

## A lone Wolf *Canis lupus* (Linnaeus,1758) Coalition with Feral Dogs in the Kaj Village, Kodinar, Gujarat, India

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**Abstract:** This article presents the first conclusive photographic evidence of a wolf (*Canis lupus*) in India successfully adapting to coexist with a pack of feral dogs (*Canis lupus familiaris*). Three photographs were captured in a specific area documenting the wolf's interactions and behaviors within this unconventional social structure. This observation raises important questions about the adaptability of wolves in changing environments and their potential to form unique associations with domestic species. The findings contribute to the understanding of interspecies dynamics and the ecological implications of such relationships in the wild. Further research is necessary to explore the impact of this adaptation on both the wolf population and the local ecosystem.

### Introduction

In the past, the wolf *Canis lupus* (Linnaeus,1758) was the most widely dispersed terrestrial mammal after humans (Mech 1970). However, it has almost completely vanished from a third of this broad range over the recent years. While the International Union for the Conservation of Nature's Red List classifies several local populations as endangered, the wolf *Canis lupus* is categorized as least concern (Mech and Boitani 2010). The wolf is listed in Appendix II of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora, 3.3.1973), excluding the populations in Bhutan, Pakistan, India, and Nepal, which are listed in Appendix I (species in danger of extinction). The subspecies of the Indian wolf (*Canis lupus*

*pallipes*) is listed in Schedule I of the Wildlife Protection Act, 1972.

The Canidae family is one of the most geographically diverse carnivore families, with at least one wild species present on every continent except Antarctica. There are currently thirty-five species of dogs, wolves, coyotes, jackals, and foxes in the Canidae family (Zubiri *et al.* 2004). The Canidae family, which includes dogs and foxes, has a wide range of habits and geographical distribution. Canidae are opportunistic organisms. Adaptability and non-specialization are the factors that have allowed Canidae members to survive and even thrive. This has had a significant impact on their behavioural repertoire, insuring that social behaviour and its expression through postures and movements remain consistent across the family, despite significant ecological differences. Most existing behavioural differences are of degree rather than kind. Many of the larger canids have adaptations that allow them to travel over great distances while hunting, pursuing prey, and during seasonal migrations.

In addition to zoologists and naturalists, psychologists interested in the formation of social bonds as well as anthropologists curious about the biological roots of human group behaviour have all taken an interest in the evolution of social behaviour and the mechanisms through which it develops and can be maintained. A highly social species that has been studied in the wild (Mech, 1966), in semi-natural conditions of confinement (Woolpy, and Ginsburg, 1967), and in domesticated conditions (Rabb, *et al.*, 1967), the wolf is a great example (Fentress, 1967).

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The differential social behaviour development of various members of the Family Canidae is one feature that sets them apart from one another. The wolf is the most social among the close relatives of the domestic dog. It is because of this trait that we can say with a high degree of certainty that dogs most likely descended from wolves rather than other species including coyotes and jackals, which typically form no group larger than a mating pair which lasts only for a short period of time, until the litter are born to this pair. The Canidae's social-behavior patterns seem to have evolved as conservative traits. Wolves have an incredibly intricate social structure; they cooperatively breed, hunt, and maintain sizable territories. A similarly intricate and sophisticated communication system would be anticipated to maintain such a complex system.

## Methods

Based on information from locals, it was found that there used to be several packs of wolves inhabiting this area back in 2010, and suddenly they disappeared. Only one wolf was repeatedly sighted amidst the pack of dogs, and a strange behavior was noted that it coexisted with a pack of dogs. Camera traps were installed for a period of over five months in the area in random selected sampling units. White flash Cuddeback camera traps were used. The installation of camera traps was done based on the natural trails used by the species as previously observed by local men.

## Results and Discussion

During the regular field surveys over a period of five months in the Kodinar district of Gujarat 24°43'49.01"N, 70°48'06.09"E, the authors had an unusual encounter of a lone wolf *Canis lupus* (Figure 1) (Linnaeus, 1758) amidst a pack of feral dogs. It could be predicted that the individual might have migrated locally from a distant population and joined this pack of dogs. However, there is no evidence to prove this. This is a



**Figure 1.** A lone wolf *Canis lupus* found in the Kaj village, Kodinar, Gujarat 24°43'49.01"N, 70°48'06.09"E

unique social adaptation through which two different species are interacting and showing inter-specific dependency.

This is a unique adaptive behavior of an individual who has strategically adapted to living in a social networking system of dogs amidst their hierarchy and close-knit structure and coexisted with them. It was seen performing regular activities such as feeding and resting with the other dogs. Although, this cannot be a deterministic behavior of

the entire species and can't be generalized. It is an individualistic adaptive phenomenon based on the behavior of the individual and the dominance pattern of the other.

Ecology and evolutionary biology have long placed a high priority on comprehending the relationship between individual behaviour and population organization and functioning (Sueur *et al.* 2011; Kurvers *et al.* 2014). Individual state, ecological factors, and social interactions are just a few examples of the intrinsic and extrinsic factors that influence behaviour. The ecology and evolution of populations, and species can be significantly impacted by the network's structure.

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