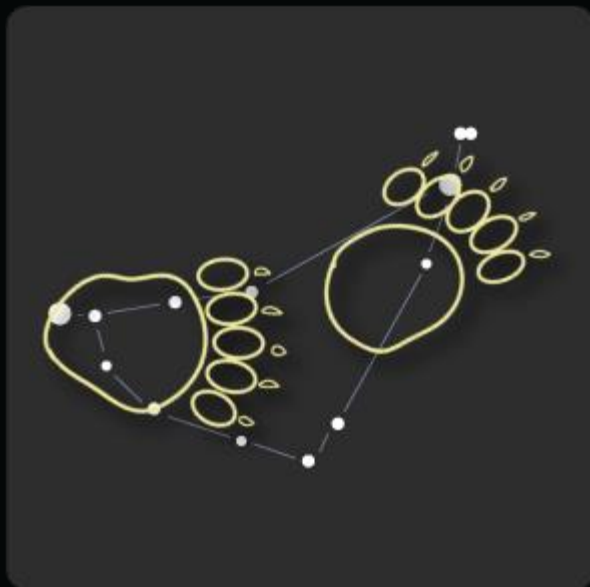
- Characteristic Ainu Constellations

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Characteristic Ainu constellations

Kamuy rukoti (カムイルコチ)



Photos: Kushiro Zoo

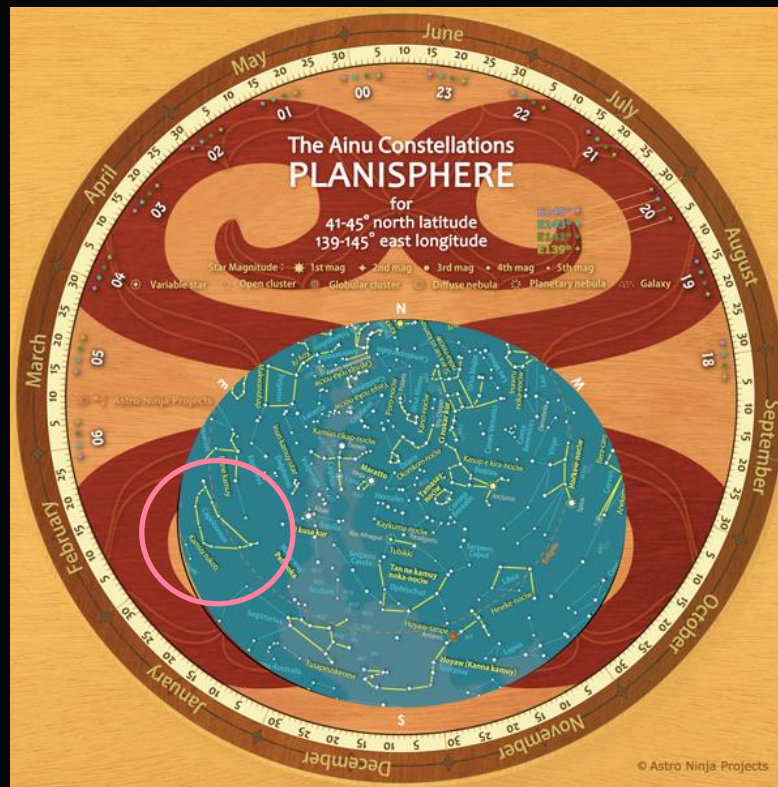
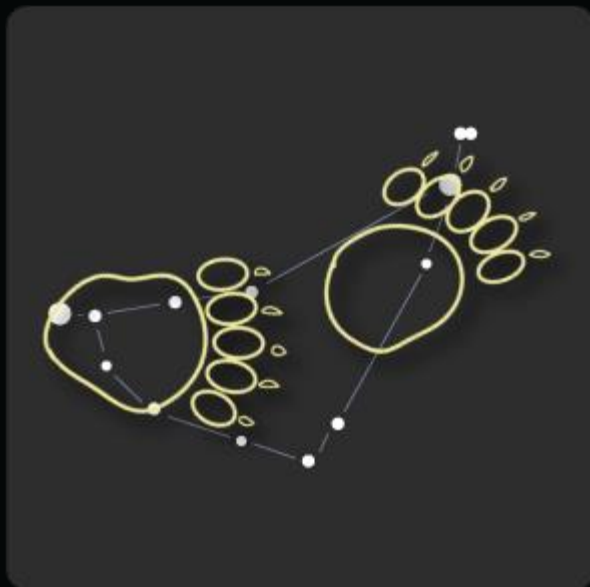
<http://www.city.kushiro.lg.jp/zoo/shoukai/0012.html>

(Now I introduce three characteristic Ainu constellations.)

