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RESEARCH ARTICLE

Historical – Biographical Study on Grey-Faced Buzzard (*Butastur indicus*) from the Perspectives of the Old Folks in Sanchez Mira , Cagayan, Philippines

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Abstract

Background/Objectives: Grey-faced buzzard (*Butastur indicus*), locally known as Sawi, is a migratory raptor that pauses for stopover in the country during its trans–equatorial flight across the Pacific. Recent reports showed a gradual decline in the number of bird species as they transverse the Philippine archipelago especially in the northern part of Luzon. In this study, the researchers took into account the biographical information of the Grey-face buzzard and its historical significance to the people. **Methods/Statistical analysis:** The study employed the Historical – Biographical research design and selected informants for interview through purposive sampling technique. Interview protocol was the main tool in gathering the needed data. The study covered the barangays frequented by the Grey-faced buzzard (*Butastur indicus*) in the municipality of Sanchez Mira, Cagayan, Philippines. In particular, these are barangay Callungan, Pukel, Santiago, Marzan, and Dacal, Cagayan, Philippines. There were 80 informants included in the data collection process. Mean and percentage were applied in dealing with the statistical computation of data gathered. **Findings:** Results showed that the old folks from Sanchez Mira, Cagayan, Philippines know significant biographical and historical information about the Grey-faced buzzard (*Butastur indicus*) and the most common of which is that there was no distinct difference in the color of a male and female Grey-faced buzzard. The Grey-faced buzzards usually inhabit the dense forest areas in the municipality consuming insects living on trees as their main diet. It was commonly observed by the old folks that these raptors usually arrive in Sanchez Mira, Cagayan, Philippines during the months of March and April, and this had been consistent every year hence making Sanchez Mira as one of their frequent stopover sites during their migration periods. Different contributions of the birds such as its role in the pest control management and its potential to attract tourists were highlighted. A gradual decline in the cases of hunting were observed by the interviewees. **Novelty/Applications:** The

locale of the study makes it unique since historical – biographical information of grey-faced buzzard in this area is under studied.

Keywords: Greyfaced buzzard; historical; biographical; conservation; Philippines

1 Introduction

Across the world's major flyways, the decrease of migratory species is a global conservation problem [1]. Anthropogenic changes in environmental conditions, such as habitat loss and fragmentation, as well as human meddling in these stopover places, have been related to the decrease of numerous species [2]. Many migratory birds have experienced population losses across East Asia and Australasia, which have been widely recorded and are far better understood than land bird declines [3]. These birds' populations have plummeted in recent years, owing in part to habitat degradation and irresponsible hunting [4] [5]

Migration is a costly phase that can influence bird population regulation by affecting survival and, in certain cases, reproduction. During migration, survival is lower than during non-migratory seasons, and it varies by sex and age. Low survival rates, as well as individual decisions made during migrating and wintering, have significant ramifications for sex ratio dynamics and reproductive success [6].

In the Philippines, owing to habitat degradation due to urbanization and abandonment of rice paddies, a drop in their food supplies due to reforestation, of being hunted by bird poachers for food because their meat is considered a unique delicacy, these birds have been designated as endangered. During the winter months of their nesting grounds in Japan, Russia, and Korea, these birds can be observed in the Philippines, primarily in Cagayan, particularly in the towns of Pamplona, Sanchez Mira, and Claveria.

Sawi's migration behavior is a comprehensive long-distance, trans-equatorial migration [7]. This is one of the dominant species on the "East Asian Continental Flyway," a 7,000-kilometer overland corridor that runs from Siberia to Southeast Asia and the Indonesian Archipelago. The birds in this species move in flocks, flying in straight lines [8].

The beginning of their spring migration is in March, with small groups arriving in breeding sites in late March and early April. Autumn migration, on the other hand, occurs in great numbers in late September and October, moving faster than spring migration. During the Sawi's migration season, the Philippines, notably the towns of Pamplona, Sanchez Mira, and Claveria, in the Province of Cagayan are considered as key foraging areas and stopover sites among these migratory raptors. They would primarily build temporary nests on coconut trees and are frequently observed in flight, according to residents, before daybreak and before sunset, maybe in search of prey, and their "tik-wi" sound is audible whether they are in flight or perched hunting for prey. Regrettably, the same sound is frequently used to guide hunters to their target.

