

A study on the relationship between the Japanese cultural landscape YUKIGATA and the Chinese zodiac culture

Yirui Han^{1,a,*}

¹Graduate School of Horticulture, Chiba University, Matsudo, Japan

^ahanyirui2012@yahoo.co.jp

*Corresponding author

Abstract: YUKIGATA is a pattern formed by remaining snow and black mountain surface that appears from spring to summer. In Japan, YUKIGATA is not only a natural landscape, but has also been used as a crop calendar in the past. However, because of progress in agriculture, YUKIGATA has lost its value as a crop calendar, and it has become extremely difficult to transmit YUKIGATA's culture. Therefore, it is necessary to explore the cultural value of YUKIGATA from a new perspective for the inheritance and conservation. As a result, in this study, we clarified the relationship between YUKIGATA and the Chinese zodiac culture and revealed its new cultural value. Specifically, we have examined the following aspects. Firstly, we extracted YUKIGATA in the shape of the Chinese zodiac from literature that surveyed YUKIGATA from all over Japan. Secondly, we investigated the depiction of the characteristics of YUKIGATA in the shape of the Chinese zodiac in the literature and clarified the relationship between the meaning of these shapes and the Chinese zodiac culture. Thirdly, we clarified the relationship between the use of YUKIGATA as a crop calendar and the Chinese zodiac culture. Finally, we clarified the similarities and differences in the meanings of Japanese and Chinese zodiac cultures through the relationship between YUKIGATA and Chinese zodiac culture.

Keywords: YUKIGATA, natural landscape, culture landscape, crop calendar, Relationship between YUKIGATA and the Chinese zodiac culture, Inheritance and conservation

1. Introduction

1.1. What is YUKIGATA ?

YUKIGATA is a pattern formed by remaining snow and black mountain surface, which appears from late April to early June annually (**Figure 1**)^[1]. There are two colors of YUKIGATA. One is a white pattern composed of snow that has not yet disappeared, and the other is a black pattern composed of black mountain surface surrounded by white snow. In the past, due to less developed meteorology, farmers observed the pattern that appeared on the mountains every year and used it as a crop calendar. Specifically, they compared the pattern of the remaining snow on the mountain to people who are plowing, or to farm tools and animals. Farmers observed the changes and disappearance of these patterns to judge the time of plowing and sowing. YUKIGATA is not only a cultural heritage of agriculture accumulated over time, but also a cultural heritage of the lives and memories of the people who lived in this land. According to previous studies records, Norway, Russia, China, and other countries also have snow mountain landscape like YUKIGATA. However, in these countries, YUKIGATA is not used as a crop calendar^[2]. Therefore, YUKIGATA, which is used as a crop calendar, is a unique and highly valuable Japanese cultural heritage.

1.2. Background

At the 16th conference of the World Heritage Committee held by UNESCO in 1992, cultural landscapes were defined as cultural properties and represent the 'combined works of nature and of man' designated in Article 1 of the Convention^[3].

In Japan, the concept of cultural landscape was introduced in 2004 when the Cultural Property Protection Law was revised and is described as "Cultural Landscapes are formed by the climate of a

given region and people's lives or work there and are indispensable for understanding the livelihood and work of the Japanese." [4]. YUKIGATA was selected as a candidate for a cultural landscape as a "Landscape formed by unique weather phenomena" [5]. However, owing to agricultural advances and global warming, the time of starting farming and the appearance of YUKIGATA often no longer coincide. In contemporary society, YUKIGATA has lost its role as a crop calendar. Additionally, such as the "hoe" and "plow" shaped by YUKIGATA are unfamiliar to modern people, so it is difficult to identify these shapes even if they are recorded. For these reasons, huge difficulties hinder it passing on, resulting in its inability to be selected as a cultural landscape.

Recently, the YUKIGATA "Kaguya-hime" that appears on Mount Fuji was used as a landscape and cultural resource by the local government [6]. In Japan, "Kaguya-hime" is a mythical character that is a household name. Therefore, the YUKIGATA "Kaguya Hime", which appears on Mt.Fuji, is loved by local residents due to these related legends and the active promotion of it in local newspapers and official government websites.

