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Caption: Stripe-backed Weasel *Mustela strigifrons*. Medium—digital, Software—procreate, Device—iPad + Apple pencil © Dhanush Shetty.



## INTRODUCTION

Involving local communities in conservation programmes is crucial, especially in areas where people share resources with wildlife. Without understanding the local community's perceptions and knowledge about wildlife, conservation efforts may not produce expected results (Kellert & Westervelt 1984; Kaiser 1999). Among birds, owls have a special place in local culture—either positively or negatively—as they are associated with many cultural and spiritual narratives that lead to positive or negative encounters with owls that result in worship or retaliation (such as through the destruction of nests, hunting and poisoning of adults). Even though owls do have human-like forward facing eyes, they are often portrayed negatively in many societies and cultures across the world, possibly due to their nocturnal activity patterns, loud vocalisations and silent flights. However, communities across the world often have different perspectives on different owl species. It is, therefore, important to understand local knowledge about owls and peoples' perceptions about the birds.

Throughout India, owls are considered as birds of ill omen, messengers of bad luck or servants of death (Santhanakrishnan et al. 2012). In some parts of India, pale-coloured owls are considered the vehicle of goddess Laxmi and hence, people welcome owls into their homes in the belief that these birds will bring wealth and prosperity (Srivastava 1987). The same believers tend to kill owls within their homes to force goddess Laxmi to remain. On full moon nights and night of the festival Diwali, believers would sacrifice owls under the assumption that it will improve the family's wealth (Padhy 2016).

India has 36 species of owls belonging to two families namely, Tytonidae (five species) and Strigidae (31 species) (Praveen et al. 2021). Owls are persecuted and also traded. Commonly traded species are the Common Barn Owl *Tyto alba*, Indian Eagle Owl *Bubo bengalensis*, Jungle Owlet *Glaucidium radiatum*, Indian Scops Owl *Otus bakkamoena*, Brown Fish Owl *Ketupa zeylonensis*, and Mottled Wood Owl *Strix ocellate* (Ahmed 2010).

The Andaman Islands have been recognised as an endemic bird area (EBA) for a high concentration of endemic birds (nearly 32%) (Birdlife International 2021; Praveen et al. 2021), most of which require immediate conservation attention. Five species of owls—the Andaman Barn Owl *Tyto deroepstorffi*, Andaman Scops Owl *Otus balli*, Andaman Hawk Owl *Ninox affinis*, Hume's Hawk Owl *Ninox obscura*, and Oriental Scops owl *Otus sunia*—are known from the Andaman

archipelago (Image 1–5). The first four are endemic to the Islands. Despite this high diversity and endemism of owl species, information on people's perceptions of these magnificent nocturnal birds is anecdotal.

Except for a few indigenous tribal communities (i.e., Andamanese, Onge, Jarawa, and Sentinelese) and a few settlers from Burma, most of the human population in the Andaman Islands migrated from mainland India particularly from Jharkhand, West Bengal, Tamil Nadu, Kerala, and Andhra Pradesh (Vidarthi 1971). The Andaman Islands are culturally and biologically rich. So, the interaction of residents here with forests and local wildlife is often unavoidable and complex. Considering the diverse cultural beliefs among people in the area and the high degree of endemism in owls, understanding the knowledge and perceptions of local communities is a prerequisite for the future conservation of owl species in the Andaman Islands. In this context, this study was developed to document the knowledge and perceptions of North Andaman islanders on owls.

## METHODS

### Study area

The study was conducted in the North Andaman Island, which comes under Diglipur tehsil of North and Middle Andaman district, Andaman & Nicobar Islands, India. The North Andaman Island lies between 13.708°N, 92.607°E & 13.657°N, 93.173°E over 1,400.85km<sup>2</sup>. The North and Middle Andaman district comprises of 63 wildlife sanctuaries and one national park (Prasad et al. 2010). Diglipur tehsil consists of 72 villages. According to Census 2011, a total of 10,714 persons are residing in these villages. We conducted questionnaire surveys in and around six market places (Aerial Bay, Pachimsagar, Ram Nagar, Kalighat, Kishori Nagar, and Radha Nagar; Figure 1). We selected these market places because people gather here from both revenue and encroached settlements and all five species of owls were reported in these villages during our earlier survey (Babu et al. 2019). Irrespective of the settlement type, rain-fed agriculture and fisheries were the primary occupations of these islanders (Anon 2011).