2 Materials and Methods

2.1 Research Design

The research design used in this study was the Historical and Biographical Research designs. Historical research is a systematic collection and evaluation of data to describe, explain, and understand actions or events that occurred sometime in the past, in which an attempt is made to reconstruct what happened during a certain period of time as completely and accurately as possible. In the case of this study, information about Sawi was collected, evaluated and explained from the town of Sanchez Mira.

2.2 Locale of the Study

The study covered the barangays frequented by the Sawi in the municipality of Sanchez Mira, Province of Cagayan, Philippines. In particular, these are barangays Callungan, Pukel, Santiago, Marzan, and Dakal.

2.3 Respondents

The study gathered information from 80 local residents, particularly old folks with ages ranging from 60 to 80 living in the identified locale whereby they are expected to have observed the existence of Grey-faced buzzard (*Butastur indicus*)or Sawi from their childhood days.

2.4 Research Instruments

Interview guide was the main tool in gathering data. Credible sources whose background, specializations, and expertise were checked that allowed the researchers to verify the community's knowledge regarding Sawi.

For the biographical data, site observation is a good instrument, including research and information from written primary and secondary sources.

2.5 Data Gathering Procedure

Since one of the research instruments is interview, in this part of the research, data was tabulated based on their common responses to the historical interviews presented to them. Secondly, observation data from on-site observations was noted. Lastly, efforts were done to unearth the written laws that were passed and promulgated.

3 Results and Discussion

3.1 Biographical Information about Sawi (Grey – Faced Buzzard

It can be gleaned in Table 1 that there was no distinct difference in the coloration of a male and female Grey-faced buzzard as perceived by the community folks. The grey plumage that envelops the head part is common among the birds as expressed by 71 or 88.75 percent of the respondents. A part equal to 76 or 95 percent of the total respondents stated that a dominant brown to dark brown coloration is evident in its long wings and tail. Some fine white feathers are manifested in between light brown feathers starting from the throat to the vast portion of the abdomen. This characteristic is also applicable to describe the feathers attached to its thighs.70 or 87.5 percent of the total interviewees revealed that the iris is yellow and the beak is darkish brown in hue. Its feet are covered with thick yellow skin as revealed by 78 or 97.5 percent of the total respondents along with dark sharp claws as accounted by 68 or 85 percent of the respondents. Particularly, 65 or 81.25 percent of the respondents equate the bird's appearance to a hawk and or an eagle. The above-mentioned information coincides with the result of two separate studies [4,9]. These physical characteristics were observed. This finding is a manifestation that the residents of the locale of the study are very much familiar with these migratory birds.

Table 1. Biographical Information aboutSawi (Grey – Faced Buzzard)

Key Features	Frequency	Percentage
Grey plumage that envelops the head	71	88.75
Dominant brown to dark brown coloration	76	95.00
Iris is yellow and the beak is darkish brown	70	87.50
Sharp claws	78	97.50
Appearance is comparable to hawk / eagle	65	81.25

3.2 Habitat

As seen in Table 2, 80 or 100 percent of the respondents confirmed that these migratory birds naturally reside in the thick forest expanse while 61 or 76.25 percent mentioned that they also thrive in small mountains. These areas are adjacent to open rice fields. Huge lumber trees occupies this region which in turn favors the very existence of the birds. Furthermore, it was also reported that these land sections are roughly covered with coconut trees commonly preferred as resting sites of the bird species. The grey faced buzzards often position or perch itself to trees in found in forest [10]. Farmlands and forests played an important

role in the survival of the migratory birds[11]. The result reveals that the presence of vast forested areas and mountainous topography in the community makes it a good habitat for these migratory birds.

