

# Exploring the Philosophical Learnings from Ornithology: Lessons from the visit to Keoladeo National Park



**Dr. Snehil Kacker**

Assistant Professor, Department of Political Science, Lady Shri Ram College for Women, New Delhi (Delhi)

## Abstract

*Keoladev National park is a popular bird sanctuary for migratory birds. The paper is the result of a visit to the National Park. It deals with Ornithology and is an attempt to understand the science and philosophy of birds. The study is based on observation, reflections and discussions made during and after the visit. The essence of this work is not limited to the knowledge gained but also encompasses the broad framework of philosophical underpinnings of Ornithology. In the course of understanding the behavior and nature of birds, an effort has been made to explore the lessons which can be learnt from these simple yet profound creatures. This paper is also an effort to understand the deeper meaning of life of birds through an understanding of concepts in Indian Philosophy and Universal Truths. Thus an attempt has also been made to establish the presence of Dharma, Karma, Aparigraha and Asteya in the life of a bird. Through this connection between philosophy and Aves, the deeper lessons for human beings are learnt. Universal lessons in being fearless, detached, rooted among others are important lessons for life drawn from the life of birds.*

**Keywords:** *Ornithology, Philosophy, Knowledge, Migratory Birds*

## Introduction

A flying bird can become a sight of liberation, a bird feeding its young ones can stimulate activity and a singing bird can soothe a tired mind. Generally, we look at birds with a sense of aesthetics. Interestingly, there is a science about studying them. Ornithology or the science of birds is a scientific study of birds which deals with their behavior, migration patterns, habitat among others. Apart from the science of Ornithology, it has also been a subject of interest for other disciplines.

In this paper an attempt has been made to understand the philosophical basis of Ornithology and through this understanding, an effort has been made to establish a relationship between the philosophy of the feathered beings and our ancient Indian philosophical thought. Since ancient times,

efforts have been made to understand the nature of birds, their flight, fight, patterns of movements, behavior in unknown surroundings and their ability to memorize, recollect, adjust and accommodate. The scholar became interested in this science and philosophy of avians on account of a visit to the Keoladev National Park, Bharatpur, Rajasthan. The visit was unintended at any scholarly exploration. However, the guidance and inputs received during the visit, made the scholar deeply intrigued and amazed at the behavior and performance of birds in an ecological set up, which though foreign to the avians is made suitable by themselves. As a student of social science with a keen eye for inter-disciplinary study, the visit ended up being the subject of understanding the philosophical nature of Ornithology.

The paper tries to address the following Research Question-

What are the philosophical learnings from Ornithology?

Other related questions are-

How Indian Philosophical ideas find place in an avian life and how can human beings learn from their behavior?

### Statement of Objective

- The paper is an attempt to understand some of the deep philosophical ideas in Ornithology.
- It also analyzes the relation between Ornithology and philosophical learnings found in Indian philosophy.
- The paper reflects upon the learnings from avian life and draws lessons for human beings to lead an engaging, meaningful and contended life.

### Methodology

The research is qualitative in nature and is mainly based on observation. As stated earlier, the paper is a result of a visit to Keoladeo National Park without any pre decided scholarly intention but the visit was so academically stimulating and engaging that it ended up into a research. Thus data collection has also been qualitative and the analysis is based on reflection. Since the study is based on birds in a natural surrounding, the research relies both on observation and discussion (with the rickshaw-puller, guide and the priest at the temple). Secondary sources have also been used to substantiate the research.

The paper is divided into three broad parts-

The first part deals with study of the birds during the visit. The second part covers the philosophical learning's from Ornithology based mainly on Indian philosophical thought and comparison with Stoicism .The third part discusses the lessons to be learnt from Birds.

