

The Ethnoastronomical Beliefs of Mangyan Indigenous People: Case of Iraya Tribe in Occidental Mindoro

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ABSTRACT

This study explored the ethnoastronomical beliefs of Mangyan of the Iraya tribe in Occidental Mindoro. The ethnographic research design using unstructured tape-recorded interview directed the collection of data from the key informants. The findings revealed that Irayas have ethnoastronomical beliefs and practices particularly in planting, courtship and marriage, pregnancy and giving of birth, and spirits and sickness. It was also found out that only elders are the ones practicing these beliefs while the children and teenagers are not aware of such. The preservation of these cultural beliefs is challenged by many factors and seems to vanish when not given much attention. Despite the limited information provided in this study, this hopes to contribute to the additional knowledge about the ethnoastronomical beliefs of Mangyans in the country. Mainstream communities and government authorities should extend efforts and take the right actions in providing educational programs to nurture the beliefs of the Iraya tribe.

Introduction

The Philippines is the home to many and different indigenous people communities. As an archipelago, the country is bounded by various cultural beliefs and practices, not until the time of colonization. Indigenous people are still able to preserve these customs and traditions for self-determination and cultural identity. These indigenous people are practicing these beliefs, which are

rooted in history and cultural heritage. Elders, who are considered as their teachers and repository of knowledge, are obliged to translate details about their songs, chants, dances, rituals, and daily activities to the generations to preserve their ancestral domain.

One of the interesting disciplines that describe the preservation of the IP's cultural identity and self-determination

is ethnoscience. This field of study is very important in the sense that it is able to provide awareness and educative experiences to many Filipinos on the kind of niche that our indigenous people have in the country.

The province of Occidental Mindoro for example is one of the two provinces encompassed by the Island of Mindoro along with Mindoro Oriental. It is located 45 km. south of Batangas and bounded by the Verde Island Passage in the North, and Palawan Island in the Southwest. It can be reached at the South tip by a 40-minute plane trip from Manila or a 2-hour boat ride in the north tip, from Batangas Port. It is currently divided into two districts, 11 municipalities and 162 barangays (Rocamora, 2018). The current provincial capital is Mamburao located in the north while San Jose in the south is considered a key urban municipality. The provincial and municipal offices lack census data of Mangyan indigenous peoples, thus it is hard to assume that the IPs are included in the provincial population data.

In Occidental Mindoro, there are eight different and distinct groups of Mangyan namely: Iraya, Alangan, Tadyawan, Tau-buid, Bangon, Buhid, Hanunoo, and Ratagnon. They have different languages as well (Ethnic Groups, n.d.). In this province, the Irayas are found in Abra de Ilog, Paluan, Mamburao and the boundary tips of Sta. Cruz (Ethnic Groups, n.d.). The Irayas are scattered and seasonally reside in coastal areas of the northernmost and the southernmost tips of the island. There are few documented literature of the different groups of Mangyan indigene in the country. The mainstream society, on the other hand, does not have awareness in terms of the culture of Mangyan and its connection to the Filipino culture in general.

Iraya Tribe is by far one of the richest cultural tribes among the Mangyans. For centuries, they have had their own unique food preparation methods, health practices

and ways of doing their livelihood such as tilling the soil by '*kaingin*' method (slash and burn agriculture), fishing in the river, and hunting wild animals in the forest (Tuscano & Avilla, 2015). Most of the Mangyan families still live according to their own traditional way of life and culture. Each group has its own unique and rich cultural identity. The rich culture of the Iraya tribe can also be seen in how they associate their living practices in the movements and positions of the heavenly bodies observed in the sky. In the Philippines, this is referred to as the Filipino ethnoastronomy in the context of the indigenous group. As part of our local astronomy community, Dr. Dante Ambrosio wrote a book *Balatik: Kalangitan sa Kabihasnang Pilipino*, which tackles about the daily grind of ancestral Filipino root, and how they associate human affairs with the sky (Cabrera, 2014).

