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Coordinated Foraging and Social Interactions in a Targeted Pair of Sri Lankan Jackals (*Canis aureus naria* Wroughton, 1916) During Rodent Hunting

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ABSTRACT

We report observations of coordinated foraging and social interactions in a targeted pair of Sri Lankan jackals (*Canis aureus naria* - Syn.: *Canis aureus lanka*, Family: Canidae) in Bovila, Sri Lanka, while hunting rodents. Rodents are significant agricultural pests in Sri Lanka, particularly in paddy fields, and natural predation by jackals may contribute to their population control. The pair displayed sex-specific roles: the female actively excavated for rodents and captured prey, while the male maintained vigilance and assisted in intercepting escaping prey. Cooperative behaviors, including sentinel activity, intraspecific vocalizations, and tolerant feeding, highlight complex social coordination. These observations provide insight into the behavioral ecology of *C. aureus naria* and its potential role in ecosystem-based pest management.

Keywords: Jackals, Rodents, Agriculture, *Canis aureus naria*

1. INTRODUCTION

Mesopredators play a critical role in regulating prey populations, shaping ecosystem dynamics, and maintaining trophic interactions, particularly in human-modified landscapes (Mihalitsis et al., 2021). Through predation, they can influence prey abundance, behavior, and spatial distribution, thereby contributing to ecosystem stability. The Sri Lankan jackal (*Canis aureus naria*) is a widely distributed mesopredator across diverse habitats in Sri Lanka, including agricultural mosaics, scrublands, and peri-urban environments (Pushpakumara et al., 2023). Despite its ecological importance and frequent association with farmlands, detailed field-based observations of its foraging strategies and social behavior remain limited (Amarasinghe et al., 2015).

Rodents represent one of the most significant agricultural pest groups in Sri Lanka, especially in paddy-dominated landscapes, where they are responsible for considerable crop damage and economic loss (Sarathchandra et al., 2022). Natural predation by native carnivores such as jackals may play an underappreciated role in regulating rodent populations and reducing pest pressure (Samarasinghe et al., 2022). However, the behavioral mechanisms through which jackals exploit rodent prey—particularly the extent to which cooperative or coordinated foraging occurs—are poorly documented (Patricia, 2018).

Canids are known for their behavioral flexibility, exhibiting a wide range of hunting strategies from solitary foraging to complex cooperative hunting, depending on prey type, habitat structure, and social context. In jackals, coordinated pair activity has been reported in some subspecies, yet sex-specific roles, vigilance strategies, and intraspecific communication during small-prey hunting remain inadequately described (Borkowski et al., 2011). Such fine-scale behavioral observations are essential for understanding the species' adaptive foraging ecology and social organization.

In this study, we present direct field observations of coordinated rodent hunting and associated social interactions in a targeted pair of Sri Lankan jackals (*C. aureus naria*) in Bovila, Sri Lanka (Jayaweera et al., 2024). We describe sex-specific foraging roles, vigilance behavior, and cooperative interactions during prey detection, capture, and consumption. These observations contribute to the limited empirical knowledge of jackal behavioral ecology and highlight the potential ecological role of *C. aureus naria* in ecosystem-based rodent pest regulation.

2. MATERIALS AND METHODS

Observations were conducted in Bovila, Sri Lanka (Figure 1), using binoculars (Swarovski EL 8.5 × 42) and a spotting scope (Swarovski ATX 95 with a 30–70× zoom eyepiece). The study targeted an adult pair of Sri Lankan jackals (male and female) (Plate 1). Photographs were obtained by attaching an iPhone 12 Pro to the spotting scope. The study focused on short-duration foraging events, during which rodent-hunting behaviour was recorded in an agricultural landscape.

During the observation session, a range of individual behaviors was recorded (Golan & Mendelssohn, 1971). Alert orientation was frequently observed, characterized by the jackals scanning their surroundings and remaining attentive to potential prey or threats. In addition to individual behaviors, several forms of social interaction were documented between the pair

(Kamler et al., 2021; Lanszki et al., 2018). Collectively, these observations indicate cooperative hunting behavior and a high degree of social coordination. All behaviors were systematically recorded using detailed field notes and digital documentation for subsequent analysis (Lanszki et al., 2018).