### The study of birds and their behavior during the Visit to Keoladeo National Park

Keoladev (meaning Keval ek Dev, i.e. only one Dev or Mahadev, Lord Shiva) National park is situated

in Bharatpur, Rajasthan and is well known as a wintering ground for migratory birds like Siberian crane, Eagle among others but also provide breeding ground to other non-migratory birds. It is a pleasant sojourn for more than 375 bird species. Situated at the central Asian flyway, its location is quite suitable to the migratory birds who rest here before they fly to other regions. It is a park which covers grasslands, woodlands as well as wetlands and swamps. Water supply depends upon rainfall and water from the dam. (UNESCO) This place is preferred by birds because it provides right temperature, seasonal support and water to sustain them in this temporary homestay. The depth of the water is 5-6 inches, which is shallow enough to eat their prey in water. This depth is much better than running water elsewhere.

The scholar had basic information about the National Park without much knowledge of the birds, thus when the visit took place in the month of September, 2022 many migratory birds were not seen. Most migratory birds visit the Park from October onwards. Despite this drawback, there were sufficient birds to provide nourishment for thought. The visit was covered by rickshaw and aided by a guide. All the birds which were observed had different work culture, trait, sound, behavior and pace. What was common to all of them was the ability to work hard without the fear of being observed or monitored. They were all at work or without work, but they were agile, and inspiring automatons. The place was quiet and serene despite the presence of bird watchers, tourists, guides and rickshaw pullers.

### The Tour—Introduction to some of the birds

The guide introduced some of the bird species. It is worth mentioning about them and their specific traits.

**Painted Stork:** These birds are social beings and prefer being in groups. The sociability factor is quite high in these species. They perform group exercises and both male and female birds train themselves for post hatching care work of the young ones. It was a rare sight to behold these

birds sitting on trees and open their feathers, but what was spectacular was being in that position for at least fifteen minutes to practice protection of the young ones under the feather shield once they are born! (figure. 1) The scholar was amazed at the level of planning and preparation. It is a lesson for us all who at the most prepare homes rather than making ourselves healthier and sturdier to take care of the new born. Even if preparation has to be done, it is mostly a woman's activity. Men are comparatively free from preparing their body, mind and soul to welcome the little one. Apart from these specific traits, the Painted Stork are also a rich source of information to know the impact of environment change. The impact of urbanization and the resultant adjustment of these birds have been studied in detail. (Urfi, 2006)

This equality is not only found between the male and female Painted Stork but also between the painted stork and Sambar (*Rusa unicolor*), a kind of deer. The Painted Stork sits on the Sambar and neither trouble each other (figure. 2). Sambar is herbivorous and painted stork eats ants and other water species but both make a pleasant sight being together. Some birds sit on the animals and eat ticks on their skin helping the animal to get rid of them. Two different species of two different food preferences but both are at peace with one another. This brings us to the contemporary crisis of man animal conflict. At the root of it, is the hedonistic motive of man of conquering nature. This has led to destruction of forests which are the homes of animals. The selfish way of living which considers natural resources only have instrumental value has led to environmental crisis and is called Shallow Ecology. Contrary to this is the thinking of Deep Ecology which believes in the intrinsic value of all living beings. This promotes harmony and peace. It believes in the innate quality of each one of us. This picture is a beautiful example of peaceful living with others without the feeling of 'alienating' or 'othering' the other. There is no clash of interests but only love and concern.



Fig. 1: Painted Stork



Fig. 2: Painted Stork sitting on a Sambar.

**Black necked Stork (*Ephippiorhynchus asiaticus*):** These birds are opposite to the painted Stork in their nature and behavior. They are solitary birds out of choice and consider themselves Royal, therefore do not mix with the lesser beings. No wonder, they are less protected and more vulnerable to attacks and hurt. At present, they are

in the endangered list of birds. It is believed that earlier in Bihar the groom to be was supposed to catch the Black neck stork (loha Saran) before marriage. The bird acted so aggressively that it lead to a human death. Since then the practice has been abandoned. (Thai National Parks) The behavior of these birds teach us that humility is a virtue which keeps us grounded but also protected. Sociability is not a bad idea. A comparative study of the behavior of these two species of birds show that Painted storks live in community and Black necked stork are generally non -social. But the preferences are life supportive for one species and life threatening for the other. The lesson is sociability, community living is life sustaining and isolated living with an air of smugness is meaningless. In our interconnected globalized world, do we have real interconnections or are we lonely in an overcrowded earth? The Black necked stork tutors us to leave the high towers and closed palaces of pride, attitude and selfishness lest we be soon in the list of being endangered and declared sub humans.