Ethnoastronomy has a huge potential to stimulate the public in the mainstream community because it does not only combine the social universe with observations of the celestial bodies in the sky, but also reveals how indigenous people conceive and translate them into their daily lives.

In the study conducted by Masong (2017), he mentioned that "ethnoastronomy plays a substantial role in developing civilizations and pseudoscientific beliefs that are part of their day to day living within the superposition, assumptions, and way of living. The terms they used to describe each group of stars reflected the ways of how people live, the way they plant, harvest, entertain one another, answer different questions that ran through their minds, and lastly know their place and reason for existence. These beliefs and practices on ethnoastronomy unlocked the encompassing understanding and awareness of the early Filipinos in terms of naked-eye astronomy while looking above the heavens, together with its applications in their everyday lives.

In this paper, the beliefs of Iraya tribe related to ethnoastronomy are qualitatively described. Lopez (2011) stated that ethnoastronomy as cultural astronomy brings together professionals who have very diverse academic backgrounds. He also added that astronomical knowledge engenders both in the academic world and among the public. Studies in ethnoastronomy have a huge potential for raising awareness of and promoting minority groups.

The Iraya tribe has various beliefs related to ethnoastronomy. This has been translated into their cultural practices as they have observed the positions and movements of the heavenly bodies. As part of their culture, the indigenous group have developed their own interpretations of these heavenly bodies within different cultural contexts and have woven these concepts and knowledge of sky phenomena and objects they watched into the fabric of their lives (Wiramihardja, 2013). However, lowland people particularly those in the modern culture have influenced the culture of Mangyan and have posed a danger of vanishing. Thus, beliefs and practices of the Iraya concerning how astronomically induced their traditional way of living. There are many pieces of literature and studies on the beliefs of other indigenous groups pertaining to ethnoastronomy, but few or none have presented the astronomical beliefs of the Iraya tribe. Hence, through this paper, the researchers documented the beliefs of the Iraya Tribe related to ethnoastronomy.

Purpose of the Research

This paper focused on exploring relevant and meaningful information on the beliefs of Iraya tribe related to ethnoastronomy. This study determined the ethnoastronomical practices as part of the cultures of the tribe. The ideas extracted from this study served as essential and meaningful factors in understanding the beliefs and practices of

the Mangyans of the Iraya tribe, which are still applicable up to this time. This paper then hopes to contribute information to the existing knowledge about the culture of these indigenous people, and also provide educational implications that would lead towards the preservation of cultural beliefs and identity.

Methodology

Research Design

This study is qualitative in nature employing ethnographic research design using the unstructured interview as a method. The study relied on interviewing to provide an in-depth understanding of the ethnoastronomical beliefs and practices of the Irayas. This study began with the planning phase, in which general research questions, the kind of site, and the types of participants needed were identified.

Participants

The participants of this study are four Mangyans who have wide knowledge about the ethnoastronomical beliefs and practices of Irayas. Purposive sampling was used to identify the key informants of the study. The researchers selected the participants based on the following: 1) the participants must be a resident of the Iraya community in Occidental Mindoro for many years, and 2) must be a Mangyan and must have wide knowledge about the ethnoastronomical beliefs and practices of the community.

Instruments

The main research instrument used a unstructured interview guide. The researchers prepared the general questions to lead to the description of the ethnoastronomical beliefs and practices of Irayas through the information being shared by the key informants. To document

the responses of the key informants, the researchers used a video-tape, as per consent by the key informants and the chieftain too.

Study Context

This study focused on describing the existing ethnoastronomical beliefs and practices of Mangyan of Iraya tribe in Occidental Mindoro. This study was conducted to address the gap in the few or no studies conducted yet to describe the beliefs and practices of the Irayas related to astronomy in the local settings. The researcher was able to get meaningful information from the prospective key informants who are considered the sources and repositories of indigenous knowledge on the current ethnoastronomical beliefs and practices of their communities.

