

# Helmeted Woodpecker *Dryocopus galeatus*: a little-known Atlantic Forest endemic

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Female Helmeted Woodpecker *Dryocopus galeatus* with an all-cinnamon face (Martjan Lammertink/[www.pbase.com/PicidPics](http://www.pbase.com/PicidPics))

Among the rarest and least known woodpeckers in the World, the Helmeted Woodpecker has slowly started to share its many secrets in specific localities in Argentina, Brazil and Paraguay. Our authors introduce us into its ecology, identification features and current conservation situation.



**H**igh on the wish-list of anyone birding in the Atlantic Forest of southeastern South America is the Helmeted Woodpecker *Dryocopus galeatus*, one of the rarest and most striking woodpeckers in the Neotropics. 'Helmeted' refers to the flamboyant, rounded red crest of this woodpecker. The crest is proportionally one of the largest in all woodpeckers, and is complemented by a cinnamon face, blackish and cream-white patterns on neck and upperparts, and finely barred underparts. Besides its good looks, this woodpecker has the added mystique of being rare and little-known and occurring in one of the world's most endangered forest ecosystems. Although not as rare as feared 30 years ago, the Helmeted Woodpecker remains hard to find, being silent much of the time and living in closed subtropical forest. Sightings come unpredictably and from scattered, well preserved Atlantic Forest areas, although sometimes from altered habitats. We will here look into what little is known about the natural history of this woodpecker, discuss its conservation status and provide tips for those in quest of the Helmeted Woodpecker.

## Appearance and identification

The namesake crest of the Helmeted Woodpecker often has a rounded, helmet-like shape, but not invariably so. The shape of the crest can change in a matter seconds depending on the level of excitement of the woodpecker, from a flared out crescent, to a fluffy tuft, to a folded red triangle. Helmeted Woodpecker shares its Atlantic Forest environment with two woodpeckers that are superficially similar, Lineated Woodpecker *Dryocopus lineatus* and Robust Woodpecker *Campephilus robustus*. Like Helmeted, these two woodpeckers have black upperparts, barred underparts and a red crest. At first glance and without binoculars, a perched Helmeted Woodpecker can be mistaken for a Robust Woodpecker as both species often reveal a buff-white back between partly opened wings. The most distinguishing feature of Helmeted Woodpecker is the lack of any white striping in a cinnamon face. Hence, its Spanish name 'carpintero cara canela' and its Portuguese name 'picapau de cara canela'. In contrast, Lineated and Robust Woodpeckers have white stripes in the face (or a black-and-white patch in male Robust), and lack cinnamon. The cinnamon face is especially pronounced in female Helmeted Woodpecker, whereas the male has a red moustache and red around the ear coverts, and can appear entirely red-headed under

some circumstances. In flight, both Helmeted Woodpecker and Robust Woodpecker show a lot of cinnamon in the wings, although this occurs in a more spotted pattern in Robust. Robust in flight shows white underwing coverts, an entirely cream-white back, and a fully red neck, whereas Helmeted Woodpecker has cinnamon underwing coverts, a two-colored back (cream-white on lower back, black on upper back), and a black-and-white neck. Lineated Woodpecker has no cinnamon in the flight feathers. The bill of Helmeted Woodpecker appears rather short in the field or in photos, but this is an optical illusion relative to the large crest. Relative to tarsus and wing length the bill of Helmeted Woodpecker is not shorter than in other *Dryocopus*. However, the bill is more curved along the culmen and is relatively less broad at the base than in congeners, and it is the only *Dryocopus* with the nostrils not covered by feathering, all indicating this woodpecker is a weak excavator<sup>11</sup>. Helmeted Woodpecker has exceptionally long, cream-buff tail coverts that cover over half of the length of the tail. It is the smallest of all *Dryocopus* in overall length and weight, weighing only c.124 g. In comparison, Lineated Woodpecker is c.217 g and Robust Woodpecker is c.262 g<sup>12</sup>. The territorial call of Helmeted Woodpecker is a drawn-out *keer-keer-keer-keer...* with 4 to 10 notes. This call is rather loud and can be heard from 400 to 600 m away, but is not given often. The territorial call of Lineated Woodpecker has many more notes (20–24), is less even as it picks up in tempo and pitch over the first 6 notes, and the individual notes are short, only about half as long as the notes of Helmeted. Blond-crested Woodpecker *Celeus flavescens* has a call somewhat similar call to Helmeted as it calls with 3 to 5 drawn-out, evenly spaced notes, but the notes are higher pitched than in Helmeted. Drumming of Helmeted Woodpecker is fairly soft, evenly spaced, lasting about 0.9 s, and is little distinctive from drumming of several co-occurring woodpecker species including White-spotted Woodpecker *Veniliornis spilogaster*.