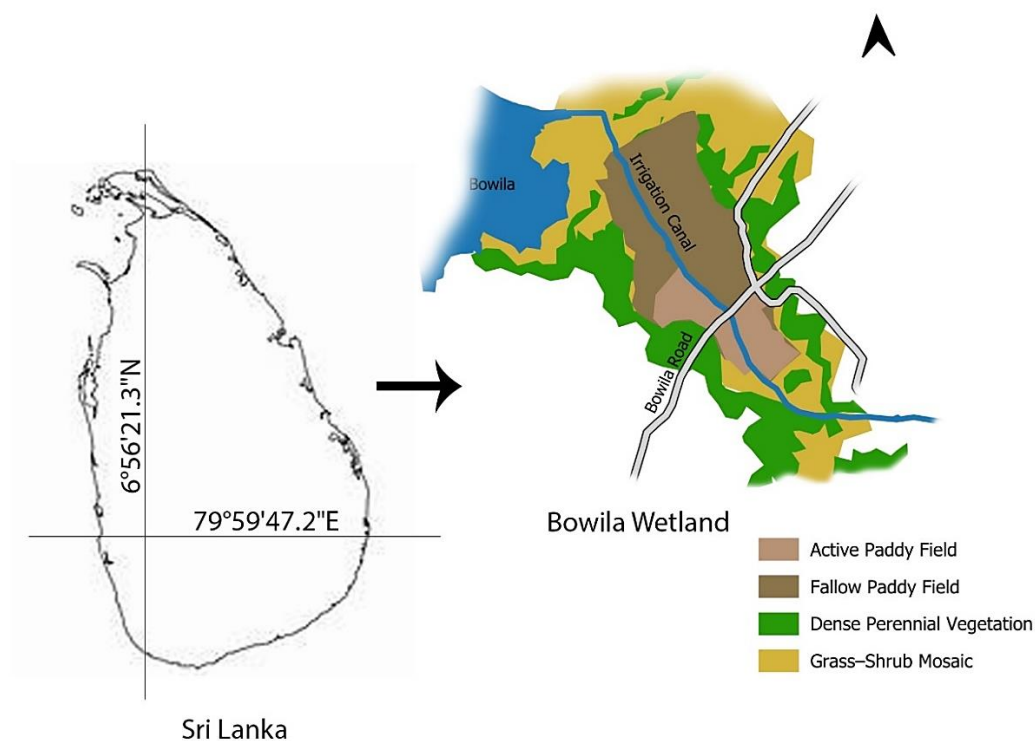


Figure 1. Location of the Bovila wetland in Sri Lanka, showing the study area where behavioral observations were conducted.



Plate 1. Adult Sri Lankan jackals (*Canis aureus naria*), showing a male and a female observed during coordinated foraging activity.

3. RESULTS AND DISCUSSION

The female primarily engaged in foraging excavation, actively digging into the substrate to locate rodents, whereas the male frequently displayed stationary vigilance, remaining immobile while monitoring the surrounding environment. Directed vocalizations, described here as snarling, were intermittently observed between the female and the male and likely functioned as intraspecific communication to solicit support or facilitate coordination during hunting (Lanszki et al., 2018). Prey capture and consumption involved the handling and ingestion of rodents, while pursuit and interception were recorded when the male chased and captured prey attempting to escape.

During the observation period, the female responded to auditory cues from grass movement by initiating excavation and successfully capturing multiple rodents (Plate 2, A). The male maintained a vigilant stance nearby, assisting in prey interception when rodents fled the excavation site (Plate 2, B). Vocal signaling by the female appeared to prompt male involvement, indicating coordinated role allocation within the pair. Both individuals maintained close spatial proximity and exhibited tolerant feeding behavior, with no aggressive interactions observed during prey consumption (Plate 2, C; Table 1).



Plate 2. Cooperative rodent-hunting behavior in a pair of Sri Lankan jackals. (A) Female initiating foraging excavation in response to prey cues. (B) Male maintaining stationary vigilance and intercepting escaping prey. (C) Tolerant prey handling and consumption by the pair. (D) Female-biased specialization in active prey detection and capture.

Table 1. Observed behaviors and social interactions in the targeted jackal pair during rodent hunting.

Sex	Behavior Description	Social Interaction
Female/Male	Alert orientation	Coordinated pair activity
Female	Foraging excavation	Cooperative hunting behavior
Male	Stationary vigilance	Male sentinel behavior
Female	Snarling	Intraspecific vocal communication
Female	Prey capture and consumption	Tolerant feeding behavior
Male	Pursuit and interception of escaping prey	Cooperative hunting behavior

These observations indicate sex-specific functional roles, with the female specializing in active prey detection and capture (Plate 2, D), while the male contributed through vigilance and prey recovery. Cooperative behaviors such as sentinel activity, prey sharing, spatial cohesion, and vocal communication suggest a high degree of social coordination within the pair (Plate 2).

Importantly, this observation underscores the ecological role of *Canis aureus naria* in regulating rodent populations (Plate 2, D), which represent major pests in paddy-based agricultural systems.