Research Locale

In order to determine and understand the ethnoastronomical beliefs and practices of Mangyans of the Iraya tribe, the researchers conducted the study in two barangays which are Mamburao and Sta. Cruz. These two barangays were suggested by our guide through the Chieftain as the areas where the majority of the Irayas live. In these two barangays, the researchers managed to get appropriate information that is necessary and relevant to achieve the purpose of this study.

Data Collection Method

As soon as permission was obtained from the local officials, the researchers set the date of visit to the barangays for two days to identify possible informants, and interview them. Likewise, the researchers asked for the assistance of the Barangay Captain and tribal leader (Chieftain) to acquaint with the Mangyans and to ask their permission to be the informants in the study. Key informants were chosen based on the extensiveness of their traditional knowledge about their

ethnoastronomical beliefs and practices. A tape-recorded interview was conducted after their approval. Ethnographic interview is unstructured wherein the researchers had conversations to establish rapport with the key informants. The researchers listened to the tape-recorded interviews with the key informants and noted significant details related to the topic. There were discussions done by the researchers to compare the data gathered to determine similarities between their responses, and to identify some areas that need to be clarified.

Data Analysis

The analysis in this study involved four stages: (1) the researchers collected, noted, and described the data taken from the key informants of Iraya tribe pertaining to their ethnoastronomical beliefs and practices; (2) the researchers transcribed the data (responses) gathered from the unstructured interview; (3) the researchers identified the meaningful and relevant details and categorized the descriptions and key elements related to planting, courtship & marriage, pregnancy & giving of birth, and in spirits and sickness. Repeated descriptions were noted and patterns of beliefs and practices related to astronomy of the Mangyan of the Iraya tribe were determined; and then (4) major themes (ethnoastronomical practices of Irayas in planting, courtship and marriage, pregnancy and giving of birth, and spirits and sickness) were identified, analyzed and compared and contrast with the existing studies of the same ethnic group (Irayas) and even of the other indigenous groups in the country with the same or different beliefs and practices related to astronomy.

Results and Discussions

This study looked into the beliefs of the Iraya tribe related to ethnoastronomy. Patterns and formation of the stars as

well as the phases of the moon have great significance in the everyday lives of the Iraya tribe. The Irayas have practices and beliefs related to astronomy. The researchers interviewed members of the Iraya tribe from the identified Barangays of Occidental Mindoro which are Mamburao and Sta. Cruz. Mangyans still practice farming in relation to the moon, because they believe that it will yield more crops. Like the Mangyans, Cebuano local farmers usually start a crop, particularly tubers like camote, during a full moon. They say that planting according to the phases of the moon ensures a bountiful harvest. Relatedly, this may have scientific truths because it has been found that the moon affects the water content in the soil (Melanie, 2017).

Ethnoastronomical Beliefs on Planting

Planting is one of the important elements observed in the rich culture of the various indigenous people in the Philippines. The beliefs of the Iraya related to ethnoastronomy have something to do with the planting activity. There is a certain day of the week that Mangyan of the Iraya tribe should plant the crops to ensure a good harvest as indicated by the grains of the crops planted. One participant pointed out, *"Pagtatanim o paglalawag ay tuwing martes para bintog ang butil ng palay. Kung tawagin sa aming katutubo ay 'lantis'."* ("Planting, referred as 'paglalawag', is done during Tuesdays to have golden grains of 'palay'. For us Mangyans, we called it 'lantis'.") Mangyans just looked into the night sky and based their planting season through the presence of stars. One participant said, *"Kapag walang bituin ay hindi kami magtatanim ng palay kasi malas nga kasi walang magiging bunga 'yung tanim namin."* ("We do not plant when the stars are not out because we believe that this is bad luck; we will not have a good harvest"). In connection to the patterns of stars, the Iraya tribe believed that there will be a bountiful harvest on the particular place where the stars are formed into groups