## Ecology and behaviour

Helmeted Woodpecker is a rather silent bird, typically calling and drumming for a few minutes in the first hour after sunrise, then remaining silent for much of the day<sup>5</sup>. It occasionally calls during daytime and may increase calling again in late afternoon, but is always more silent than other large woodpecker species in the Atlantic Forest. It calls relatively often in Austral fall, winter, and early spring, but is often not heard for weeks at



a time in late spring and summer. Foraging of Helmeted Woodpecker is inconspicuous, involving a lot of probing, and when excavating it often works on soft, well rotten trees. It sometimes returns to forage on the same tree for two or three consecutive days. It typically forages in the mid-story, although it can work from as low as 1 m and into the highest branches of tall trees. In one study, its average foraging height was 9 m whereas Lineated Woodpecker in the same area foraged at a mean height of 17 m, at tree crown level<sup>5</sup>. The frequent occurrence of bamboo at spots where Helmeted Woodpeckers are seen is probably coincidental<sup>12</sup>, although there is one observation of a Helmeted Woodpecker perforating a dead taquara bamboo *Merostachys multiramea* stalk and foraging for 5 minutes on a nest of *Crematogaster* ants inside it<sup>10</sup>. It occasionally eats small fruits, as shown by an observation of a female eating *Alchornea sidifolia* berries in Santa Catarina state, Brazil (pers. obs.).

Only a handful of nests of Helmeted Woodpecker have ever been found. The firmest nest record in Argentina is from late September and early October 1985 when a pair was seen and photographed<sup>6</sup> by Andrés Johnson, Hernán Casañas and Martín Adamovsky while entering and leaving a cavity at a height of 2.3 m in the trunk of a hardwood tree. This was at a campground in a grove of tall trees, surrounded by a tract of well-preserved forest, along the Iguazú river in Iguazú National Park. In late 2010 the first two nests for Brazil were found by José Floido, Luis Avelino Ribeiro, Faustino Avelino Ribeiro and Gilberto Rodrigues in Intervalles State Park. The nest cavities were freshly excavated in the trunks of dead or partly dead *Nectandra lanceolata* trees of 65 and 66 cm diameter at breast height, facing open spots of an unpaved road and a trail, respectively, in a setting of maturing secondary forest with some primary patches. The nests were 4.4 m and 5 m above the ground, with green vines wrapped around the trunk close to the cavities. Nest entrances were irregularly round and smoothly oval, respectively, and c.8 cm wide. One nest was predated on November 3 at the early nestling stage. At the other nest at least two nestlings were heard on November 21 and by November 29 the nest was empty, believed to have fledged successfully (P. Junior, pers. comm.). Two roosting sites have been seen in use, both in Cruce Caballero Provincial Park, Argentina. One was in the main trunk of a live anchico tree *Parapiptadenia rigida* at a height of approximately 12 m, in a cavity that was either an old woodpecker cavity or a natural knot-hole, and

was seen in use for two days only (J. Klavins pers. comm.). The second roost was in a large branch of a live grapia *Apuleia leiocarpa* tree at 12 m height, in a natural cavity that was 90 cm deep and with a large elongated entrance of 6 by 38 cm. A female Helmeted Woodpecker roosted here for at least two consecutive nights in December 2009. Astoundingly, during the same nights a pair of White-eyed Parakeets *Aratinga leucophthalma* was roosting and incubating one egg in the same cavity<sup>8</sup>. In the winter of 2010 a female again roosted in this cavity.