“Higuma” Brown bear lives in Hokkaido.
The Ainu people regard brown bear as the god of mountains.

Characteristic Ainu constellations

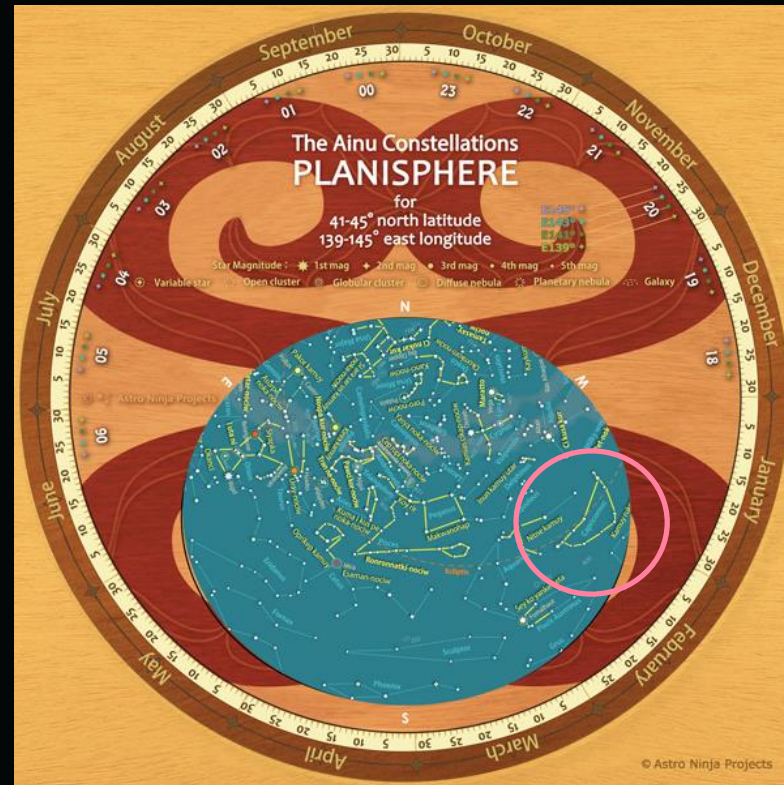
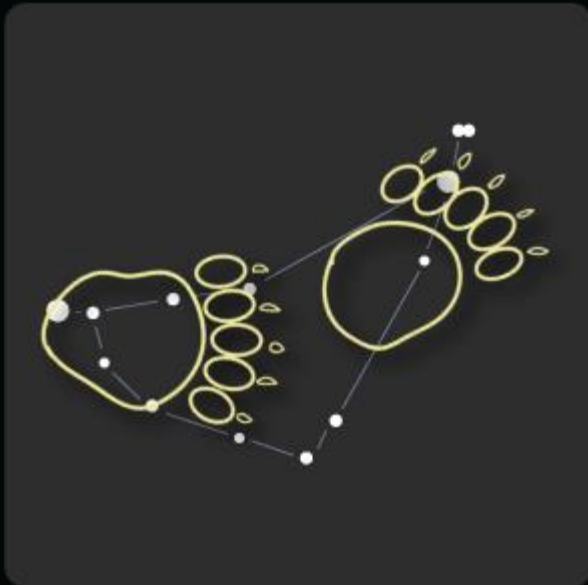
Kamuy rukoti (カムイルコチ)



This constellation is located in the Capricornus, the Sea Goat. It appears in the eastern sky in August and disappear in west in December. This reflect the biology of brown bear.