or clusters. Another notable response, *"... minamasdan kung saan may maraming bituin kapag magpapalit ang taon, kung saan may maraming bituin, maraming aanihin. Masagana ang ani."* ("When there are plenty of stars in the sky by the end of the year, it means there will be a bountiful harvest"). Similar findings found in the study of Ibañez (2014), wherein the Bagobo people have a traditional rice planting method called *'Parubinian'* in which they observe the star formation during night time before planting anything. Heavy stars mean good harvest. For Cebuanos, when the skies are filled with thousands of stars, it is the best time to plant for it will bear plenty of fruits (Living in the Philippines, n.d.). This belief is also practiced by Maranaos with their *'Kapitmoon'* as a guide for their agricultural practices wherein they based their planting time and harvest depending on the stars visible in the sky (Obsuna & Flores, 2017).

The Iraya tribe also believed in the important role of the moon's phases in the planting of their crops. Proper timing should be observed indicating the signs of the start of the planting season. One remarkable response from the participant is, *"Sikat ng buwan tuwing Mayo ay senyales ng magandang magtanim."* ("Moonlight in May signifies the season for planting.") He also added that *"Tuwing Kabilugan ng buwan, magandang magtanim."* ("It is good to plant during the full moon."). This belief is similar to the practice of Tuwali Tribe, which is a sub-group of the Ifugao tribe, who usually prepare the rice paddies during the first quarter of the moon and start planting during the full moon. They do not plant during the new moon because of the belief that they will have insufficient harvest (Castillo & Razo, 2017). During the summer season and with the presence of rainbow, Dumagat group start their planting. Similar to the belief of the Iraya Tribe when it comes to planting during the full moon, the Dumagat only plant *'kamoteng baging'* or sweet potato (Dacula & Demegillo, 2018). A similar belief is also

found in the case study of Garming (2007) about the agricultural practice of Kalanguya people of Nueva Ecija and Pangasinan. They have rice rituals (*Hanga Ni Pagey*) wherein the Kalanguya farmers will only bring out the preserved palay seeds called '*binantol*' from the rice granary for sowing during the full moon because of the belief that the seeds will grow as large as the size of the full moon when they germinate. Also, the seedlings will grow robustly. In the study of Ibañez (2014), he shared that Bagobo farmers also practice planting during the full moon. They believe that this phase of the moon is a time for planting rice, corn and other crops. The third day from the full moon, called '*Daragmit*' is a good time for planting fruit trees, coconut, and banana. He also shared about the period of the full moon which is believed to be the best time to plant kabasal, kamote, wakag and other food crops for Mansakas.

There were also restrictions that they must follow from the preparation of the land up to planting to ensure the growth of the plants. One participant emphasized, "*Hindi pwede magkaingin kapag walang buwan, kailangan bilog ang buwan para walang mga hayop at mganda ang sibol ng palay.*" ("It is inadvisable to do 'kaingin' without moonlight. A full moon ensures that there are no animals and that the rice seedlings will germinate well."). Another participant stressed, "*Hanggat hindi pa bilog ang buwan ay hindi pa muna maaring magtanim.*" (If there's no full moon, it is not advisable to start planting.").

Ethnoastronomical Beliefs on Courtship and Marriage

Another element of the rich culture of the indigenous people in the Philippines is observed in their beliefs and practices pertaining to courting and wedding. In this study, the Mangyans of the Iraya tribe also have eminent beliefs pertaining to courting prior to the wedding ceremony. Though

there are consistencies in their responses, the key informants from different research sites shared a slight variation in their beliefs with regards to courting and wedding. One participant emphasized, "*Kapag may nakapulo (nakapaikot na mga bituin) at may dalawang bituwin na magkadikit sa gitna ay may kasalang ginaganap.*" ("Stars that are positioned as in a circle and that are alongside each other means that there has been a wedding."). Another participant also emphasized, "*Kapag may nakapaikot na maraming bituin at may dalawang magkadikit sa gitna ay may imbestigasyong nagaganap sa magsing-irog. Tatanungin kong magkakagustuhan ba 'yung dalawa.*" ("If there are many stars resemble in circle position and there are two stars inside, there is prevailing investigation where two lovers are involved. They will be asked if they really love each other."). This means that the clustering of stars has something to do with the wedding as described by the former and courting as described by the latter.