### Data collection and analysis

We conducted open-ended questionnaire surveys with same set of questions but without any specific order because our objective was to create baseline information on what people know about owls and to record the beliefs surrounding these birds. On selecting





Image 1. Andaman Barn Owl



Image 2. Oriental Scops Owl



Image 3. Andaman Scops Owl - rufous morph

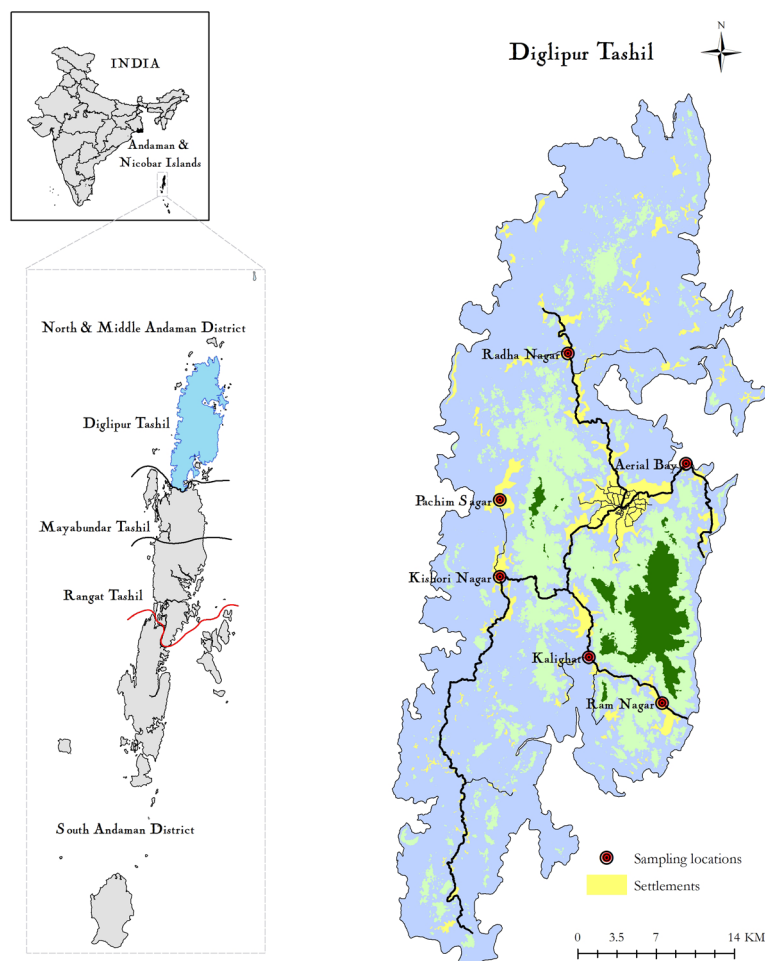


Image 4. Hume's Hawk Owl



Image 5. Andaman Hawk Owl

a participant for the survey, we described the nature of our work and inquired about his/her willingness to participate in the interview. Then, we considered them as our respondents and asked their socio-economic background (gender, age, occupation, village type, house type, and literacy level) followed by questions related to owls. We asked questions such as respondents' familiarity with owls (yes or no), knowledge of owl species in the area (one to five), identification technique used (e.g., morphology, calls, behaviour), diet of owls (prey items – descriptive) and their beliefs about owls (positive and negative beliefs; descriptive). We showed them pictures of owls and mimicked or played the calls of owls to confirm species identity. Since most of the respondents knew Hindi, all questions were asked in this language. Occupations of respondents were classified into three categories: regular workers (people



**Figure 1.** Map showing the study locations in the Andaman Islands

with employment opportunities for the entire year), irregular workers (people who work for half the year), and unemployed (people without a job). Housewives were considered unemployed for this study. The literacy level of respondents was grouped into two categories: literate (if the person could either read or write) and illiterate (if the person could neither read nor write). Settlements were categorised into two namely revenue land and forest encroachment land. Finally, the houses of respondents were categorised as permanent (concrete house), semi-permanent (walls are concrete and roof as thatched), temporary house (thatched and mud construction) and rented house. To identify the demographic factors that influence the perception of people, we ran generalized linear model with logit link for three species of owls (*O. sunia*, *N. obscura*, and *T. deroepstorffi*) using R programme (RStudio Team, 2015).