At present, YUKIGATA has lost its role as a crop calendar, but to pass it on to future generations as a landscape and cultural heritage, it is necessary to clarify its culture other than the crop calendar and to examine its value as a landscape and culture. Most of the research on "YUKIGATA" were conducted from the perspective of folklore. However, there have been no discussion about the shape of the "YUKIGATA" examining what cultural elements and specific characteristics it has from the perspective of cultural landscapes.

In the above folklore literature studies, it is mentioned that YUKIGATA has shapes representing the Chinese zodiac. The Chinese zodiac culture has been well-inherited and developed after it spread from China to Japan. Meanwhile, the Chinese zodiac culture in Japan has become a well-known culture like local legends such as "Kaguya Hime".

The purpose of this study is to examine the characteristics and symbolic meanings of YUKIGATA, which have the shapes of the Chinese zodiac, and their relationship to the Chinese zodiac culture and crop calendar. We also explore the landscape and cultural significance of YUKIGATA through the new perspective of linking them to these well-known cultures.



Figure 1: The YUKIGATA [Snow Rabbit] on Mt.Azumakofuji [1].

2. Methodology and Flow

2.1. About the relationship between the Chinese zodiac and the crop calendar

The Chinese zodiac here refer to Rat, Ox, Tiger, Rabbit, Dragon, Snake, Horse, Sheep, Monkey, Rooster, Dog, and Pig.

In terms of the inheritance of the Chinese zodiac culture, although Thailand and other countries also have zodiac culture, the animals represented by the zodiac are somewhat different from those represented by the Chinese zodiac. Japan has completely preserved the order of the Chinese zodiac and the meaning of most of the Chinese zodiac and derived its unique meaning according to its own national culture.

The Chinese zodiac culture has been closely related to China's oldest and most mysterious concept

of yin and yang and five elements since its inception^[7]. The Chinese zodiac correspond to the twelve earthly branches of the Bagua, and each earthly branch has yin and yang and five elements. Specifically, the Pig and Rat (Hai, Zi) are in charge of water, the Tiger and Rabbit (Yin, Mao) are in charge of wood, the Snake and Horse (Si, Wu) are in charge of fire, the Monkey and Rooster (Shen, You) are in charge of metal, and the Dragon, Dog, Ox, Sheep (Chen, Xu, Chou, Wei) are in charge of earth.

First, we must mention the relationship between the formulate of the lunar calendar and the Chinese zodiac. The lunar calendar has recorded agricultural activities and traditional festivals in each season according to the climate conditions of each season since ancient times. For thousands of years, in the lunar calendar, the year, month, day, and hour correspond to the twelve earthly branches. The twelve earthly branches are named after the twelve animals of the Chinese zodiac. Before the Meiji Restoration, the Japanese calendar was formulated according to the lunar calendar. Therefore, YUKIGATA that was once used as a calendar for crops has the shape of the Chinese zodiac, probably because the zodiac is closely related to the calendar.

2.2. About the relationship between the Chinese zodiac and landscape

In China, the Chinese zodiac culture has permeated all aspects, such as rituals, food culture, and literature. The Chinese zodiac culture has also permeated the landscape since ancient times. For example, the twelve wondrous stones "Wushan Twelve Peaks" in Hangzhou City, Zhejiang Province, are deeply loved by the locals according to their resemblance to the twelve animals of the Chinese zodiac, and folk song about them have also been derived^[7]. Thus, the oral transmission of folk proverbs and folk songs like this has a positive effect on the inheritance of landscape.

Natural landscape with the shape of the Chinese zodiac, such as YUKIGATA and the twelve wondrous stones "Wushan Twelve Peaks", are very special and valuable.

2.3. Research Flow

In this study, we investigated the relationship between YUKIGATA and the Chinese zodiac culture from the following aspects.

(1) First, we extracted YUKIGATA in the shape of the Chinese zodiac from the literature recording YUKIGATA from various places in Japan^{[8]-[10]}.

(2) Next, we investigated the shape characteristics of YUKIGATA extracted in (1) and clarified the relationship between the meaning of these shapes and the Chinese zodiac culture.

(3) Then, we clarified the relationship between the use of YUKIGATA as a crop calendar and the Chinese zodiac culture.