There are also instances that two lovers eloped due to disagreements among parents of the couple and shyness of the male or female lover. One participant pointed out, "*Kapag hindi nagkasundo ang mga magulang at nahiya ang lalaki o babae, parehas sila nagkagusto, ay gusto na nila, syempre sila na ang gagawa ng paraan, magtatanan na.*" ("If the parents of a young couple disapprove of a relationship, the young lovers decide to elope.") This implies that in the practice of Irayas, the parents play an important role in influencing the courtship and marriage of young couples.

The positions of the stars, as well as the presence of the moon, have something to do with this situation. Mangyans also have their practices in connection with moon and star. When a star shines beside the moon, it indicates that a man and a woman eloped. One remarkable actual statement of the participant, "*Kapag magkadikit na bituin ay ibig sabihin ay may nagtanan.*" ("Stars

that are alongside one another signify that a couple has eloped.”). Another participant shared, “*Sabi daw ng mga matatanda pag maraming bituin at ang bituin ay katabi ng buwan, iyon daw ang sabi nila meron daw mamayamaya may mababalitaan na may dalaga at binata na nagtatanan.*” (“According to elders, if there are plenty of stars in the sky and the moon is alongside the stars, a young couple is eloping.”). It can be noted that there is variation in the beliefs of the Mangyan of the Iraya Tribe when it comes to the presented scenario between two lovers. This implies that there is another side of the story translated by elders to the next generations. Contrary to the belief of Cebuanos, when a star is close to the moon, it is believed that it is the proper time to court a lady. The man’s proposal will readily be accept (Living in the Philippines, n.d.).

The wedding ceremony is also crucial in the beliefs of the Mangyan of the Iraya Tribe. They follow certain procedures as to when should be the proper date of the wedding event. This belief has something to do with the phases of the moon. The wedding ceremony officiated by the elders is scheduled during the full moon. The soon to be married couple must wait for the full moon to be given the approval of the officiating elder who will be in charge of the event. One participant emphasized, “*Ang aming pinaniwalaan doon, kapag maliit na buwan ay hindi kami nagkakasal. Nagkakasal kami kapag malaking buwan, ‘yung bilog na buwan. Halimbawa ‘yung pang 31.*” (“We believe that when the moon is small, we do not approve of marriage. A full moon is best, especially that of the end of the month.”). When it comes to honeymoon, there were no rituals shared by key informants. To add, the Yakans of Basilan Island observe interesting rituals during the honeymoon period. In the afternoon, just before the first night, the new couple spend together, each of them will be given a separate bath, so the children will not only be born clean but also stay clean throughout life (Hays, 2008).

The long-lasting relationship of the newly wedded couple is influenced by the phases of the moon. To make sure that the married couple will live together until the end of their lives, they must be understanding to each other and ensure that every simple thing must be properly settled thru open communication. A remarkable response of the participant, “*Maliit ang pang-unawa kapag maliit ang buwan. Madalas ang pag-aaway ng mga simpleng bagay.*” (“There is little understanding when the moon is small; there’s more disagreement over simple things.”). Hence, the married couple shall live together for a long period of time when their wedding ceremony must happen during the full moon. The key informant added, “*Malaki ang pang-unawa ng mag-asawa kapag malaki ang buwan (bilog na buwan). Mas tatagal ang pagsasama. Wala rin silang lagging inggitan. Mahirap kasi sa mag-asawa ung palaging may inggitan kaya hindi nakapamuhay nang maayos.*” (“The relationship of the couple will last long, become stronger and there will be no insecurities between them when they married during the full moon.”). This situation shows that Mangyan of the Iraya tribe has high respect in the meaning of marriage particularly in terms of the long-lasting relationship of the married couple.

