

## Mimicry in birds of prey

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*Juvenile Grey-headed Kite (Leptodon cayanensis) with a plumage pattern that imitates almost perfectly an Ornate Hawk-Eagle (Spizaetus ornatus). Belterra (Pará), March 2013. Photo: Eleonora Pinheiro*

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Translated by **Johan Ingels**.

Mimicry in birds of prey is impressive although uncommon. Some predators use mimicry as a hunting strategy. This is the case with the Zone-tailed Hawk (*Buteo albonotatus*) which imitates the inoffensive vultures of the genus *Cathartes* to approach prey (Peckhamian mimicry). But a mimic that mimics another more dangerous species, seems to be the most common type of mimicry among hawks in Brazil. So, the Rufous-thighed Kite (*Harpagus diodon*) which has a predominantly insectivorous diet mimics a Bicoloured Hawk (*Accipiter bicolor*) which mostly hunts birds.

Other species of raptors only utilise mimicry as a juvenile, which is the case with the Grey-bellied Hawk (*Accipiter poliogaster*) and the Grey-headed Kite (*Leptodon cayanensis*). The juvenile plumage of the Grey-bellied Hawk is very similar to the adult plumage of the Ornate Hawk-Eagle (*Spizaetus ornatus*), possibly as a defense against other hawks and large primates that could prey on its nest. The juvenile Grey-headed Kites are highly polymorphic, presenting diverse plumage patterns. There are totally white individuals that mimic the Black-and-white Hawk-Eagle (*Spizaetus melanoleucus*), others are almost completely black resembling a Black Hawk-Eagle (*Spizaetus tyrannus*), and there are some rare intermediate forms that have little

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1



rufous-brown streaks on the neck and belly making them resemble a Grey-headed Kite. The hawks of the genus *Spizaetus* are top predators and live in the same environments as Grey-headed Kites (*Leptodon cayanensis*) and Grey-bellied Hawks (*Accipiter poliogaster*). They imitate powerful predators like the Ornate Hawk-Eagle (*Spizaetus ornatus*) conferring several advantages such as protection against predation, having an image of a strong predator of hawks and monkeys.



*Rufous-thighed Kite (Harpagus diodon). Photo: Claudio Guimarães.*

*Bicoloured Hawk (Accipiter bicolor).  
Photo: Jacek Kisielewski.*



Recently I came across one of the most fantastic discoveries in the world of "Brazilian raptorology", a juvenile Grey-headed Kite (*Leptodon cayanensis*) with a plumage pattern that mimicked almost perfectly an Ornate Hawk-Eagle (*Spizaetus ornatus*), including the crest and the same pattern of stripes on its belly.

This incredible hawk was found in the Amazonian forest by the birdwatchers Robson Czaban, Eleonora Pinheiro and Anselmo D'Anfonseca, during a visit to the Tapajos National Forest in Belterra, west of Pará. The mimicry of this individual exceeded the young Grey-bellied Hawk (*Accipiter poliogaster*)



- 1 - Adulto plumagem típica
- 2 - Jovem melânico
- 3 - Jovem fase clara
- 4 - Jovem fase rufa

*Known plumage patterns of the Grey-headed Kite (Leptodon cayanensis). 1. Typical adult plumage. 2. Melanistic juvenile. 3. Juvenile, pale phase. 4. Juvenile, rufous phase.*



*Juvenile Grey-headed Kite (Leptodon cayanensis). Photo: Victor Castro.*

which was previously considered the best mimic of the Ornate Hawk-Eagle (*Spizaetus ornatus*). Most striking was that it had a crest, previously unreported in the literature.





*Juvenile Grey-headed Kite (Leptodon cayanensis). Photo: Márcio Moraes.*

*Black-and-white Hawk-Eagle (Spizaetus melanoleucus). Photo: Grace Montaiwan.*



The discovery of the bird led to a series of discussions... Could this hawk be a new species ? A subspecies ? A hybrid individual ? Or just an extreme variation in plumage pattern ? Would the crest remain in the adult form ? Would the crest be a vestigial feature manifested only in a juvenile ? Unfortunately many of these questions will remain unanswered.

After talking with some colleagues and reading papers from other ornithologists, and also considering the great diversity of species variants, I concluded that it was indeed



an extreme variation in plumage pattern of a juvenile Grey-headed Kite (*Leptodon cayanensis*). The dimensions of its bill and legs, dark eyes, slit shaped nostrils, naked tarsi and wing size in relation to the tail, etc. are all characteristics of the Grey-headed Kite (*Leptodon cayanensis*), except of course for the crest. This is evolution in action!

*Juvenile Grey-headed Kite*  
(*Leptodon cayanensis*).  
Photo: Robson Czaban.



In Campos do Jordão (Sao Paulo) a juvenile Grey-headed Kite (*Leptodon cayanensis*) was found with a crest and plumage pattern similar to that of an Ornate Hawk-Eagle (*Spizaetus ornatus*), but not so perfect as the reported record. Probably natural selection will favour the juvenile individuals that more faithfully mimic Ornate Hawk-Eagles (*Spizaetus ornatus*) and Black-and-white Hawk-Eagles (*Spizaetus melanoleucus*), and consequently resulting in a longterm increase in abundance of these mimics compared to other forms of plumage pattern. Perhaps, the same process has happened with the Grey-bellied Hawk (*Accipiter poliogaster*) in the recent past.

The new discovery is undoubtedly a major contribution to Brazilian ornithology. The fact also demonstrates the importance for science of an activity such as birdwatching