Helmeted Woodpecker occurs in a variety of forest types in the Atlantic Forest region, including lowland and hill mixed hardwood forests as well as in mixed forests with emergent Paraná pines *Araucaria angustifolia*. In recent years it has been seen occasionally in small fragments of native forest, in logged and burnt tracts of native forest<sup>9</sup>, a plantation of *A. angustifolia*, and a plantation of non-native *Pinus*<sup>3</sup>. However, sightings at such sites were rare or uncommon events, and nearly always occurred in the vicinity of large tracts of native forest. The typical habitat of Helmeted Woodpecker is larger tracts of well-preserved Atlantic Forest. In a study in Misiones province, Argentina, that covered 20 sites across the province with a wide variety of disturbance and fragmentation degrees, Helmeted Woodpecker was rare at nearly all sites. Encounter rates were distinctively higher, with one record every few days, only at two sites with primary forest<sup>3</sup>. In an as yet unpublished study by Ernesto Krauczuk in southern Misiones, Helmeted Woodpecker was recorded in primary forest in 7 out of 46 days, but in only 1 out of 35 days in adjacent disturbed forest. Helmeted Woodpecker is always rarer than Robust Woodpecker, and nearly always much rarer than Lineated Woodpecker. However, in a few of the very best sites for Helmeted Woodpecker in Argentina and Paraguay, Lineated Woodpecker is comparatively rare and about as frequent as Helmeted<sup>3</sup>. This may reflect a preference for opened up forests in Lineated Woodpecker<sup>12</sup> in contrast to a primary forest preference in Helmeted Woodpecker. In both species such habitat associations are expressed as a measure of frequency rather than presence or absence. The apparent association of Helmeted Woodpecker with primary forest is poorly understood, but may lie in a preference for forests with a relatively open mid-story and with frequent rotten trees for foraging, in the higher availability of natural cavities for roosting in old forests<sup>8</sup> and in reduced competition with Lineated Woodpecker in closed primary forest<sup>2</sup>.





Clockwise from top left

Helmeted Woodpecker *Dryocopus galeatus* showing its long rounded crest, brown-black wings, barred underparts, and long cream-white tail coverts. In this male the red moustache obscures much of the cinnamon face with fine black bars. Note absence of any white in the face (Martjan Lammertink/www.pbase.com/PicidPics)

A calling male Helmeted Woodpecker *Dryocopus galeatus*. Often in a dorsal view such as this, Helmeted Woodpecker shows its buff-white back, but in this image the back is obscured by the folded wings (Greg & Yvonne Dean/www.WorldWildlifeImages.com)

A female Helmeted Woodpecker *Dryocopus galeatus* emerging in the early morning from its roost site in a natural decay cavity (Martjan Lammertink/www.pbase.com/PicidPics)