(4) And finally, we clarified the similarities and differences in the meaning of Japanese and Chinese zodiac cultures through the results of the investigation on the relationship between YUKIGATA and the Chinese zodiac culture in (2) and (3).

3. Results and Consideration

3.1. Result

As a result, YUKIGATA related to Rat, Ox, Tiger, Rabbit, Dragon, Snake, Horse, Sheep, Monkey, Rooster, Dog, and Pig were extracted from the literature, and their descriptions about their characteristics and their use as a crop calendar are shown in Table 1.

3.2. Investigation on the characteristics of YUKIGATA in the shape of the Chinese zodiac

3.2.1. YUKIGATA in the shape of Rat

There are few YUKIGATA in the shape of Rat. Since the Rat is in charge of "water" in the five elements of the twelve earthly branches, YUKIGATA in the shape of Rat used as a crop calendar is related to the amount of water used for irrigation in that year. The "Rat snow" that appeared on Mt. Nokogiri in Niigata Prefecture was used as a crop calendar to judge whether there was water shortage in that year. And there is a local proverb that "disappearing from the head indicates extreme water shortage and disappearing from the tail indicates relative water shortage". A similar proverb is found in the "Rat snow"

that appears on Mt.Haku in the same prefecture^{[8]-[10]}. Also, those YUKIGATA are all white.

Table 1: The characteristics of YUKIGATA in the shape of the Chinese zodiac and its use as a crop calendar.

YUKIGATA in the shape of the Chinese zodiac	The characteristics of YUKIGATA in the shape of the Chinese zodiac	Crop calendar
Rat (4)	Rat snow	Fortune-telling (Water source)
Ox (30)	Ox, Ox's neck, Ox's eye, Laying ox, Puddling ox	Planting (Rice), Seed sowing (Rice), Plowing
Tiger (1)	Descending tiger	—
Rabbit (9)	Rabbit, Sowing rabbit	Seed sowing (Rice)
Dragon (8)	Dragon, Flying dragon, Water dragon, Fire dragon	Fortune-telling (Water source), Preparation for rice planting from seedling growing, Harvesting(wheat)
Snake (2)	Snake	Plowing
Horse (50)	Horse, Running horse, Prancing horse, Plowing horse	Plowing, Seed sowing (Rice, Bean, Millet) Seedling growing, Planting (Rice), Fortune-telling (rice-gruel)
Sheep (3)	goat, antelope	—
Monkey (7)	Monkey, Worshiping monkey, Sowing monkey	Plowing, Planting (Rice),
Rooster (5)	Rooster	Seed sowing (Bean), Manuring
Dog (9)	Dog, Spotted dog, Komainu	Seed sowing (Rice, Bean) Planting (Rice), Harvesting(wheat)
Pig (1)	Boar	—

In Japanese legend, rats are worshiped by the Japanese for saving the Japanese god Ōkuninushi-no-kami from a wildfire^[11]. Since then, rat has been regarded as messenger of gods in Japan and have the meaning of bringing good fortune. In China, there is a theory in Taoism that white rats could predict disasters and are divine beasts that know the future. In the folk, although rats are revered as the Chinese zodiac, they will also show abnormal behavior before floods or severe droughts, so rats are also omens of floods and droughts^[7].

YUKIGATA in the shape of Rat are mostly white and are used to forecast droughts and floods. Water sources are related to the harvest of the year and people's lives. To sum up, the implication embodied by YUKIGATA in the shape of Rat may retain more of the implication of the Rat in the Chinese zodiac passed down from China.

3.2.2. YUKIGATA in the shape of Ox

In China and Japan, where were mainly agricultural societies in the past, cattle played an extremely important role. Due to the widespread use of cattle, there are different legends and beliefs about cattle spread throughout China. In China, the ox has the meaning auspiciousness and power. Consequently, the image of the ox, which symbolizes majesty and power, is used in ancient rock paintings and other artworks and sacrificial utensils^[7].