Characteristic Ainu constellations

Kamuy rukoti (カムイルコチ)



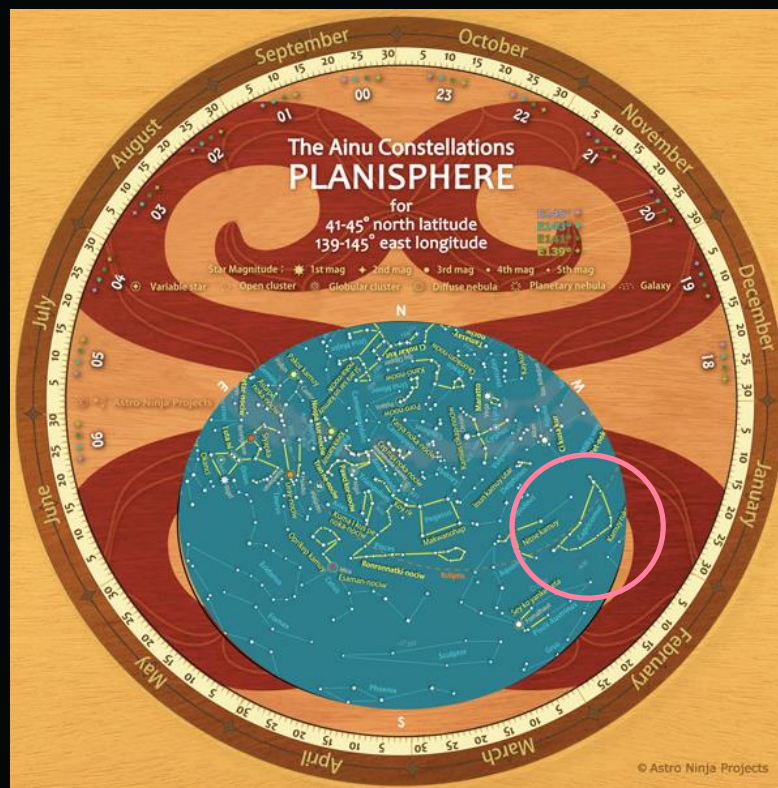
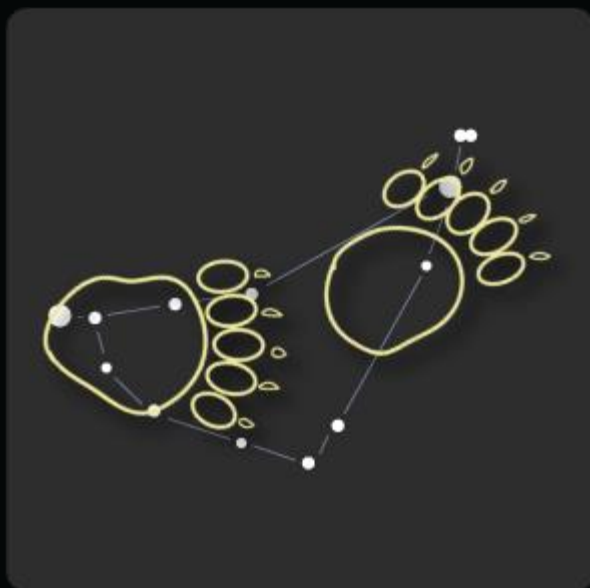
From summer to autumn, salmon and trout come back to rivers.

There are a lot of nuts in mountains in autumn.

Brown bear hibernates in winter. So in the autumn they walk around mountains to get enough nutrition. We can see many footprints in mountains.