Ethnoastronomical Beliefs on Pregnancy and Giving Birth

Mangyans also have their beliefs about pregnant women and the moon. They believed that when an expectant mother is on her last trimester of pregnancy, they looked into the moon. When it is a full moon, they are about to give birth. They also believed that when the moon is in its last quarter phase, the pregnant woman is about to give birth as well. One key informant shared, “*Ang nagbubuntis na babae at manganganak na ay tumitingin sa buwan, kapag kabilugan ng buwan kabuwanan nya na.*” (A pregnant woman is about to give birth when she gazes at the full moon.”). The participant also added, “*Kapag pahiga ang buwan, manganganak na.*”

“If the moon is in leaning position (referring to the crescent moon), the pregnant woman is about to deliver a child.”). This belief of Iraya Tribe conforms with the belief and practice of Dumagat on counting the presence of full moon from the start of conception and during the ninth full moon, the pregnant woman is about to give birth anytime soon (Dacula & Demegillo, 2018). Another belief and practice observed by Bontok woman, an ethnic group in the Northern part of Luzon, is that she is not allowed to take a bath at sunrise so she shall not give birth to an albino. The woman is also cautioned not to go to the fields alone particularly at 10 o'clock in the morning or 12 o'clock high noon to keep herself away from the envious eyes of the spirit (*anito*) along her path and cause her to lose her unborn child (Cordillera Schools Group, 2003 cited in Grey, 2016). Another notable practice of the Iraya tribe is that the husband is the one who helps his wife to deliver the baby in the absence of the elder or '*mangagamot*'.

Ethnoastronomical Beliefs on Spirits and Sickness

Just like the other indigenous people in the country who believed in spirits (either good or bad), the Iraya tribe also has beliefs when it comes to bad spirits which cause sickness particularly to the young children. This might happen when the clothes of the children are still outside, particularly on the onset of the evening time. One participant emphasized, “*Dapat ang mga sinampay na damit ay hindi pwedeng maiwan sa labas pagka gabi na kasi pwedeng sapian ng espiritu. Pwedeng magkasakit ang mga bata.*” (“Laundry should not be left hanging outside at night; bad spirits may attach themselves to the clothes. Children may get sick.”). Another common belief of the indigenous people which can be also be noted based on what the participant shared is that evil spirits are abound on a full moon. The participant stated, “*Kapag bilog ang buwan ay may naglilipanang masamang espiritu.*” (“Evil

spirits are abound on a full moon.”). The key informant did not mention or shared any belief and practice when it comes to healing of the sickness of the children caused by bad spirits. The researchers did not find any readings and studies documented pertaining to the healing of the sickness of the Mangyan related to their ethnoastronomical beliefs. Other ethnic groups in the Philippines have a ritual practices in relation to the phase of the moon and healing. In the study of Tomaquin (2013), the Mamanwas of Caraga Region has a ritual wherein Mamanwa shaman/baylan (healer) faces the direction of the full moon, reciting in some extent singing his sacred prayers (*Tud-om*) calling for the '*Abyan*' (Spirit World). He summoned the spirits of the departed wishing that they will look after the community. The Diwata/spirits revealed the coming calamity, pestilence, sickness, and danger.

Implications of the Study

The rich information and data obtained in this study showed the relevance and existence of astronomical beliefs of Mangyans who belong to the Iraya tribe in Occidental Mindoro. This study looked into the beliefs of the Mangyans related to astronomy. The ethnoastronomical beliefs of Mangyan of the Iraya tribe are still eminent and practiced by them particularly in the aspects of planting and harvesting, courting and wedding, pregnancy and giving birth, and in sickness. However, the preservation of their ethnoastronomical beliefs and practice vary in the places they're situated because some of them were influenced by the lowlanders such as civic and religious organizations, and local government units. The introduction of advancement in technologies also affects their beliefs. The key informant who is considered himself the elder (67 years old) of the community is not that sure about the translation of these beliefs to the children. He pointed out, “*Alam pa rin siguro ng mga bata kasi pinapaliwanag ko rin naman sa*

kanila 'yan." ("Children possibly know about it because we still explain this to them.").