YUKIGATA in the shape of Ox are mostly in the posture of plowing the field, followed by the "Lying Ox" shape that expresses the lying posture of the ox. The shape of the "Lying Ox" has its own legend and meaning in Japan, so it is different from the meaning of "Ox" in the traditional Chinese zodiac. Many Tenmangu shrines, represented by Dazaifu Tenmangu, enshrine statues of ox. As the messenger of "Tenman Tenjin", the ox is widely worshiped throughout Japan. These ox statues are all presented in a

laying position. There are many legends about the relationship between "Tianman Tenjin" and ox. First, "Tenma Tenjin" (Sugawara no Michizane) was born in the year of the Ox and died on the day of the Ox. Another legend is that the site of Sugawara no Michizane 's grave is the place where the ox carrying his body could not move and fell down ^[12]. Because of those legends, most of the oxen that serve as the messengers of Tenman Tenjin are in a lying position and are called "Lying Ox". Also, "Tenma Tenjin" is enshrined as the god of agriculture. Among YUKIGATA in the shape of Ox, there is also a shape called "Ushi Tenjin" ^[9].

Thus, YUKIGATA in the shape of Ox reflects more the unique meaning of the Ox in Japanese culture than the meaning of the Ox in the Chinese zodiac.

3.2.3. YUKIGATA in the shape of Tiger

There is only one YUKIGATA in the shape of Tiger. Although the tiger was introduced to Japan as the Chinese zodiac, since the tiger is a creature that does not exist in Japan, the YUKIGATA in the shape of Tiger is only recorded in literature, and its true appearance has not been confirmed so far.

The depiction regarding the YUKIGATA in the shape of Tiger is "Descending Tiger", which has the meaning of a fierce tiger descending from the mountain. The reason why YUKIGATA in the shape of Tiger are not used as a crop calendar is probably because the tiger is not an animal familiar to the Japanese.

3.2.4. YUKIGATA in the shape of Rabbit

All YUKIGATA in the shape of Rabbit are white. As a landscape, YUKIGATA in the shape of Rabbit have been recorded in many ancient books since ancient times.

White Rabbit was widespread as "Moon Rabbit" in China since ancient times. The most famous legends about "Moon Rabbit" are "Chang'e Flying to the Moon" and "The Moon Rabbit Pounding Medicine". Japan also has the saying of "Moon Rabbit". Additionally, to the legends passed down from China, it combines with the local culture and derives its own legends. Kousagi Shrine is located on the top of Mt. Kousagi in Niigata Prefecture. This shrine is dedicated to "Tsukiyomi", the god of the moon in Japanese mythology, and "Kousagi Daijin", the rabbit who is his messenger ^[13]. Every spring, the YUKIGATA in the shape of Rabbit appears on Mt. Kousagi, and it is loved by locals as a messenger of the god ^[14].

To sum up, in Japan the legend although the rabbit is still closely related to the moon, but part of it has been separated from the Chinese mythology and is closely related to the local legend.

3.2.5. YUKIGATA in the shape of Dragon

Dragon is the only virtual existence in the Chinese zodiac. China has worshiped dragons since ancient times. It symbolizes masculinity and imperial power. Moreover, the most important characteristics of dragons are flying, reaching the sky, and raining. As the god in charge of water, the month and hour represented by the dragon are closely related to rainfall ^[7].

The culture associated with the dragon is also reflected in YUKIGATA in the shape of Dragon. YUKIGATA in the shape of Dragon are often described as flying into the air, so they are called "Flying Dragon". Additionally, since the dragon is the god in charge of the water source, YUKIGATA in the shape of Dragon are used in the crop calendar to predict the amount of water source for the year.

3.2.6. YUKIGATA in the shape of Snake

In China, the snake is also known as the little dragon because of the saying that the dragon's body shape is taken from the snake. The mysterious nature of the snake, which can be reborn by shedding its skin and has a small body, but harbors great toxicity, has been feared since ancient times ^[7].

In Japan, it is also said that putting snakeskin in the wallet will bring fortune. However, probably because the shape of the snake is very slender, it is difficult to recognize the shape as a YUKIGATA, so there are very few YUKIGATA in the shape of Snake.

3.2.7. YUKIGATA in the shape of Horse

Horses have been used by people of all ethnicities since ancient times, from farming to military. In China, due to the widespread use of horses, different horse beliefs have spread in different places. Since ancient times, horses have been worshiped as gods. There are also different legends and traditions about horse in different parts of Japan.