Characteristic Ainu constellations

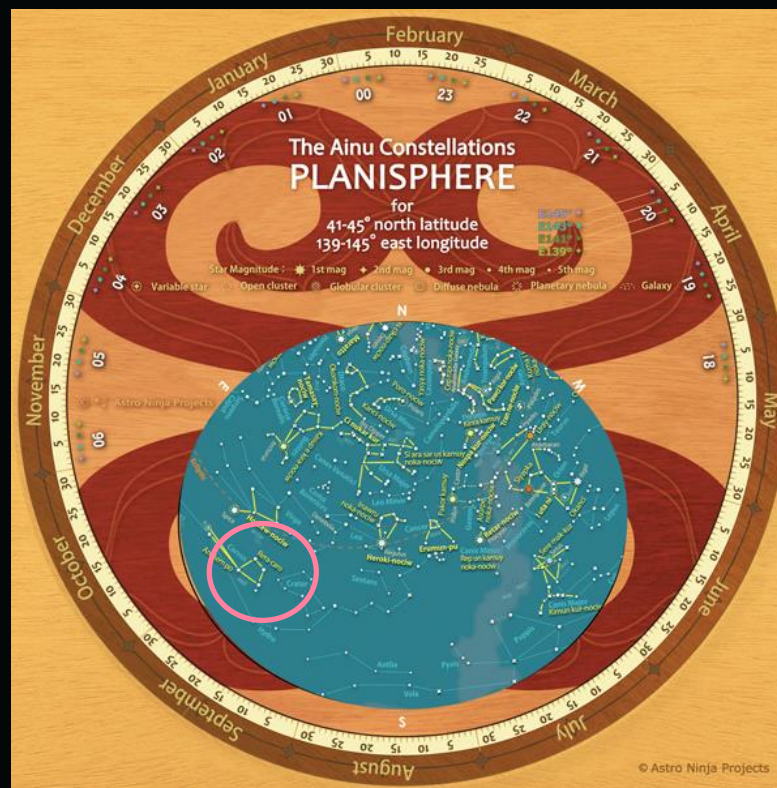
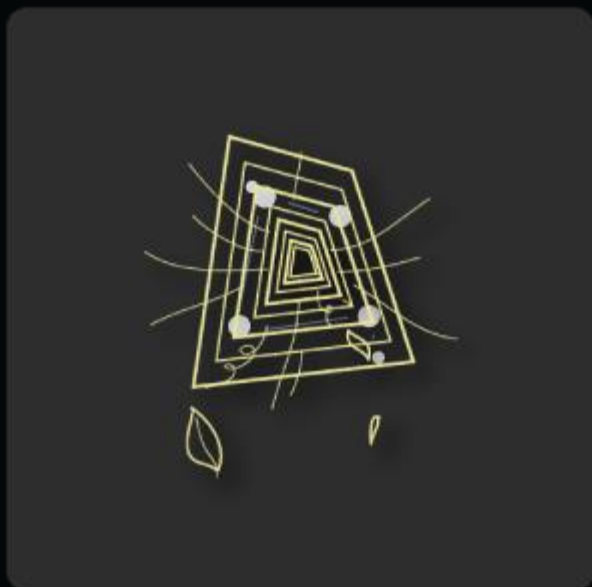
Kamuy rukoti (カムイルコチ)



Brown bears in Hokkaido starts hibernation in December. The motion of the constellation “kamuy rukoti” in the sky is synchronized with the actual behavior of brown bears. It disappears in December.

Characteristic Ainu constellations

Rera-caro(レラチャロ)



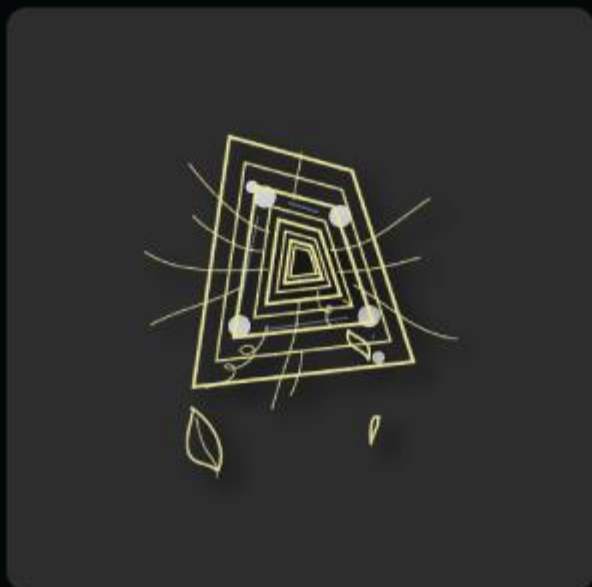
Rera-caro is located in the modern constellation Corvus (The crow).

Rera-caro means a nozzle of wind.

In Hokkaido, this constellation appears in the eastern sky in March and disappears in the western sky in the end of July.