## RESULTS

### Socio-demographic details of respondents

Altogether, we interviewed 203 respondents, 57% of whom were men and 43% women, across six survey sites: Kalighat (26 people), Kishorinagar (42 people), Pachimsagar (27 people), Radhanagar (30 people), Aerial Bay (37 people), and Ramnagar (41 people). The average age of female and male respondents were 36 years (ranging 21–57) and 46 years (ranging between 21–65) respectively. Out of 203 people, 54% and 46% were considered literate and illiterate, respectively. Nearly 22% of the respondents were regular workers, 45% were irregular workers, and 33% were unemployed. Twenty-two per cent of respondents had permanent houses while 50% had semi-permanent houses. Around 20% and 8% of the respondents lived in temporary and rented houses respectively. Nearly 61% of people lived in revenue villages and 39% lived on encroached forest land.



### Knowledge about owl richness & identification

All respondents said that they have encountered the owls and have known about these birds. The respondents also confirmed the presence of owls around their houses. Amongst respondents, about 74% of them know owls as 'ullu' (Hindi: owls) and 17% of knew them as 'pecha' (Bengali: owls). Interestingly, only 9% of the people could distinguish between 'ullu' (vernacular name for owls) and 'pecha' (refers to the barn owl). However, their knowledge on owl richness was meagre. Only 9% of people could differentiate between the five species of owls and their calls. Nearly 44% (90 people) said that they have seen or heard four different species, 34% (70 people) of people recognized three species, 11% (22 people) knew only two species and only two respondents said they can recognize only one species in Andaman. People often got confused between two species of Hawk Owls (*Ninox* genus) and scops-owls (*Otus* genus) and this lead to wrong identification of owls. Interestingly, 7% of people identified Andaman Scops owl calls as "jungli murgi" (Watercock *Gallicrex cinerea*) and one respondent identified Oriental Scops Owl calls as that of a frog. A large proportion of people could identify the Andaman Barn Owl (Figure 2).

Respondents correctly differentiated owl species using three common characters—owl size, colour, and vocalization—and sometimes, a combination of these characters. *T. deroepstorffi* and *O. sunia* were largely identified based on their size difference. To differentiate *N. obscura* from other species, respondents used all three characters (Figure 3).

### Knowledge of locals about owl's prey

Figure 4 illustrates the major food items of owls, as listed by respondents of the survey. A large proportion of respondents (44% people) reported that rats are the preliminary food source followed by frogs (26%), insects (15%), and snakes & lizards (8%). Interestingly, 11 people reported that bats are the major prey of owls in the Andaman Islands. Three people said fruits are food for owls. None of the respondents mentioned birds as owl prey.

### Perception about owls

Nearly 80, 77, and 55 per cent people reported negative beliefs about *O. sunia*, *N. obscura* and *N. affinis*, respectively. Seventy-one per cent of respondents mentioned that *T. deroepstorffi* would bring good luck (positive beliefs) and nearly 59% of people were neutral about *O. balli* (Table 1). Illiterate and young persons had more negative attitudes about *O. sunia*, whereas those resides in temporary houses in revenue villages were more positive about *N. obscura*, and *T. deroepstorffi* (Table 2).

### DISCUSSION

Residents of North Andaman are familiar with owls but most of them could not identify all species in the area. This may be due to the nocturnal habits and skulking nature of owls. Owls common in and around human habitation were correctly identified by most respondents using size and calls of these owls, in