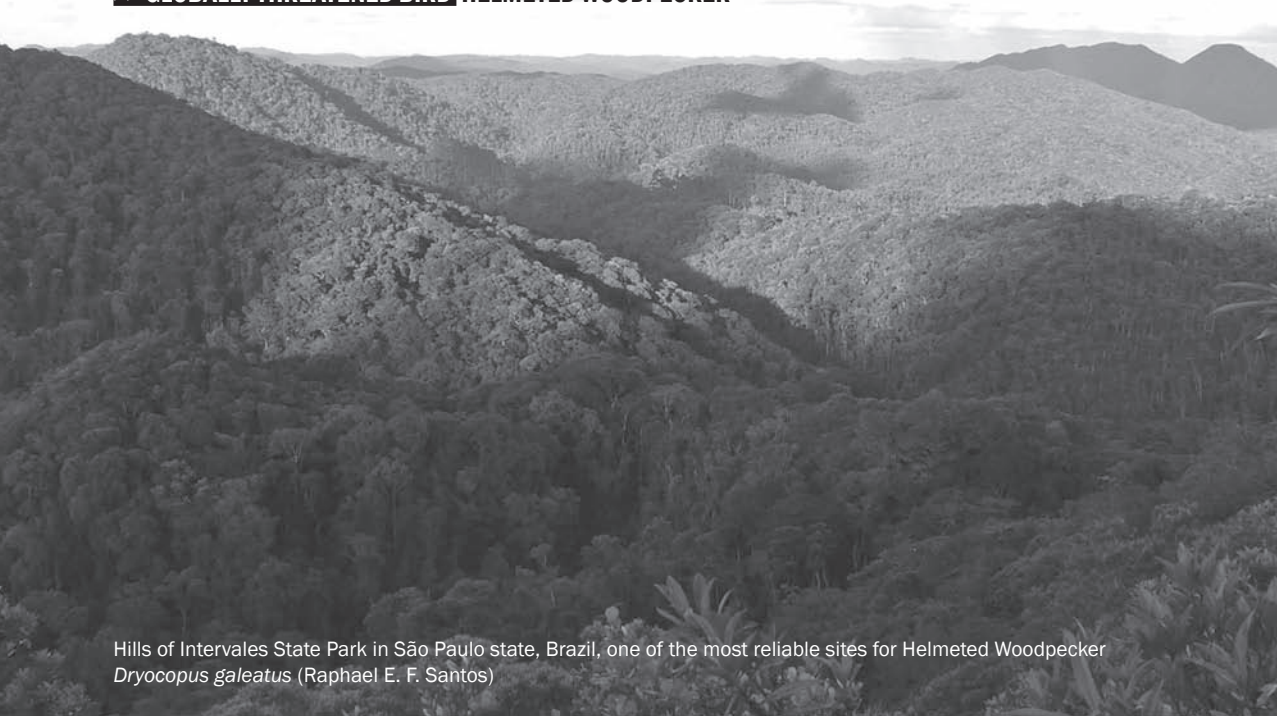


Clockwise from top left:

The two other large woodpeckers in the range of Helmeted Woodpecker *Dryocopus galeatus* are Lineated Woodpecker *Dryocopus lineatus* and Robust Woodpecker *Campephilus robustus*. Both are superficially similar with brown-black wings, barred underparts, and a red crest. Robust Woodpecker has a buff-white back similar to Helmeted, but has an entirely red neck unlike the two *Dryocopus*. Note that both Robust and Lineated Woodpecker have white lines in the face unlike Helmeted (Martjan Lammertink/[www.pbase.com/PicidPics](http://www.pbase.com/PicidPics))

The interior Atlantic Forest of Cruce Caballero Provincial Park, Misiones, Argentina, habitat of Helmeted Woodpecker with old-growth hardwood trees, dead trees, a relatively open mid-storey, bamboo undergrowth and emergent Paraná pines (Martjan Lammertink/[www.pbase.com/PicidPics](http://www.pbase.com/PicidPics))





Hills of Intervales State Park in São Paulo state, Brazil, one of the most reliable sites for Helmeted Woodpecker *Dryocopus galeatus* (Raphael E. F. Santos)

## Status and conservation

Although Helmeted Woodpecker has been recorded at an increasing number of sites in recent years, this reflects an increase in birding activity and knowledge rather than an increase in population numbers. Less than 12% of the Atlantic Forest region remains in native forest and for that reason alone Helmeted Woodpecker, as an obligate forest species, has seen a large reduction in its global population. The Atlantic Forest area continues to shrink, although recent, range-wide data on deforestation rates are unavailable. Less than 1% of the remaining Atlantic Forest is primary forest, and timber extraction continues from private lands and from some protected areas. Given the association of Helmeted Woodpecker with older forests, the scarcity and continued exploitation of such habitats is almost certainly resulting in continued population decline. Even in apparently suitable habitats the Helmeted Woodpecker is not uniformly present. In Iguazú National Park (670 km<sup>2</sup> of mature but not primary forest), Helmeted Woodpecker is known from only 5 or 6 territories during the past 25 years, and these are not occupied continuously over time (M. Castelino and D. Somay *pers. comm.*, 2008). Large portions of the park appear not or rarely used by the species based on intensive ornithological work. Similarly, in Rio Negrinho county in Santa Catarina state, Brazil, where REFS monitors

Helmeted Woodpecker, only one territory of the species is known in a tract of secondary forest of over 200 km<sup>2</sup>. In the global range of the Helmeted Woodpecker c.24,000 km<sup>2</sup> of forest remains, and it has been estimated that the global population is between 10,000 and 20,000 individuals<sup>2</sup>. However, the Iguazú and Rio Negrinho examples illustrate that extrapolation of population size from forest area is not straightforward. Indeed, a >10,000 figure for the global population of Helmeted Woodpecker seems overly optimistic<sup>7</sup>. In all, Helmeted Woodpecker belongs solidly in the Vulnerable category of the IUCN Red List where it is now<sup>2</sup>.