**Fig. 3: Black necked Stork**

**Asian Openbill:** They are large birds of the stork family and derive their name from the gap be-

tween recurved lower and the arch shaped upper mandible of the beak. This peculiar shape of the beak is purposive so as to eat moluscs, snail (in case of the Keoladev national park commonly called 'Ghongill' from the water). A study of these birds show that they employ different ways to feed themselves. (Anam et al., 2016)



**Fig. 4: Asian Openbill**



**Fig. 5: Strited Heron**



**Fig. 6: Snakebird**



Fig. 7: Owl

Apart from them, some other birds which could be seen during the visit were, Striped Heron (figure 5), snakebird (figure 6), owls (figure 7), black and white kingfisher, monitor lizard, grey night jar, whistling duck, oriental neck pie, red vented bulbul, white cheek bulbul, yellow bottom bulbul and the Indian Roller (Neelkanth)

### The Temple

The visit also took us to a temple built in the park and the priest who takes care of the temple. It was a peaceful place not only because it is a temple but also because it reflected peaceful co-existence between monkeys, Birds, cats, tortoise, neelgay (*Boselaphus tragocamelus*). We were informed that Neelgay and deer are common sight in the park and whenever they are injured they are brought to the priest of the Sita Ram temple who takes care to heal them.

The priest was working there for the past forty years dedicating his life to the service of the animals. (The visit took place in 2022). Young ones of deer and Sambar are fed by milk bottles and they are sent back to the park. This peaceful living among different animals, birds, amphibians not only provide lessons in living but also inspire us to understand the questions of life itself.

In this manner, the observation of the birds and the ecosystem in the national park made us realize that there is much to learn from the birds, their behavior and their lives. At the same time, these observations lead us to reflect upon the

deep philosophical knowledge embedded in the Avian life. A serious study will demonstrate that these birds live their lives in the most disciplined manner and constantly move towards the achievement of the ultimate aim just as prescribed by our Indian Philosophical thought. This Philosophy of birds has parallel in Ancient as well as contemporary philosophical thought.

The next section explores the philosophical learnings from the visit and Ornithology at large.

### Philosophy of Birds and presence of the main tenets of Indian Philosophy

**Dharma and Ornithology:** Dharma is derived from the word, 'Dhri' in Sanskrit, which means to uphold, to sustain, to support, Dharma cannot have an exact translation in English, yet we can understand Dharma as a duty, justice, law, principle, right, ethics, religious merit. The performance of Vedic ritual by the Brahman is Dharma. At the same time, it is domestic rituals and fulfillment of obligations. In all, it is a wide ideology that covers everything moral. (Billimoria, 2004) One's behavior is guided by Dharma.

The presence of Dharma in Avian life can be best understood with the help of a common image. A small bird strongly perches on the branch, clings to it even in the worst rain or storm. The tiny creature performs its Dharma even in the worst situation. Dharma is performance of duty. In birds, the continuous activity of making provisions of food and shelter on a daily basis is an extremely exhausting exercise yet it does not hinder the birds to perform their Dharma. Dharma and its due performance is a lesson worth learning from the life of birds.