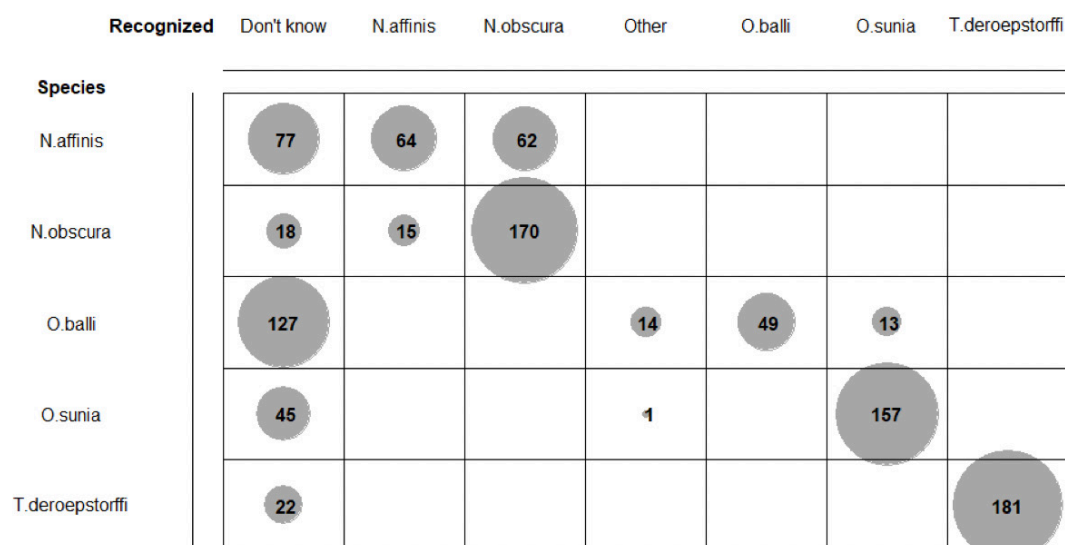


Figure 2. Familiarity of respondents in the identification of different owl species. Larger the size of circle indicates more responses.

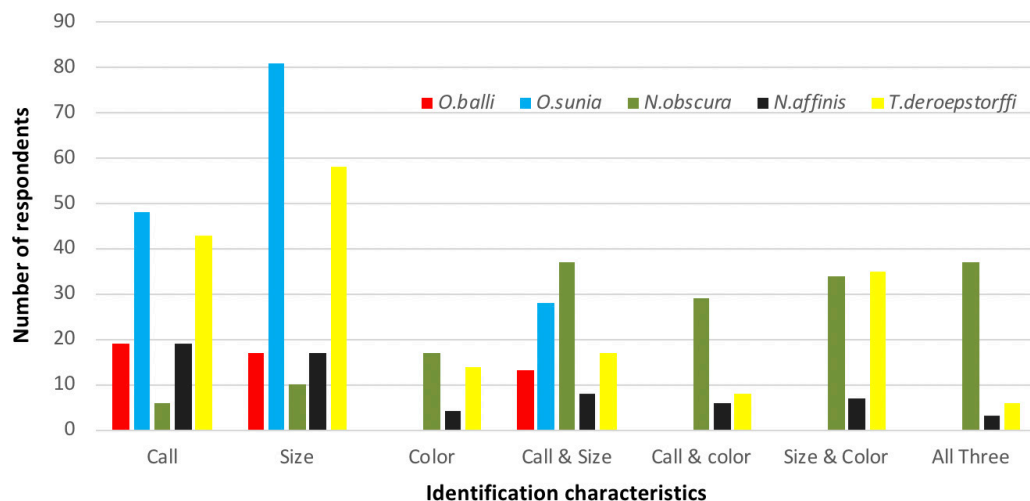


Figure 3. Morphological and behavioural characteristics being used to identify owl species by the respondents in North Andaman Islands.

Table 1. Summary of respondent's beliefs about different species of owls in the Andaman Islands.

Beliefs of respondents	Number of responses (%)				
	<i>O. balli</i> (N= 49)	<i>O. sunia</i> (N= 157)	<i>N. affinis</i> (N= 64)	<i>N. obscura</i> (N= 170)	<i>T. deroeperstorffi</i> (N= 181)
Positive beliefs					
Brings luck	1 (2%)	0 (0%)	3 (5%)	1 (1%)	128 (71%)
Beneficial	8 (16%)	2 (1%)	6 (9%)	12 (7%)	7 (4%)
Negative beliefs					
Loud vocalisations	0 (0%)	83 (53%)	6 (9%)	27 (16%)	2 (1%)
Brings bad luck	9 (18%)	36 (23%)	21 (33%)	32 (19%)	3 (2%)
Weird and threatening	2 (5%)	6 (4%)	8 (13%)	71 (42%)	26 (14%)
Neutral beliefs					
Does not disturb me	12 (24%)	20 (13%)	2 (3%)	11 (6%)	6 (3%)
Not aware of folklore	17 (35%)	10 (6%)	18 (28%)	16 (9%)	9 (5%)