The beliefs and practices of Mangyan of the Iraya tribe in different aspects may pose a great challenge to education particularly in its role in social transformation. This study poses a great challenge to education as a social institution and as a vehicle for social transformation. Based on the data collected, meaningful insights may be used as a practical guide to educational planners in the development of specific educational intervention programs and strategies for this type of ethnic group. Reyes (2014) mentioned in her study that educational planners play an important role in discerning a curriculum that would fit an indigenous group. The aim of education should be to help these people understand themselves and their culture better.

Educational programs that focus on becoming more responsive to indigenous life and cultures, indigenous knowledge and skills should be given importance towards protecting and preserving their rights, especially in their ancestral domains. These ancestral domains are identities of their rich cultures. Therefore, the education that they deserve is not only focused on strategies to engage them in getting knowledge and skills in mainstream education, but the most important is a curriculum that is responsive to their cultural identities. Cornelio and de Castro (2015) pointed out that implementation of community-based schools by Local Government Units (LGUS), Non-Government Organizations (NGOs) and other private/people's organizations (POs) should be sustained in the hope of enhancing and producing the desired learning outcomes in terms of reading and writing literacy IP learners as well as making sure that their cultural identity is being preserved.

Like in mainstream education, there is also a need to address the learning needs

of IPs who lack access to basic education services. It is still the education that could help IP learners towards progress and work towards the growth of their communities especially in preserving their cultural practices and self-identity. Hence, the IPEd program of the DepEd should be continuously done to further improve the status of education among indigenous groups when it comes to addressing issues on curriculum, learning materials and resources, contextualizing of the lesson plans and simultaneous conduct of trainings for teachers in the delivery of curriculum for IP communities (DO # 62, s. 2011; DO # 22, s. 2016; Alcober, 2018).

To further strengthen the information gathered in this study, document analysis and reports from government agencies and organizations may be also considered to establish wide perspectives of the current status of Mangyan Indigenous people in Mindoro. More research works in the field of ethnoastronomy particularly the beliefs of other Mangyan tribes that can be done. This will not just improve our knowledge of the extent of the practices discussed in this paper but also come to the realization on taking actions on how to preserve and nurture their cultural beliefs related to ethnoastronomy. Furthermore, this paper provides an opportunity to understand and discover the wide knowledge of indigenous groups in view of the concepts of Ethnoastronomy as one of the oldest sciences that was practiced in each region.