Characteristic Ainu constellations

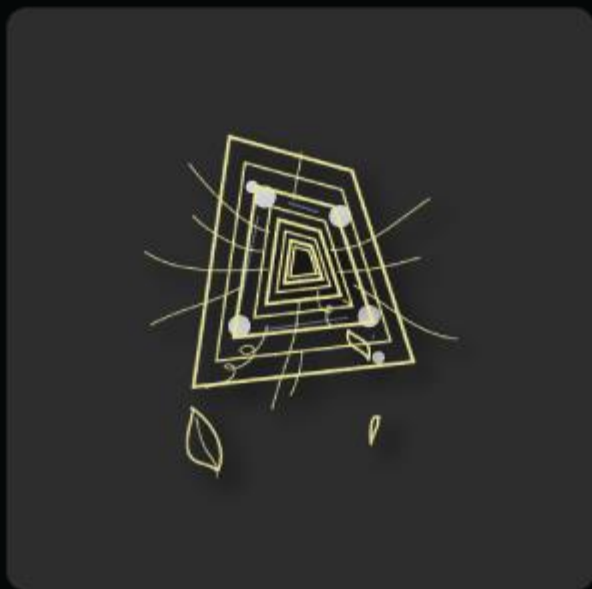
Rera-caro (レラチャロ)



In this season in Hokkaido, a strong monsoon sometimes causes cold-summer damage. Ainu people says that wind from east is strong when rera-caro is in east, and wind from the west is strong when rera-caro is in west.

Characteristic Ainu constellations

Rera-caro (レラチャロ)

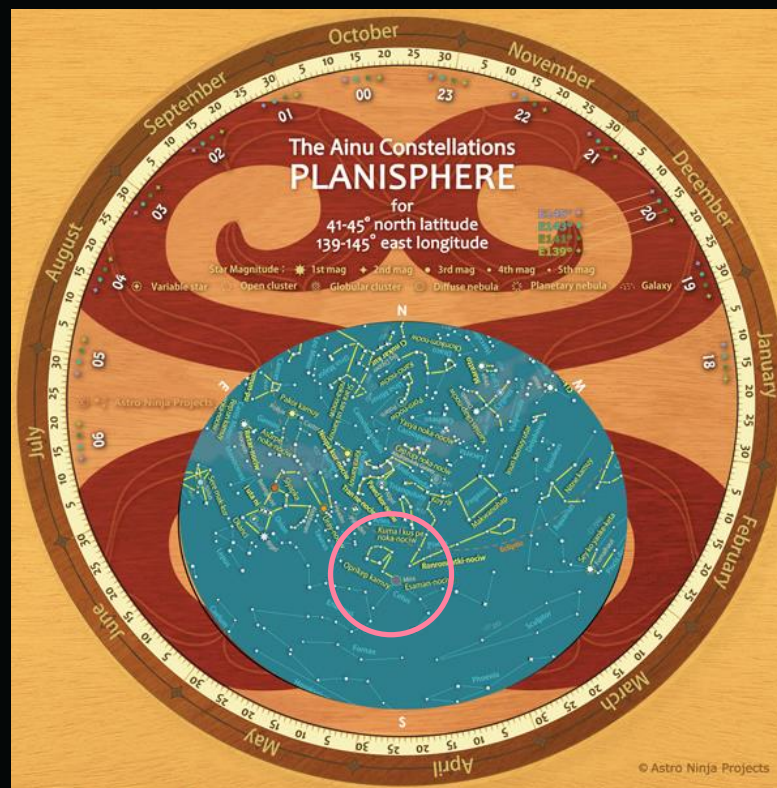
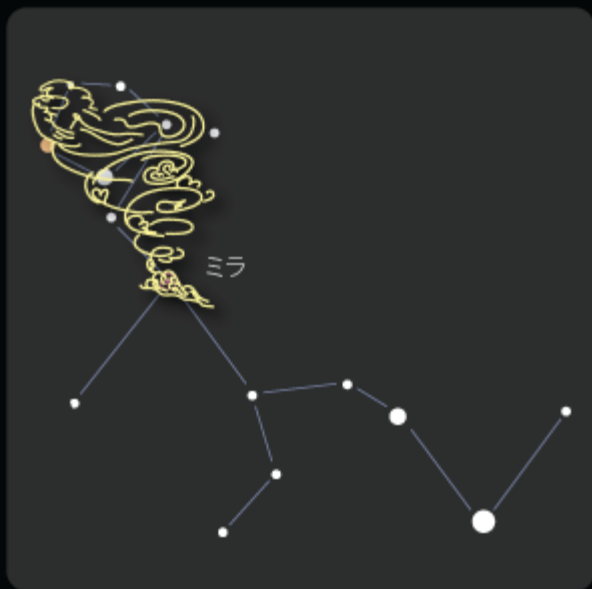