## Seeing Helmeted Woodpeckers

Getting a good look at a Helmeted Woodpecker involves luck to some extent, although planning and dedication of sufficient time help a lot. Like most forest birds, Helmeted Woodpecker is best found by ear. It calls most frequently from July through the first half of September and almost exclusively in the very early morning, so make sure to cover those times of year and day. Playback is not recommended as it is often ineffective, may be disruptive, and is prohibited in many protected areas. Finding a Helmeted Woodpecker on its own terms and showing its undisturbed behaviour is indisputably most satisfying. When dedicating seven to ten days of early morning birding at

one of the most dependable sites for Helmeted Woodpecker, such as Cruce Caballero Provincial Park<sup>1,4</sup> in Argentina, the Itaipú Reserves of Limoy and Itabó in Paraguay, or Intervalles State Park in Brazil, chances are good you will feast your eyes on a Helmeted Woodpecker. During this effort, you will see scores of other Atlantic Forest birds.

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## REFERENCES

1. Areta, J. I. (2007) Finding a secretive bamboo specialist in Argentina's Atlantic Forest: the White-bearded Antshrike *Biatas nigropectus*. *Neotrop. Birding* 2: 76–79.
2. BirdLife International (2010) Species factsheet: *Dryocopus galeatus*. www.birdlife.org (accessed 23 June 2010)
3. Bodrati, A. & Cockle, K. (2006) Habitat, distribution, and conservation of Atlantic Forest birds in Argentina: notes on nine rare or threatened species. *Ornitol. Neotrop.* 17: 243–258.
4. Bodrati, A., Cockle, K., Segovia, J. M., Roesler, I., Areta, J. I. & Jordan, E. (2010) La avifauna del Parque Provincial Cruce Caballero, provincia de Misiones, Argentina. *Cotinga* 32: 41–64.
5. Brooks, T. M., Barnes, R., Bartrina, L., Butchart, S. H. M., Clay, R. P., Esquivel, E. Z., Etcheverry, N. I., Lowen, J. C. & Vincent, J. (1993) Bird surveys and conservation in the Paraguayan Atlantic Forest: Project CANOPY '92 final report. Study Report Number 57. Cambridge, UK: BirdLife International.
6. Chebez, J. C. (1994) *Los que se van: especies Argentinas en peligro*. Buenos Aires: Editorial Albatros.
7. Chebez, J. C. (2008) *Los Que Se Van. Aves. Tomo 2*. Buenos Aires: Editorial Albatros.
8. Cockle, K. L. (2010) Interspecific cavity-sharing between a Helmeted Woodpecker (*Dryocopus galeatus*) and two White-eyed Parakeets (*Aratinga leucophthalma*). *Wilson J. Orn.* 122: 803–806.
9. Krauczuk, E.R. & Baldo, J. D (2004) Contribuição para o conhecimento da avifauna de um fragmento de floresta com araucária em Misiones, Argentina. *Atualidades Orn.* 119: 6.
10. Santos, R. E. F. (2008) *Dryocopus galeatus* (Temminck, 1822): registro documentado e novas informações para o Vale do Rio Itajaí, Santa Catarina, Brasil. *Atualidades Orn.* 143: 20–23.
11. Short, L. L. (1982) *Woodpeckers of the world*. Greenville: Delaware Museum of Natural History.
12. Winkler, H., Christie, D. A. & Nurney, D. A. (1995) *Woodpeckers: a guide to the woodpeckers, piculets and wrynecks of the world*. Mountfield, UK: Pica Press.

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