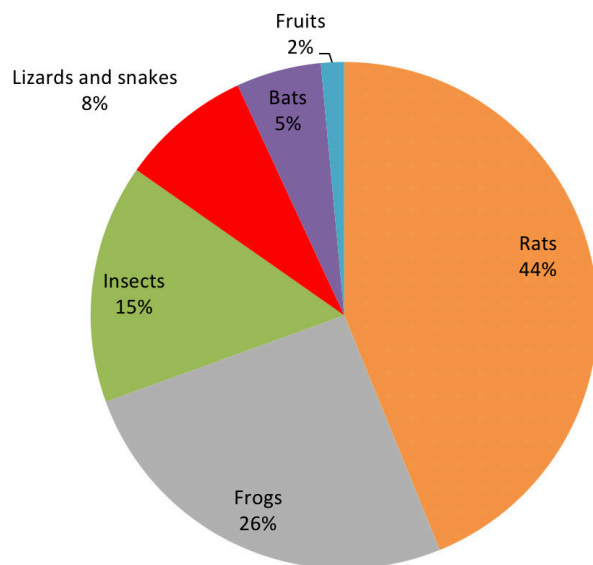
Table 2. Demographic factors influencing the perception of people about owls in Andaman Islands.

Genus	Predictors	Estimate	SE	z-Value	p
<i>Otus sunia</i> (N= 175)	Intercept	-24.360	13.33000	-0.018	0.98
	Literate	1.7360	0.50450	3.442	0.00
	Age	0.1257	0.06074	2.069	0.03
<i>Ninox obscura</i> (N= 153)	Intercept	0.8148	1.60346	0.508	0.61
	Temporary houses	1.5730	0.7569	2.078	0.03
<i>Tyto deroeperstorffi</i> (N= 181)	Intercept	1.4623	2.18893	0.668	0.50
	Revenue village	1.9042	0.498304	3.821	0.00

particular the Andaman Barn Owl (Figure 2). Most of them are aware of the ecological role played by owls, i.e., control of rodents and insects in agriculture fields (Figure 4). A majority of respondents worship the

Andaman Barn Owl, in the belief that it brings wealth to the family. However, owls in other genus (*Otus* and *Ninox*) are being killed or chased away by locals under the superstition that they bring illness/bad luck.





**Figure 4.** Diet of owls as listed by the respondents in the Andaman Islands.

In general, people show more interest towards a bird species that has high aesthetic values (colourful plumage), large body size and unique behaviours (including calls) and hence, they give more attention to those species and show keener interest to classify them using specific local names (Berlin 1992; Johannes 1993). Although all respondents knew of the presence of owls on their lands by referring to them using the common name 'ullu', they were not able to correctly distinguish all the five species. It is well known that the local community may use a single name to refer a group of animals if they are not attractive to them (Fleck et al. 2002). However, a majority of people could identify at least three genera present on the Andaman Islands (Figure 2) by their sizes. Since there are more than one species in two genera (*Otus* and *Ninox*), islanders found it difficult to distinguish species of similar size. This is because most respondents are from mainland India and Burma. Hence, they could better identify widespread species such as the Barn Owl, Oriental Scops Owl, and Brown Hawk Owl (whose call resembles that of the Hume's Hawk Owl) than endemic species such as the Andaman Scops Owl and Andaman Hawk Owl.

In the Andamans, there was a programme to introduce Barn Owls from the mainland to the Island to control rodents in oil palm plantations (Sundaramoorthy 2010). However, protests by locals against this has created an awareness among residents regarding the ecological role that owls play. This could be the reason for a higher percentage of respondents reporting rats as a major component of owl diets. Even though many

respondents considered bats as one of the prey items of owls, none considered birds to be prey. This result indicates that residents of Andaman Islands do not see owls as raptors.

Birds are better appreciated than reptiles and amphibians (Czech & Krausman 2001) but our results indicate that this statement cannot be used as a thumb rule for owls. The perceptions of people regarding the importance and conservation of owls in the Andaman Islands are likely to depend on their cultural beliefs. People rank species based on the cultural knowledge about the species (Moral & Camacaro 2011). This could be the reason for the higher appreciation of the Andaman Barn Owl by locals when compared to other species in the vicinity, because Andaman Barn Owls are culturally believed to be the vehicle of goddess Laxmi, as per Hindu mythology (Srivastava 1987). Studies suggest that unpopular and wild species receive negative attitudes from people (Bjerke et al. 2003; Røskaft et al. 2003; Lindemann-Matthies 2005; Ceriaco 2012; Almeida 2014; Alves et al. 2014). Our study on population assessment of owls in Andaman (Babu et al. 2019) revealed that *O. sunia* and *N. obscura* are highly abundant and found in wide array of habitats whereas *N. affinis* and *O. balli* were uncommon and found in specific habitats. Even though the people had higher exposure to two generalist and abundant species, they were more negative towards them. This is clear that whether the species is either popular or wild, folklore and superstitious belief play a major role in their acceptance. Andaman Barn Owls are celebrated in the 'Laxmi Puja' festival while other species are considered as bad omen, and have lower conservation values. By contrast, a study in mainland India (Santhanakrishnan et al. 2012) found that 69% of respondents have negative beliefs about Barn Owls *Tyto alba*. Higher neutral values for *O. balli* and *N. affinis* are due to their fewer interactions with humans since both species are found to be habitat specialists and forest dwellers (Babu et al. 2019).