In China and Japan, horses and cattle are widely considered indispensable animals for plowing the

land. Therefore, among YUKIGATA that were used as crop calendars in the past, the shapes of horses and oxen are apparently the most numerous, and they are mostly used as signals for plowing the land.

Because of its dashing and free image, the horse has been regarded as a symbol of strength and good luck since ancient times. Therefore, among YUKIGATA in the shape of Horse, most of them are prancing shapes, except for the plowing shapes.

3.2.8. YUKIGATA in the shape of Sheep

In China, sheep, like oxen and horses, have a long history as domestic animals. Sheep has an "auspicious" meaning because it is pronounced similarly to "Xiang" [7]. As one of the Chinese zodiac, sheep has the same meaning in Japan [11].

But in Japan, sheep is the least well-known of the Chinese zodiac. This is because Japan has no native sheep breeds, and the climate is not conducive to raising sheep. Therefore, there are very few YUKIGATA in the shape of Sheep.

3.2.9. YUKIGATA in the shape of Monkey

As one of the species most like human beings, monkeys were worshiped by the ancients as the ancestors of human beings.

Therefore, in YUKIGATA, only the shapes of Monkey have actions like "sowing seeds" and "joining palms" like humans.

3.2.10. YUKIGATA in the shape of Rooster

As the only bird in the Chinese zodiac, the Rooster has symbolic meanings of brightness, warding off evil spirits and attracting wealth in China. In Japan, "You (Rooster)" is pronounced "tori", which means "get", and thus also has the meaning of attracting wealth and prosperity. Therefore, the "Torinoichi", a festival held annually in Japan during the month of the rooster, also has the meaning of attracting wealth and prosperity [15]. Since roosters are household poultry in rural areas, YUKIGATA in the shape of Rooster are also used as the crop calendar.

3.2.11. YUKIGATA in the shape of Dog

From ancient times, dogs are man's most faithful companion. In the Chinese zodiac culture, the Dog have symbolic meanings of warding off evil spirits and attracting wealth. There are also records of white dogs being sacrificed to the gods [7].

There are also various myths about dogs in Japan, the most famous of which is the legend of "Momotaro". In Japan, the Dog of the zodiac includes not only domestic dog, but also sacred animal "Komainu". "Komainu" is a Japanese fantasy creature often placed on either side of the entrance to a shrine or temple and resembles a combination of a lion and a dog in shape. The origin of the "Komainu" is the lion statue placed on either side of the Buddha in ancient India. The lion statues were introduced to Japan from China via Korea with Buddhism in the Tang Dynasty, and the Japanese mistakenly thought these fantasy creatures were dogs [16]. Later, "Komainu" was also integrated into the Chinese zodiac culture as the Dog. That is why the shape of "Komainu" is also found in YUKIGATA. In Japan, white dogs are also a symbol of good luck, so all YUKIGATA in the shape of Dog are white.

3.2.12. YUKIGATA in the shape of Pig

There is only one YUKIGATA in the shape of Pig. In China, the Pig in the Chinese zodiac refers to the domestic pig. In Japan, the Pig in the Chinese zodiac refers to the boar, and its symbolism is different from that in China. In China, because of its fat head and big ears, the domestic pig is regarded as a symbol of wealth, good fortune, and prosperity [7].

In Japan, the expression "chototsumoshin" is used to describe boar, which means the courage to advance. Both in China and Japan, the Pig in the Chinese zodiac also symbolizes a bountiful harvest [7] [11]. But in fact, from the beginning of the farming society to the present, Japan has had very serious animal damage such as the destruction of fields and houses due to the infestation of boars. For farmers, the Boar is not as good as the symbolic meaning stated in the Chinese zodiac culture, which is why YUKIGATA in the shape of Pig are few and are not used as a crop calendar.

4. Conclusions

In this study, we clarified the relationship between YUKIGATA in the shape of the Chinese zodiac

and the Chinese zodiac culture and obtained the following conclusions.