**Karma and Ornithology:** With the notion of Dharma is closely associated the concept of Karma. Coming from the word Kri, it means to do, virtual action. Another meaning is morally charged action, good or bad that is constantly charging something to one's account. Karma of the present has consequences in future. (Doniger, 2013)

The philosophical understanding of Karma might not be comprehended by the birds but the practi-

cal aspect of Karma is reflected in their lives and it's diurnal course. A bird's life is a life of intense action. The first and the last natural music of the day is the chirping of birds. Joy, laughter, excitement are mixed in these songs of mirth. Sometimes melancholy, pain also resonates. However the extraordinariness of these tiny creatures lie in their indefatigable spirit of action. Every day is a fresh account for them with no credit, no debit and zero savings. The voracious risk taking appetite of birds is unimaginable. Every day moving out of their nests to fetch food and water without any tool or equipment to work with, is a challenge in itself. All they have is their wings, bill and courage, but they still move out to make provisions for their family. It is courageous to venture and navigate in an environment which is unsafe, predatory and aggressive. Climate change and Global Warming have intensified these challenges. Yet, they perform their duties and nurture their actions with diligence and determination.

**Aparigraha and Ornithology:** Aparigraha means non-accumulation and non-attachment can help us lead a life of complete freedom and detachment helps us to follow a minimalist approach towards life by taking only what is essential and minimum for our existence. According to Maharishi Patanjali, when steadfast in non-possession, there is knowledge of 'the how' of existence (Chapple, 2008)

This results in freedom from materialism. Thus the path to knowledge becomes clear as the obstacle of attachment and related anxiety is removed. The fundamental questions of life and its course can be understood with better clarity.

"When I let go of what I am, I become what I might be. When I let go of who I am, I receive what I need." Lao Tzu words explain non attachment in a beautiful manner.

If we make parallels of Aparigraha with Ornithology, we realize that the concept of Aparigraha finds its place in the life of birds. Birds do not hoard, they prepare. Every day when they proceed to make provisions for food, they have nothing and they take long flights only to come back with the most minimum required and start again

the next day. This is very clearly seen in migratory birds who travel long distances but carry nothing with themselves. They are not worried about what they have left nor what lies on their destination but are just free from the past as well as of the future. They are neither attached nor possessive.

This can also be explained with the help of a process which is specific to birds. It is called 'moulting' (Beltran et al, 2018). A process in birds where they shed their feathers and acquire new ones. This is a difficult process and require patience and poise. Till the time moulting takes place, birds are quiet and calm. It is difficult to imagine the plight of birds at the time of loss of an important asset. Without getting depressed, they prefer being in a state of stillness and detachment. But beyond detachment there is hope to have new feathers.

The philosophical understanding of this process gives us a lesson in detachment. Our material possessions are merely temporary and do not add to our being. The real possession is magnanimity and maturity which encourages us not to hold on, but to move on. The bigger lesson is not to rush but to take time and work upon oneself to reach the next level, just as birds do.

**Asteya and Ornithology:** *Asteya* literally means non-stealing. But at a higher plane, it means abandonment of the desire for possessing anything. Thus the fullness of life is to be found in contentment. Contentment leads to gratefulness for what we have. In this manner there is no scope of jealousy and competition. On the contrary there is a prayer for overall well-being, peace and prosperity. As it has been well stated in the Shanti Paath

Om Dyau Shanti Rantariksha Gwam ShantiPrithvi  
Shanti Rapah

Shanti Roshadhayah Shanti Vanas Patayah Shanti  
Vishwed Devah Shanti Brahma Sarvag Wam

Shanti Shanti Reva Shanti Sa Ma Shanti Redhi Om  
Shanti Shanti Shanti

Unto the Heaven be Peace, Unto the Sky and the  
Earth be Peace, Peace be unto the Water, Unto the

Herbs and Trees be Peace, Unto all the Gods be Peace, Unto Brahma and unto All be Peace. And may We realize that Peace.

Om Peace Peace Peace

In the words of Mahatma Gandhi, *"Asteya (Non-stealing) does not mean merely not to steal. To keep or take anything which one does not need is also stealing. We are not always aware of our real needs, and most of us improperly multiply our wants and thus, unconsciously, make thieves of ourselves. One who follows the observance of non-stealing will bring about a progressive reduction of his own wants. Much of the distressing poverty in this world has risen out of the breaches of the principle of non-stealing."*

Gandhi goes deeper and believes that unclaimed objects taken by someone is also theft, contemplating food in fasting is theft and stealing an idea is theft too. Thus the thought of possessing somebody's property is an equal or baser evil than actually robbing it (Gandhi, 1932).