Table 2. Habitat of Sawi (Grey – Faced Buzzard)

Habitat	Frequency	Percentage
Thick forests	80	100
Small mountains	61	76.25

3.3 Diet

Table 3 revealed that Grey faced buzzards are classified as carnivores (meat-eaters). A wide diversity of prey for the buzzard is directly associated with the kind of habitat it inhabits. Organisms belonging to class insecta are often regarded as most popular food for the raptors as stated by the respondents. Abal – abal (belongs to the subfamily of Melolonthinae of the genus Apogonia) arus–arus (belongs to the subfamily of Melolonthinae of the genus Apogonia) and rice grasshoppers (*Hieroglyphus banian*) complete the top list. The above mentioned information was observed by 80 or 100 percent. 70 or 87.5 percent of the respondents witnessed the small mammals like rice field rat (*Rattus argentiventer*) and on the other hand a particular specie of lizard dubbed as Luzon White Spotted Forest Skink (*Sphenomorphus leucospilos*) commonly known as "alibut" in the vernacular language was also observed by 66 or 82.5 percent of the respondents. This wide array of organisms was also mentioned in several studies which includes insects, rats and snakes were mentioned as seeded meal[8,12,13]. The above mentioned organisms were evident in the locality during the arrival of Sawi in the country after their trans equatorial flight. Moreover, this result clearly suggests that the community where the study was conducted houses organisms that serve as food for these migratory birds.

Table 3. Diet of Sawi (Grey – Faced Buzzard)

Organisms	Frequency	Percentage
Abal – abal, Arus – arus and Grasshoppers	80	100
Small mammals (e.g. rat), Lizard	70	87.50
Alibut	66	82.50

3.4 Vocalization

As presented in Table 4, multiple vocal sounds were imitated by the respondents with reference to the way they heard the creatures' voice. First is "pic – qee" which gives a stress at the first syllable followed by the second syllable at a long fading sound. This sound was imitated by 69 or 86.25 percent of the respondents. Second is "tic – qee" that is the contrasting version of the first one with a difference in its first letter was mentioned by 56 or 70 percent of the respondents respectively. And last is the "eeek" sound which is the usual voice created by the bird when tied in captivity. A sound that was verified by 71 or 88.75 percent of the respondents. This finding is a firsthand evidence that the respondents had already been in a close encounter with the birds. Perhaps it can be associated to the fact that they can eventually copy or imitate these sounds as these birds had been held as their captive.

Table 4. Vocalization of Sawi (Grey – Faced Buzzard)

Vocalization Sounds Produced	Frequency	Percentage
pic – qee	69	86.25
tic – qee	56	70.00
eeek	71	88.75

3.5 Foraging and Roosting Behavior

It can be gleaned in Table 5 that the birds perch on trees (particularly on coconut trees since they are abundant) nearby open rice fields or grassy lots as mentioned by all of the interviewees. They wait patiently for a prey. When the prey is already in sight, the bird lunges down in a very fast manner and grabs the unfortunate creature using its sharp and strong claws. An ambush like method (80 or 100 percent) of acquiring meal made them one of the dangerous migratory predator. Buzzards attacks in open

fields (rice field, grass field) and caught its prey using its sharp claws[13]. The attack always starts from perches adjacent to the area. This clearly explain that the respondents were also able to witness how these birds catch its prey.

Table 5. Foraging and Roosting Behavior of Sawi (Grey – Faced Buzzard)

Strategy	Frequency	Percentage
Ambush like method	80	100

3.6 Migration

As seen in Table 6, the months of March to April signal the appearance of the birds in the geographic area. This data was agreed by 71 or 88.75 percent of the respondents. There were more buzzards migrating during crosswind in spring (April to May) when the path takes them closely to adjacent country one of which is the Philippines[8]. It is the period that marks the span of the rice harvest season where people rapidly work hard in the open field, thus, enabling them to see the flight of the raptors. Moreover, the above-mentioned time frame signals the abundance of the beetles *arus – arus* and *abal – abal* which serve as a common food for them. Although this is the usual scenario, there are still reports that few birds are still lurking in the place in the month of May.

Table 6. Migration of Sawi in the Locality (Grey – Faced Buzzard)

Month Range	Frequency	Percentage
March to April	71	88.75

3.7 Historical Existence of Sawi in the Locality

It is clear in Table 7 that there are no available records as to the first emergence of migrating grey faced buzzards in the zone. Thus, the exact date when sawi transpired is unknown but community people were able to provide information as to when they had the first sightings.