Ainu people regard the wind from east as an evil god of wind, because it causes cold summer damage.

The season under the strong monsoon agrees well with the season rera-caro is in the sky.

Characteristic Ainu constellations

Oparikep kamuy (オパリケプカムイ)



Oparikep kamuy means " God of Tornado" in Ainu.
This constellation is located in the constellation Cetus, The Whale.
According to Dr. Sueoka, this constellation was used in the southern and southwestern part of Hokkaido.

Characteristic Ainu constellations

北海道 日高地方			北海道 胆振地方		
現象区別	発生日時	発生場所	現象区別	発生日時	発生場所
不明	2015/10/13 14:30頃	北海道日高地方 新冠郡新冠町	竜巻	2008/01/04 09:50	北海道胆振支庁 (海上)
竜巻	2015/09/28 13:30頃	北海道日高地方 (海上)	竜巻	2008/01/04 09:50	北海道胆振支庁 (海上)
竜巻	2013/01/02 18:50頃	北海道日高地方 日高郡新ひだか町	竜巻	2007/10/04 07:50	北海道胆振支庁 (海上)
竜巻	2012/12/06 11:40頃	北海道日高地方 様似郡様似町	その他(不明を含む)	2006/10/11 21:50頃	北海道胆振支庁 むかわ町
竜巻	2012/10/29 05:30頃	北海道日高地方 日高郡新ひだか町	竜巻	2005/10/02 19:30頃	北海道胆振支庁 伊達市
不明	2009/01/25 05:00頃	北海道日高支庁 日高郡新ひだか町	その他(不明を含む)	2003/10/25 20:00頃	北海道胆振支庁 勇払郡厚真町
竜巻	2008/11/07 08:50頃	北海道日高支庁 様似郡様似町	竜巻	1997/10/20 09:45頃	北海道胆振支庁 苫小牧市
竜巻	2006/11/07 11時頃	北海道日高支庁 日高町	竜巻	1997/10/07 12:50頃	北海道胆振支庁 苫小牧市
竜巻	2006/11/07 11:40頃	北海道日高支庁 日高町	その他(不明を含む)	1993/11/28 00:35頃	北海道胆振支庁 釧川町
不明	2006/10/12 00時頃	北海道日高支庁 新ひだか町			
不明	2006/10/11 22時頃	北海道日高支庁 新ひだか町			
竜巻	2006/10/11 22:15頃	北海道日高支庁 新ひだか町			
竜巻	2006/10/11 22時頃	北海道日高支庁 新ひだか町			
竜巻	2006/10/11 22:10頃	北海道日高支庁 平取町			
竜巻	2004/10/22 16:50頃	北海道日高支庁 門別町			
竜巻	2003/09/29 14時頃	北海道日高支庁 (海上)			
竜巻	1994/10/05 06:35頃	北海道日高支庁 門別町			
竜巻	1994/10/05 06:15頃	北海道日高支庁 門別町			
竜巻	1988/10/13 11:30頃	北海道日高支庁 静内町			
竜巻	1988/10/02 20:30頃	北海道日高支庁 えりも町			
竜巻	1985/11/12 09:05頃	北海道日高支庁 三石町			
竜巻	1980/10/31 09時頃	北海道日高支庁 門別町			