Though differential responses were received from the people of North Andaman Island about different species of owls, three predictors were found to contribute more to their perception. Literate and older people living in temporary houses showed positive response towards these species. It is not surprising that literacy level influenced the perception positively (Heinen 1993; Fiallo & Jacobson 1995; Infield 1988). The people who have the ability to read and write are exposed to the species profiles from media and other sources so they could understand better than those that are illiterate. Older people due their higher level

of experience, knowledge and exposure to owls tend to have less belief in the folklore about species (Ceríaco 2012). Highly appreciated *T. deroepstorffi* have positive perception from the residents of revenue villages.

We summarize that *Tyto deroepstorffi* have the highest positive values among islanders and hence, it may be used as a surrogate species to create awareness about less-appreciated owls. The inherited traditional and cultural knowledge on Barn Owl would help ecologists and conservation biologists to convince locals about the similarity among the species and to reduce the negative attitudes towards other owl species. Further, both positive and negative attitudes vary with education, age, and residency. So, it is evident that lack of knowledge is the primary factor for the negative attitudes and therefore regular awareness program targeting this group may change their attitude towards owls.

## REFERENCES

- Ahmed, A. (2010). Imperilled custodians of the night: a study of the illegal trade, trapping, and utilization of Owls in India. TRAFFIC India/WWF-India.
- Almeida, A., C. Vasconcelos & O. Strecht-Ribeiro (2014). Attitudes towards animals: A study of Portuguese children. *Anthrozoös* 27: 173–190. <https://doi.org/10.2752/175303714X13903827487403>
- Alves, R.R., V.N. Silva, D.M. Trovão, J.V. Oliveira, J.S. Mourão, T.L. Dias, Â.G. Alves, R.F. Lucena, R.R. Barboza, P.F. Montenegro, W.L. Vieira & M.S. Souto (2014). Students' attitudes toward and knowledge about snakes in the semiarid region of Northeastern Brazil. *Journal of Ethnobiology and Ethnomedicine* 10(1): 1–8. <https://doi.org/10.1186/1746-4269-10-30>
- Anonymous (2011). *District Statistical Hand Book. Directorate of Economics and Statistics, Andaman and Nicobar Administration, Port Blair.*
- Babu, S., S. Sureshmarimuthu & H.N. Kumara (2019). Ecological determinants of species richness and abundance of endemic and threatened owls in the Andaman Islands, India. *Ardeola* 66(1): 89–100. <https://doi.org/10.13157/arla.66.1.2019.sc3>
- Berlin, B. (1992). *Ethnobiological Classification: Principles of Categorization of Plants and Animals in Traditional Societies.* Princeton University Press, Princeton, 354pp.
- BirdLife International (2021). Endemic Bird Areas factsheet: Andaman Islands. Downloaded from <http://www.birdlife.org> on 27.vii.2021.
- Bjerke, T., T. Ost Dahl & J. Kleiven (2003). Attitudes and activities related to urban wildlife: Pet owners and nonowners. *Anthrozoös* 16: 252–262. <https://doi.org/10.2752/089279303786992125>
- Census (2011). Primary Census Abstracts, Registrar General of India, Ministry of Home Affairs, Government of India. Available at: [http://www.censusindia.gov.in/2011census/PCA/pca\\_highlights/pe\\_data.html](http://www.censusindia.gov.in/2011census/PCA/pca_highlights/pe_data.html). Accessed on 14.vii.2021.
- Ceríaco, L.M.P. (2012). Human attitudes towards herpetofauna: The influence of folklore and negative values on the conservation of amphibians and reptiles in Portugal. *Journal of Ethnobiology and Ethnomedicine* 8: 8–15. <https://doi.org/10.1186/1746-4269-8-8>