According to 67 or 83.75 percent of the respondents, the Grey-faced Buzzards were seen visible in the sky back in their childhood days. It so happened that their parents would often bring them in the field during harvest season making it possible for them to see the raptors. On the other hand, 13 or 16.25 percent of the total respondents stressed that throughout their teenage years, sawi were already in sight. This reappearance is parallel to the time farmers harvest their crops starting the month of March to April. The respondents of the study are considered as late adulthood above. Therefore, historically speaking the birds had been migrating into the country for a number of years as account to their historical existence.

Table 7. Historical Existence of Sawi (Grey – Faced Buzzard)

	Frequency	Percentage
During their Childhood	67	83.75
During their Teenage Years	13	16.25

3.8 Contributions of Sawi to the Community

Table 8 presents that Sawi contributed much to the overall state of the ecosystem surrounding the area. 77 or 96.25 percent of the interviewees specified that these bird species played an important role in pest control management. The mutualistic relationship between the birds and the plants transverse in two manner. First, the insects and small mammals that infest the crops would serve as food for the buzzards. Second, the plants would be free from infestations making more productive as to overall yield. The connection is likewise applicable to trees that are abundant in the specified space. It is analogous to the advent of beetle species. As a result, a beneficial outcome was attained which favored the local farmers.

Another important contribution was the ability of the birds to attract tourists. 20 or 25 percent of the total respondents mentioned such information. This can help the place to be discovered and be unraveled to the tourists across the different Asian countries or even the world. In fact in the 2013 some Japanese started to penetrate these areas where grey faced buzzards rest from their long migration journey.

Table 8. Contributions of Sawi in the Community (Grey – Faced Buzzard)

	Frequency	Percentage
Pest Control Management	77	96.25
Attract Tourists	20	25.00

3.9 Condition of Sawi Hunting

As seen in Table 9, Sawi or the grey faced buzzard had been a target for hunting in the community because it serves as a delicacy comparable to the local menu termed as "Tinola". People tend to hunt these birds to suffice their cravings and since its free they do not spend a penny just to get one. But as time goes by, the condition of Sawi hunting in this part of the country had declined. 77 or 96.25 percent of the total respondents revealed that sawi hunting declined for the past years. The scenario was made possible because of the continuous and strict implementation of the laws protecting the migratory birds. Continuous police patrol from possible migration sites and posting of tarpaulins and distribution of flyers during migration period of the birds in the region contributed much to this abrupt fall down in the number of illegal hunting. This is a clear manifestation that the local government unit of the locality is very eager to protect and conserve these migratory birds as they lay rest in the place as their stop over.

The Local Government Unit had already crafted ordinances to protect and conserve these migratory birds. Ordinance No. 01 s. 2006 "An Ordinance Prohibiting the Shooting, Capturing, Bringing in and Selling of Sawi within the Municpality of Sanchez Mira". Sagip Sawi Coordinating Council was also established through the direct supervision of the current PCI of the said municipality. They even strengthened the implementation of existing Wildlife Act of the Philippines as contained in Republic Act 9147 that strengthens the preservation and conservation of the grey faced buzzards.

Table 9. Condition of Sawi Hunting in the Community (Grey – Faced Buzzard)

	Frequency	Percentage
Believed that cases of sawi hunting declined	77	96.25

4 Conclusion

In conclusion, the present study showed that the community folks know viable information about the biographical characteristics and historical existence of the grey faced buzzards which roost in Sanchez Mira during its migration with reference to its physical appearance or its emergence.

It was also evident that the local people recognize the important role of the grey-faced buzzard in helping farmers protect their crops from insect infestation providing a mutualistic relationship. Moreover, the buzzard contributed much in attracting foreign people to enter these hot spots for bird watching activity.

Community members are aware of the existing laws that protect the migratory birds through the efforts of the local government unit. This made a huge impact in the abrupt decline of sawi hunting related cases in the different towns.