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References

- Cabrera, J. R. (2014). Philippine Journal of Astronomy - *The journal of the Astronomical League of the Philippines*, 6 (3).
- Castillo, J. A. & Razo, J. T. (2017). *The Ethnoastronomical practices of ifugao tribes in Banaue: Basis for preservation of culture. Comparative study and integrative analyses of persisting sexual reproductive health concepts, knowledge and practices among four Mangyan Tribes in selected indigenous communities in Occidental Mindoro, Philippines*. Retrieved from <https://idpipst.wordpress.com/2013/01/19/1029/>
- Cordillera Schools Group (2003). *Ethnography of the major ethnolinguistic groups in the Cordillera*. Quezon City, Philippines: New Day Publisher
- Cornelio, J. S., & de Castro, D. F. T. (2015). *The state of indigenous education in the Philippines today. Indigenous culture, education and globalization*, 159–179. doi:10.1007/978-3-662-48159-2_9
- Dacula, M. R. O. & Demegillo, C. E. G. (2018). The ethnoastronomical study of the Dumagat indigenous people. Retrieved from https://www.researchgate.net/publication/324483092_The_Ethnoastronomical_Study_of_the_Dumagat_Indigenous_People. Accessed October 31, 2019
- Department of Education (2011). *Adopting the national indigenous peoples education policy framework*. DepEd Order No. 62, Department of Education, Philippines.
- Department of Education (2016). *Implementing guidelines on the allocation and utilization of the indigenous people's education (IPEd) program support fund*. DepEd Order #22, s. 2916.
- Ethnic Groups. (n.d.). *Ethnic groups of the Philippines*. Retrieved from <http://www.ethnicgroupspilippines.com/people/ethnic-groups-in-the-philippines/iraya/>
- Garming, M. B. (2007). Seeking Cabunyan's blessing: Indigenous resource Management among the Kalanguya People. *The ROAD TO Empowerment: Strengthening the Indigenous Peoples Rights Act Volume II*. International Labour Organization (ILO), ISBN 978-92-2-119704-1. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-manila/documents/publication/wcms_124793.pdf.
- Grey, E. J. (2016). Cultural beliefs and practices of ethnic Filipinos: An ethnographic study. *International Journal of Management & Social Sciences*, 3 (3), 2455-2267. DOI: <http://dx.doi.org/10.21013/jmss.v3.n3.p30>.
- Hays, J. (2008). *Ethnic groups in the Philippines*. Retrieved from http://factsanddetails.com/southeast-asia/Philippines/sub5_6d/entry-3886.html
- Ibañez, J. C. (2014). *Knowledge integration and Indigenous planning in the Philippines*. Retrieved from https://www.researchgate.net/profile/Jayson_Ibanez/publication/309850213_Knowledge_integration_and_Indigenous_planning_in_the_Philippines/links/58250bf908aeb45b588f59b6/Knowledge-integration-and-Indigenous-planning-in-the-Philippines.pdf
- Living in the Philippines (n.d.). *Living in the*

- Philippines*. Retrieved from <https://www.livinginthephilippines.com/culture-and-people/philippine-culture/culture-and-traditions/1326-the-cebuanos-culture-customs-and-traditions>
- Lopez, A. M. (2011). Ethnoastronomy as an academic field: a framework for a South American program. International Astronomical Union. *International Symposium on Archaeoastronomy Proceedings IAU Symposium No. 278*. doi:10.1017/S1743921311012452
- Melanie (2017). *Sugbuanong Tuo-Tuo-Superstitious Beliefs Among Cebuanos* Retrieved from <http://queencitycebu.com/sugbuanong-tuo-tuo-superstitious-beliefs-among-cebuanos/>
- Masong, R. M. (2017). *Star Catalogues and star maps in the context of Philippine Ethnoastronomy*. Retrieved from <https://www.researchgate.net/publication/317544004>
- Obsuna, P., & Flores, J. (2017). Ethnoastronomy: An ethnographic study of Maranao Astronomy Culture and Traditional Beliefs.
- Reyes, A. S. (2014). The socio-cultural life of the Ifugao of Chaja, Mayoyao, Ifugao, Philippines: It's educational implication. *International Research Journal of Social Sciences*, 3 (2), 44-50.
- Rocamora, J. A. L. (2018). *Occidental Mindoro: A promising sustainable tourism hub: Philippine news agency*. Retrieved from <https://www.pna.gov.ph/articles/1052711>
- Tomaquin, R. D. (2013). Indigenous religion, institutions and rituals of the Mamanwas of Caraga Region, Philippines. *Asian Journal of Social Sciences, Arts and Humanities*, 1(8), 18-36.
- Tuscano, K. L. D. & Avilla, R. A. (2015). *Science concepts and practices of the Iraya tribe*. Unpublished Thesis. Philippine Normal University, Manila.
- University, Cagayan De Oro. (2017). *Some more miscellaneous beliefs relating to the moon: Would you like to know your future mate?* Retrieved from <https://www.rtu.edu.ph/?p=2834>
- Wiramihardja, S. D. (2013). *Ethnoastronomy: The sundanese of west Java and their relation to ethnoastronomy* Newsletter Center for Southeast Asian Studies Kyoto University.