北海道 十勝地方		
現象区別	発生日時	発生場所
竜巻	2004/08/25 12:10頃	北海道十勝支庁 音更町
ダウンバースト	1994/08/10 15:15頃	北海道十勝支庁 陸別町
ダウンバースト	1994/08/10 15:15頃	北海道十勝支庁 陸別町
竜巻	1991/05/13 13:05頃	北海道十勝支庁 幕別町
じん旋風(つむじ風を含む)	1984/04/14 14:00頃	北海道十勝支庁 士幌町
竜巻	1962/05/18 09:20頃	北海道十勝支庁 中札内町

北海道 釧路地方		
現象区別	発生日時	発生場所

確認されている突風事例は存在しません。

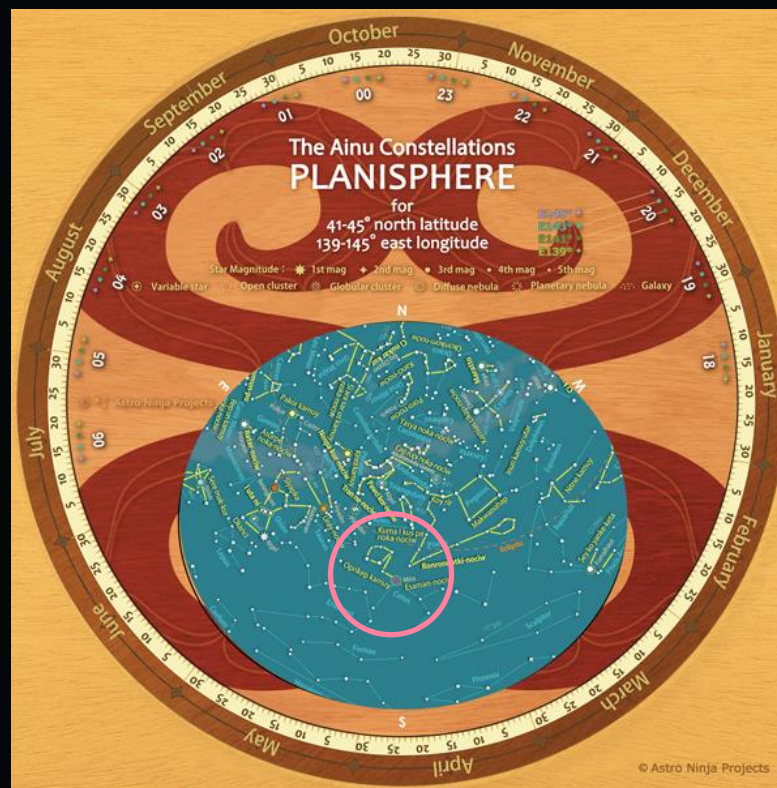
No nothing

Reference data: JMA (Japan Meteorological Agency) <http://www.data.jma.go.jp/obd/stats/data/bosai/tornado/index.html>

Autumn is the best season to see this constellation in Hokkaido. Based on the data collected by the Japan Meteorological Agency, in this season, tornados often appear in the southern and southwestern part of Hokkaido.

Characteristic Ainu constellations

Oparikep kamuy (オパリケプカムイ)



Now we can find that this constellation reflects the local weather.

I found these links between the motion of constellations and actual lives on the ground by making a planisphere. There are many other similar examples.

I found that the Ainu constellations reflects the view of the nature and traditional life of the Ainu people. It is not only by the shapes of constellations, but the motion of constellations has important meanings. I was impressed by Ainu people's keen eye to the nature.

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【Conclusion】

Deeper Investigation

Utilizing the Ainu Constellations

Now I conclude my talk.

A variety of constellations are used among Ainu people, depending on the geographical location and local traditions. It is necessary to know the variety of Ainu culture to investigate more on the Ainu constellations. Also I'd like to collect more constellations from historical books and oral literatures.

I'd like to have firm evidences that Ainu's constellations are useful to their lives.

【Conclusion】

Deeper Investigation

Utilizing the Ainu Constellations

The Ainu constellations can be a good material for astronomy outreach and tourism, because the constellations reflects Ainu's culture, climate in Hokkaido, and animal lives.

Actually I collaborate with Biratori Town in Hokkaido to utilize the constellations in tourism. I'd like to use the Ainu constellations as a good tool to know interesting aspect of astronomy.

That's all in my talk.
Thank you very much.

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