Thus Asteya means limiting our needs to the bare minimum, even if we enjoy a resource when others are bereft of the same is theft. Hence Gandhi gave a wider meaning to the vow of Asteya. The contemporary trend of Minimalism is founded upon this strong idea of non-hoarding and mindful consumption.

Coming to the idea of Birds practicing Asteya, they appear to be contended beings. Their small nests are not made to hoard but only to provide space to live, that too for short duration because they are mostly flying. Even when they are flying, they do not make elaborate preparation to stuff food, water and other essentials. They simply fly. This is a serious joke on the way humans live. Life is a continuous series of planning, preparations, hoarding and saving. From birth begins this tendency to accumulate for the future. Investments with returns later, be it fixed deposits or investment in children, the net objective is to get benefits in future. Not only this, being doubtful about one's ability makes one fearful to achieve the desired objectives. This comes with too much reliance on the bad experiences of the objectives. This generates a counterproductive strategy to

hoard more even at the cost of loss of joy, peace and contentment. The world will be a better place if we can learn the lesson of unbound but prudent living from birds. This will make us simple, humble and more grounded. Birds inspire the scholar to move beyond greed and possession towards contentment.

### **Stoicism and similarities with Hindu Philosophy and Ornithology**

The lessons from Ornithology do not only find a place in Hindu Philosophy but in Stoicism too. As in Hindu Philosophy there is emphasis on Dharma, so also in Stoicism, living according to Nature is considered a virtuous living. As in Hindu Philosophy, acceptance of suffering is wisdom, so also in Stoicism, trials and tribulations are to be accepted with grace. What is understood as Asteya in Hindu Philosophy, also reverberates in Stoicism. Stoicism also teaches focusing on only what is under one's control and remain detached (Srinivasan, R. et.al, 2025).

The universal principles of Duty, action, detachment are found in Hindu Philosophy as well as in Stoicism. These philosophies are beautifully demonstrated in the lives of birds.

### **Lessons from Ornithology**

**Birds teach us to be Anchored and rooted:** Migratory birds take long flights. These little aves have a strong sense of direction which helps them navigate skies in a dexterous manner. This is just a part of the story, what is more remarkable is their ability to repeat it every year without forgetting the path and direction undertaken in the previous year! This scientific mystery can be explained with an example of Godwit. This bird travels more than 7000 miles in one go, the distance between Alaska and New Zealand. That means flying non-stop for one week at 45 miles per hour. The weight of Godwit is only 250 gms. What is all the more surprising is that during this non-stop flight it allows one half of its brain to sleep while flying with the other half. Peter Hore of Oxford University has tried to solve this mysterious flight. He has studied the impact of electrons and the magnetoreception of birds.

Through his experiment he has been able to understand that birds can detect Earth's magnetic field with reliance on quantum effect and can clearly 'see' Earth's magnetic field lines and use the same to guide them to their migratory haven (Hore & Mouritsen, 2022).

Cuckoo too is a migratory bird which migrates and comes back exactly to the same place every year. Cuckoo is not raised by her parents as she takes birth in another birds nest. Yet the young one takes her migratory flight and reaches her destination without being schooled for it but this spatio temporal mapping is inherently found in cuckoos. What is even more remarkable is that young cuckoos follow the same route after getting displaced in migration just as adult experienced cuckoos do (Thorup et. al, 2020). Migratory birds come to Keoladev National park at the same time as the previous year. This is beyond GPS and related technological advancements but not beyond serious thought. Apart from the scientific knowledge drawn from these birds, the philosophical lesson hold greater value. This is a lesson in not only direction but also finding our way amidst difficulties and distractions. With this refined sense of direction, birds teach us to be able to continuously work towards something higher and still remain grounded. It is to remain anchored to something valuable in our lives and keep coming back to it again and again, just as these migratory birds do. These fluffy birds inspire us to soar high and far yet come back to our roots. This is an important lesson to us all. In the world of globalisation and Mcdonalisation, there is an enormous amount of regimented uniformity. In the name of global village, self- declared headmen are forcing homogeneity. Generations are badly affected by this trend. Amidst this turbulent impact, many regional and local cultures are dying. Cultural and linguistic rootedness are challenged by westernization and urbanization. Again, in this context the migratory birds teach us to be rooted and anchored. We can take long flights and settle in distant lands, but we must stay true to our original selves, to our roots and to our foundation. This is the core of our being