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References

1) Beresford AE, Sanderson FJ, Donald PF, Burfield IJ, Butler A, Vickery JA, et al. Phenology and climate change in Africa and the decline of Afro-Palearctic migratory bird populations. *Remote Sensing in Ecology and Conservation*. 2019;5(1):55–69. Available from: https://dx.doi.org/10.1002/rse2.89.
2) Gilroy JJ, Gill JA, Butchart SHM, Jones VR, Franco AMA. Migratory diversity predicts population declines in birds. *Ecology Letters*. 2016;19(3):308–317. Available from: https://dx.doi.org/10.1111/ele.12569.
3) Studds CE, Kendall BE, Murray NJ, Wilson HB, Rogers DI, Clemens RS, et al. Rapid population decline in migratory shorebirds relying on Yellow Sea tidal mudflats as stopover sites. *Nature Communications*. 2017;8(1):14895–14895. Available from: https://dx.doi.org/10.1038/ncomms14895.
4) Kamp J, Oppel S, Ananin AA, Durnev YA, Gashev SN, Hölzel N, et al. Global population collapse in a superabundant migratory bird and illegal trapping in China. *Conservation Biology*. 2015;29(6):1684–1694. Available from: https://dx.doi.org/10.1111/cobi.12537.
5) Li YD, Wieland H, and Choi Chang-Yong CSU, Pavel K, Olga K, Alexander K, et al. The State of Migratory Landbirds in the East Asian Flyway: Distributions, Threats, and Conservation Needs. *Frontiers in Ecology and Evolution*. 2021;9. doi:10.3389/fevo.2021.613172.
6) Concepcion C, Bildstein KL, Katzner TE. GIS-Modeling of Island Hopping Through the Philippines Demonstrates Trade-Offs Migrant Grey-Faced Buzzards During Oceanic Crossings. *Journal of Engineering, Environment and Agriculture Research*. 2020;2:11–28. Available from: https://dx.doi.org/10.

34002/jeear.v2i0.40.
7) Nourani E, Safi K, Yamaguchi NM, Higuchi H. Raptor migration in an oceanic flyway: wind and geography shape the migratory route of grey-faced buzzards in East Asia. *Royal Society Open Science*. 2018;5(3):171555–171555. Available from: https://dx.doi.org/10.1098/rsos.171555.
8) Germi F, Young GS, Salim A, Pangimangen W, Schellekens M. Over-ocean raptor migration in a monsoon regime: spring and autumn 2007 on Sangihe, Indonesia. *Forktail*. 2009;p. 104–116. Available from: https://www.orientalbirdclub.org/s/Germi-Sangihe.pdf.
9) Azuma A. Grey - Faced Buzzard. *Bird Research News*. 2007;4(5). Available from: http://www.bird-research.jp/1_shiryo/seitai/sashiba.pdf.
10) Zaibin AP, Sant N, & P Krys K, Pramod. Grey-faced Buzzard Butastur indicus from Kamorta Island, Nicobar Islands, India: First photographic documentation. *Indian Birds*. 2014;9(4):102–103. Available from: https://indianbirds.in/pdfs/IB_9_4_ZaibinETAL_GreyfacedBuzzard.pdf.
11) Deng W–H, Wei G, Mei ZG. Nest and Roost Habitat Characteristics of the Grey Faced Buzzard in Northeastern China. *The Raptor Research Foundation*. 2003;37(3):228–235. Available from: https://sora.unm.edu/sites/default/files/journals/jrr/v037n03/p00228-p00235.pdf.
12) WU Y, FUJITA G, HIGUCHI H. What landscape elements are correlated with the distribution of wintering Grey-faced Buzzards Butastur indicus in the Sakishima Islands, southwestern Japan? *Ornithological Science*. 2006;5(2):157–163. Available from: https://dx.doi.org/10.2326/1347-0558(2006)5[157:wleacw]2.0.co;2. doi:10.2326/1347-0558(2006)5[157:wleacw]2.0.co;2.
13) Kadowaki S, Murayama T, Kojima Y. Differences in the Utilization of Cultivated and Uncultivated Paddy Fields as Hunting Grounds by the Grey-faced Buzzard-eagle, Butastur indicus. *Journal of the Yamashina Institute for Ornithology*. 2007;39(1):19–26. Available from: https://dx.doi.org/10.3312/jyio.39.19. doi:10.3312/jyio.39.19.