By naturally suppressing rodent abundance, jackals may provide a valuable ecosystem service, contributing indirectly to agricultural productivity and human livelihoods (Lanszki et al., 2022; Jayaweera et al., 2024).

4. CONCLUSION

Targeted observations of a jackal pair in Bovila revealed coordinated rodent hunting, sex-specific behavioral roles, and social tolerance. These findings enhance our understanding of the behavioral ecology of *Canis aureus naria* and suggest that jackals may play a role in natural pest control within agricultural landscapes, highlighting both their ecological and economic significance.

The pair exhibited coordinated activity, maintaining close spatial association throughout the hunting session. The male predominantly assumed a sentinel role, providing vigilance while the female engaged in foraging. Vocal exchanges between the pair indicated intraspecific communication, and both individuals demonstrated tolerant feeding behavior, sharing prey without signs of aggression.

References

- [1] Amarasinghe, A. A. T., Madawala, M. B., Karunarathna, D. M. S. S., Manolis, S. C., de Silva, A., & Sommerlad, R. (2015). Human-crocodile conflict and conservation implications of Saltwater Crocodiles *Crocodylus porosus* (Reptilia: Crocodylia: Crocodylidae) in Sri Lanka. *Journal of Threatened Taxa*, 7(5), 7111–7130. <https://doi.org/10.11609/jott.o4159.7111-30>
- [2] Borkowski, J., Zalewski, A., & Manor, R. (2011). Diet composition of golden jackals in Israel. *Annales Zoologici Fennici*, 48(2), 108–118. <https://doi.org/10.5735/086.048.0203>
- [3] Golan, I., & Mendelssohn, H. (1971). Sequences of precopulatory behavior of the jackal (*Canis aure*). *Behaviour* 38, 169–192
- [4] Kamler, J. F., Minge, C., Rostro-García, S., Gharajehdaghipour, T., Crouthers, R., In, V., Pay, C., Pin, C., Sovanna, P., & MacDonald, D. W. (2021). Home range, habitat selection, density, and diet of golden jackals in the Eastern Plains Landscape, Cambodia. *Journal of Mammalogy*, 102(2), 636–650. <https://doi.org/10.1093/jmammal/gyab014>
- [5] Lanszki, J., Hayward, M. W., & Nagyapáti, N. (2018). Feeding responses of the golden jackal after reduction of anthropogenic food subsidies. *PLoS ONE*, 13(12), 1–18. <https://doi.org/10.1371/journal.pone.0208727>
- [6] Lanszki, J., Hayward, M. W., Ranc, N., & Zalewski, A. (2022). Dietary flexibility promotes range expansion: The case of golden jackals in Eurasia. *Journal of Biogeography*, 49(6), 993–1005. <https://doi.org/10.1111/jbi.14372>
- [7] Mihalitsis, M., Hemingson, C. R., Goatley, C. H. R., & Bellwood, D. R. (2021). The role of fishes as food: A functional perspective on predator–prey interactions. *Functional Ecology*, 35(5), 1109–1119. <https://doi.org/10.1111/1365-2435.13779>
- [8] Patricia D Moehlman, Virginia Hayssen, (2018). *Canis aureus* (Carnivore: Canidae), *Mammalian Species*, Volume 50, Issue 957, Pages 14–25, <https://doi.org/10.1093/mspecies/sey002>
- [9] Pushpakumara, N., Dangolla, A., & Perera, O. (2023). Ecology of Dogs in Sri Lanka and Transmission of Rabies Among Dogs and Wildlife. *One Health for Dog-Mediated Rabies Elimination in Asia*, 2020, 160–173. <https://doi.org/10.1079/9781800622975.0013>
- [10] Samarasinghe, D. J. S., Wikramanayake, E. D., Gopalaswamy, A. M., Jayewardene, R., Kumara, J., Fernando, J., Gunawardene, K., Alexander, J. S., & Braczkowski, A. (2022). Evidence for a critical leopard conservation stronghold from a large protected landscape on the island of Sri Lanka. *Global Ecology and Conservation*, 37, e02173. <https://doi.org/10.1016/j.gecco.2022.e02173>
- [11] Sarathchandra, S. R., Hennayake, K. P. S. D., Jayaweera, M. P. H. K., Nugaliyadde, L., & Hemachandra, K. S. (2022). Assessment of Grain Preference Among Selected Rice

Varieties by Field Rat , Bandicota bengalensis and House Rat, Rattus rattus in Sri Lanka. *Tropical Agricultural Research* 33(3): 280-288

- [12] Uthpalawarna Jayaweera, Sampath Seneviratne, & Chandika Jayaratne. (2024). The Way of the Jackal: The Untold Story of Sri Lanka's Wild Dog (1st ed.). Wildlife and Nature Protection Society of Sri Lanka.