and this is the elixir of life which sustains us even in the worst situation, just as birds do.

**Be fearless like Birds:** Although Eagle is considered the King of Birds and symbolize bravery but little Robin who is just few cms tall is very particular about protecting its territory (Dubois, et.al, 2019). It is very aggressive towards other robins and male rivalry is strongly found in the species. Robbin also takes on birds stronger and bigger than it. It can even fight with its own reflection not only Robin but other little birds soar above their ability to take on the bigger ones. Keeping aside the aggressive behavior of Robin, this little bird teaches us to be fearless and only rely on our courage. It also inspires us to be confident about our appearance. Little Robin gives a powerful message about life. Though it's ephemeral as long as one lives, it should be filled with energy and confidence. If we take the example of birds at the park, most of them were completely immersed in their work. There were many bird watchers, tourists and workers. Birds were so oblivious of the presence of innumerable observers that it was difficult to fathom the level of their involvement. They were fearless. They have made that territory their own space. We were the intruders who tried to distract and disturb them in the name of bird watching. This is again a lesson in uninhibited living. Whom to fear and why to fear? The physical dimensions of a bird are diminutive in comparison to a human, but the mental make-up is sturdy in birds. The park was abuzz with activity, chatter and songs of birds bereft of human noise. This is power, the power of birds which silences the supposedly most powerful creation- the Man. This strength is derived from being fearless. The ability to withstand challenges in the present without the fear of past wreckage or damages in future provides enormous courage to live in the present, just as birds do.

**Living in the moment as Birds live:** It was a common sight at the park that the birds were quietly sitting in the Sun without any activity. The scholar was surprised at the inactivity of the little automatons. On enquiry, it was informed that

they were bathing. It was Sun bathing for them. The moment and the pause were soothing and serene. However, in the midst of this inactivity, the cleansing process was in action. They were cleaning themselves of the parasites in their feathers. Parasites are so small that they cannot be removed by bills. They not only trouble the birds but also reduce the chances of mating. So parasites have to be cleaned. Birds spend time upon themselves and ensure that their feathers are well maintained. An experiment proved that sufficient heat of the Sun helped in the elimination of eggs of lice to be found in birds feathers (Wheeler, Kevin, 2020) This Sunbath or 'Sunning' is a lesson in living in the moment. The importance of doing nothing is equally important to doing something. The question of working for achieving is itself a flawed idea. In an over sped world, every nano second has to be measured with the amount of work done and its resultant output. In a capitalist world, it is measured in terms of money made by an individual. Just the opposite, is the philosophy of birds, they do not make money per nano second but understand the value of being in one's own company and let nature perform its task. This is an unusual sunbathing experience without sunscreen, books or sunglasses!

In birds there is another kind of bath and that is dust bath. If Sunbathing is quiet, bathing in dust is vigorous. It a delight to watch the hen bathing in dust. It makes a depression in the ground, squats in it and start scratching the ground to blow dust on itself. It is an important ritual to remove parasites as well as oil from their feathers. This act is a joyous experience not only for the bird but also for the observer. The bird enjoys every moment of it. It is present with all its faculties concentrated on living the moment (Dubois et. al. 2019). If we too can seize the moment and live life to the fullest, then we understand the impermanence of life. The burden of the past moments and the anxiety of the future restrain our ability to live in the moment. Dust bathing is a lesson for all of us to live in the moment and to live the moment. The bigger lesson is to enjoy

without indulgence. The involvement of faculties and senses should be guided by wisdom. Birds do not indulge in this activity as if there's no tomorrow. It is a short, brisk exercise but full of joy. In a similar fashion, we are expected to live every passing moment of our life with immense love without surrendering to the lust of living, just as birds do.