4.1. About the relationship between the characteristics of YUKIGATA in the shape of the Chinese zodiac and the Chinese zodiac culture

In the above investigation, we clarified that Most of YUKIGATA in the shape of the Chinese zodiac retained the symbolic meaning of the Chinese zodiac culture. In the "oxen" and " dogs" shapes of YUKIGATA, there are shapes derived from Japanese legends, showing their different symbolic meanings from those in the traditional Chinese zodiac.

4.2. About the relationship between the use of YUKIGATA as a crop calendar and the Chinese zodiac culture

YUKIGATA in the shape of Rat and Dragon are mostly used to predict the abundance of irrigation water for the year. YUKIGATA in the shape of Rat are mostly white and are used to forecast droughts and floods. Since the dragon is the god in charge of water, YUKIGATA in the shape of Dragon are used in the crop calendar to predict the amount of water source for the year. To sum up, the implication embodied by YUKIGATA in the shape of Rat and Dragon may retain more of the implication of the Rat and Dragon in the Chinese zodiac passed down from China. Horses and cattle are widely considered indispensable animals for cultivating land in China and Japan. Therefore, among YUKIGATA that were used as crop calendars in the past, the shapes of horses and cattle are apparently the most numerous, and mostly used as signals for plowing land. Since tigers and sheep are not animals native to Japan, and boars will invade the fields, YUKIGATA in the shape of Tiger, Sheep, and Pig are not used as a crop calendar.

These findings suggested that the shape characteristics of YUKIGATA in the shape of the Chinese zodiac and its use as a crop calendar are closely related to the Chinese zodiac culture. Additionally, YUKIGATA reflects not only the original Chinese zodiac culture but also the zodiac culture defined by the Japanese. It is closely related to people's daily lives and has a high inheritance and preservation value as a landscape and culture.

References

- [1] Fukushima City. (2018) *Fukushima City Landscape Formation Master Plan*. [<https://www.city.fukushima.fukushima.jp/toshikeikan/machizukuri/toshikekaku/kekan/kihonkekaku/1611.html/>]
- [2] Noguchi, Y. (2004) *Mountain Culture City Declaration Commemorative Project in Omachi, The 2nd North Alps YUKIGATA Festival, YUKIGATA Forum: Attractiveness and Possibility of YUKIGATA. Mountain and Museum (Yama to Hakubutsukan), 49.*
- [3] UNESCO. *Cultural Landscapes*. [<https://whc.unesco.org/en/culturallandscape/>]
- [4] Agency for Cultural Affairs. *Cultural Landscapes of Japan*. [<https://www.bunka.go.jp/seisaku/bunkazai/shokai/keikan/>]
- [5] Agency for Cultural Affairs. (2005) *Cultural Landscapes of Japan: Report on Research and Study on the Protection of Cultural Landscapes Related to Agriculture, Forestry and Fisheries*, 78.
- [6] Fiji Time. *The YUKIGATA "Kaguya Hime"*. [<https://www.city.fuji.shizuoka.jp/fujijikan/fujipedia/kb719c000000095i.html>]
- [7] Li, S.H. (2019) *Sixteen lectures on Chinese zodiac culture*. Contemporary World Press.
- [8] Iwashina, K. (1968) *Investigation about YUKIGATA. Folklore and Folk Art 34, 115-116.*
- [9] Tabuchi, Y. (1981) *Mountain pattern-YUKIGATA, Gakken, 89.*
- [10] Ine, Y. (2007) *List of YUKIGATA, Northern terroir, 120-140.*
- [11] Oshima, T. (2005) *Lecture "The Chinese Zodiac and Japanese". International Library of Children's Literature, 1-19.*
- [12] Collaborative Reference Database. *The origin of the "ox" enshrined at Tenmangu Shrine*. [https://crd.ndl.go.jp/reference/modules/d3ndlcrdentry/index.php?page=ref_view&id=1000156507]
- [13] THINGS. *NIIGATA LOCAL WEB MAGAZINE*. [<https://things-niigata.jp/other/kosagijinja/>]
- [14] Saito, Y. (1997) *Illustration of YUKIGATA, Koshi Shoin, 3-4.*
- [15] *The Temple of Chokoku-ji. Asakusa Tori no Ichi*. [<https://torinoichi.jp/>]
- [16] Okumiya. *Media specializing in shrines*. [<https://okumiya-jinja.com/knowledge/komainu/>]