- Czech, B. & P.R. Krausman (2001). *The Endangered Species Act: History, Conservation Biology, and Public Policy.* Johns Hopkins University Press, 212pp.
- Moral, F.D. & F.L. Camacaro (2011). Records of occurrence of the Andean Bear (*Tremarctos ornatus* Cuvier, 1825) in its northeastern and southern distribution limits. *Revista del Museo Argentino de Ciencias Naturales Nueva Serie* 13(1): 7–19.
- Fiallo, E.A. & S.K. Jacobson (1995). Local communities and protected areas: attitudes of rural residents towards conservation and Machalilla National Park, Ecuador. *Environmental Conservation* 22: 241–249.
- Fleck, D.W., R.S. Voss & N.B. Simmons (2002). Underdifferentiated taxa and sublexical categorization: an example from Matsigenka classification of bats. *Journal of Ethnobiology* 22: 61–102.
- Heinen, J.T. (1993). Park-people relations in Kosi Tappu Wildlife Reserve, Nepal: a socio-economic analysis. *Environmental Conservation* 15: 25–34.
- Infield, M. (1988). Attitudes of a rural community towards conservation and a local conservation area in Natal, South Africa. *Biological Conservation* 45: 21–46.
- Johannes, R.E. (1993). Integrating traditional ecological knowledge and management with environmental impact assessment, pp. 33–39. In: Inglis, J.T. (ed.). *Traditional ecological knowledge: concepts and cases.* Ottawa: International Program on Traditional Ecological Knowledge and International Development Research Centre, 39 pp.
- Kaiser, F.G., S. Wolfing & U. Fuhrer (1999). Environmental attitude and ecological behaviour. *Journal of Environmental Psychology* 19(1): 1–19. <https://doi.org/10.1108/17471111311307787>
- Kellert, S.R. & M.O. Westervelt (1984). Children's attitudes, knowledge and behaviors towards animals. *Children's Environments Quarterly* 1: 8–11.
- Lindemann-Matthies, P. (2005). "Loveable" mammals and "lifeless" plants: How children's interest in common local organisms can be enhanced through observation of nature. *International Journal of Science Education* 27: 655–677. <https://doi.org/10.1080/09500690500038116>
- Padhy, S. (2016). Over-religious Activity, A Threat to Biodiversity: A Case Study (2): Save the Owl (Aves: Strigidae). *Journal of Biodiversity* 7(2): 104–109. <https://doi.org/10.1080/09766901.2016.11884763>
- Prasad, P.R.C., K.S. Rajan, C.B. S. Dutt & P.S. Roy (2010). A conceptual framework to analyse the land-use/land-cover changes and its impact on phytodiversity: a case study of North Andaman Islands, India. *Biodiversity and Conservation* 19(11): 3073–3087. <https://doi.org/10.1007/s10531-010-9880-3>
- Praveen J., R. Jayapal & A. Pittie (2021). Checklist of the birds of India (v5.0). Website: <http://www.indianbirds.in/india/> [Date of publication: 29 March, 2021].
- R Core Team (2021). R: a language and environment for statistical computing, version 3.6.0. R Foundation for Statistical Computing. Accessed July 2021. <https://www.R-project.org/>
- Røskaft, E., T. Bjerke, B.P. Kaltenborn, J.D.C. Linnell & R. Andersen (2003). Patterns of self-reported fear towards large carnivores among the Norwegian public. *Evolution and Human Behavior* 24: 184–198. [https://doi.org/10.1016/S1090-5138\(03\)00011-4](https://doi.org/10.1016/S1090-5138(03)00011-4)
- Santhanakrishnan, R., A.M.S. Ali & U. Anbarasan (2012). Knowledge about Owls among general public in Madurai District, Tamil Nadu. *Newsletter for Birdwatchers* 42(3): 1–35.
- Srivastava, A.L. (1987). Ulūka-Vāhinī Lakṣmī. *East and West* 37(1/4): 455–459. <https://doi.org/10.2307/29756829>
- Sundaramoorthy, T. (2010). Bird diversity of Andaman and Nicobar Islands. *Eco News* 16(1): 3–8.
- Vidyarthi, L.P. (1971). Cultural diversities in the Andaman and Nicobar Islands: a preliminary report. *Indian Anthropologist* 1(1): 80–92.

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