### Conclusion

The visit to the National Park was an eye opener in many sense. Firstly, it opened the vast field of the lesser known branch of Zoology i.e. Ornithology. To a social scientist, science comes only later. The scholar too spent a long time juggling with the politics, sociology, economy of the world. This visit paved the way for an entirely new arena of science and philosophy. Although a scientific background is required to understand Ornithology, yet the scholar tried to make an interdisciplinary analysis and drew parallels between the science and philosophy of Ornithology. In the course of the study, effort has also been made to understand the philosophical lessons from the scientific study of birds. The scope of this paper is limited to the same, however it has generated sufficient interest for further research. The work has its own limitations and the scholar takes full responsibility of the same. As it has been stated earlier that the visit was unintended at any rigorous research or survey, thus a systematic data collection has not taken place. The scholar has mainly relied on the discussions with the Guide and the Rickshaw Puller and observations and has tried to explore the field of Ornithology with a philosophical perspective. To sum up, it is a short but deep flight in the vast sky of Ornithology.

### References

1. Keoladeo National Park - UNESCO World Heritage Centre
2. Urfi A.J. (2010). Using heronry birds to monitor urbanization impacts: a case study of painted stork *Mycteria leucocephala* nesting in the Delhi Zoo, India. *Ambio*, 39(2), 190-193. <https://doi.org/10.1007/s13280-010-0018-3>

- 
3. Black-necked stork (*Ephippiorhynchus asiaticus*) (thainationalparks.com)
  4. Anam, J., Ahmed M., Saikia, P. & Saikia (2016) Food and Feeding Behaviour of Open Bill Stork (*Anasotomus Oscitans*) in Assam, India, *Journal of Global Biosciences*, pp. 4189-4190.
  5. Billimoria P. (2004). Indian religious traditions in Cooper D, Joy P, Spirit of the Environment: Religion, Value and Environmental Concern. Routledge, 2-7.
  6. Doniger, W. (2013). On Hinduism, Aleph Book Company, 93-94.
  7. Chapple, C.K. (2008). Asceticism and the Environment. *CrossCurrents*, 57(4). University of North Carolina Press. 514-525.
  8. Beltran, R.S., Burns M. & Breed, G.A. (2018). Convergence of biannual moulting strategies across birds and mammals. *The Royal Society*, 1-2.
  9. Shanti Path, Peace mantra (indif.com)
  10. Gandhi, M. (1932). Non Stealing, From Yeravda Mandir, Navjivan Mudranalaya, Ahmedabad, 16-17
  11. Srinivasan, R. & Aithal, P.S. (2025). What Do the Upanishads Teach? Ancient Wisdom Meets Stoic Philosophy. *Poornaprajna International Journal of Philosophy & Languages Poornaprajna International Journal of Philosophy and Languages*, 2(1), 12-22.
  12. Hore, P., & Mouritsen, H. (2022). How Migrating Birds Use Quantum effects to navigate, Scientific American, How Migrating Birds Use Quantum Effects to Navigate - Scientific American
  13. Thorup, K., Vega, M., Snell, K., Regina Lubkovskaia, R., Mikkel Willemoes, M., Sissel Sjöberg, S., Leonid, V., Sokolov, L. & Bulyuk, V. (2020). Flying on their own wings: young and adult cuckoos respond similarly to long-distance displacement during migration PMID: 32382101
  14. Dubois, J. & Rousseau, E. (2019). A Short philosophy of Birds, W H ALLEN, 30.
  15. Hot, Bothered, and Parasite-free: Why Birds Sun Themselves | Audubon.
  16. Dubois, J. & Rousseau, E. (2019). A Short philosophy of Birds, W H ALLEN, 37-38.