Rediscovery of the Blue-bearded Helmetcrest *Oxypogon cyanolaemus*, a hummingbird lost for almost 70 years

Redescubrimiento del Barbudito Azul Oxypogon cyanolaemus, un colibrí perdido para casi 70 años

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Abstract

We present the first photographs in life of Blue-bearded Helmetcrest *Oxypogon cyanolaemus*. This hummingbird species is endemic to high elevations of the Santa Marta mountains in Colombia. It was last recorded in 1946, despite various searches. Three individuals were observed in a remote part of the mountain range, in páramo that had recently been decimated by a fire started by local inhabitants. Urgent conservation action at this locality is warranted.

Keywords Conservation, Santa Marta mountains, rediscovery, Colombia

Resumen

Presentamos las primeras fotografías del colibrí el Barbudito Azul *Oxypogon cyanolaemus* vivo. Esta especie, es endémica de las elevaciones altas de la Sierra Nevada de Santa Marta en Colombia. Fue registrada por última vez en 1946 a pesar de varias búsquedas. Tres individuos fueron observados en un área remota de la Sierra Nevada de Santa Marta, en un páramo recientemente quemado por habitantes locales. Se necesitan acciones de conservación urgentes en esta localidad.

Palabras clave Conservación, Sierra Nevada de Santa Marta, redescubrimiento, Colombia

Introduction

The taxonomy and conservation status of the Bluebearded Helmetcrest, an endemic of the Santa Marta mountains of Colombia, were recently studied by Collar & Salaman (2013). They summarised the situation of the species as follows: "Oxypogon cyanolaemus appears to be in serious danger. Of 62 cvanolaemus museum specimens logged by Project BioMap (Biomap Alliance 2013) the most recent were collected in 1946 by M. A. Carriker (23 specimens held in USNM). There appear to be no records of it since that time. In February 2007 Niels Krabbe undertook a brief survey of the paramo on the southern slope of the Santa Marta Massif for Fundación ProAves, but no Oxypogon was sound recorded (Krabbe 2008) or reported (N. Krabbe in litt. 2007). Todd & Carriker (1922) noted that cyanolaemus was 'found very sparingly' and 'very shy', and also noted 'Bushes and shrubbery are scare on this paramo [Paramo de Mamarongo], hence the few birds found there', possibly indicating habitat degradation. Strewe & Navarro (2004) found a pair of the very rare Santa Marta Wren Troglodytes monticola at high elevations on Santa Marta but did not record Oxypogon. Luna & Quevedo (2012) recently carried out surveys at higher elevations in the Santa Marta mountains, also encountering T. monticola and finding important populations of Ramphomicron dorsale in remaining patches of subparamo, but similarly did not record *Oxypogon*." The species was subsequently declared Critically Endangered by BirdLife International (2015).

As a result of Collar & Salaman (2013) drawing attention to the plight of this species, we have been looking out for it in connection with our conservation work based at Fundación ProAves' Reserva Natural de Aves El Dorado. The reserve lies below elevations suitable for *Oxypogon* but is contiguous with the large national park, which covers higher elevations.

Methods

During a prolonged and particularly intense dry season in February 2015, National Park staff made us aware of an ongoing issue with fires being set by indigenous peoples across the Parque Nacional Natural Sierra Nevada de Santa Marta (Fig. 3). Due to a concern about the environmental impacts of these fires, we used some of our vacation time to explore the higher elevations of the mountain range and record the fires that were destroying fragile natural habitats (Fig. 6).

Observations

At 11:00 AM on 4 March 2015, during surveys of fires in high elevations (3,930 m elevation) of the Sierra

Nevada de Santa Marta some 14 hours by foot above ProAves' reserve, CJS saw a small bird move quickly past him and perch on a bush nearby. He took a quick photograph of it before it flew off. The photograph on the camera screen revealed the striking plumage of the long-lost Blue-bearded Helmetcrest.

We then decided to set up camp and for the next two days conducted observations around the area. We documented a total of three individuals of the Helmetcrest within three tiny scattered patches of habitat on steep hillsides and surrounded by the remains of burnt vegetation, all in an area of less than 10 hectares.



Figure 1. First ever photographs in life of the spectacular Blue-bearded Helmetcrest (*Oxypogon cyanolaemus*).

Oxypogon hummingbirds are typically closely associated with Frailejon plants (*Espeletia*). The sole endemic Frailejon species in the Sierra Nevada, *Libanothamnus occultus*, was sparsely present where we saw the hummingbird, with none in flower at this time. There were few surviving flower shrubs or plants where we located the species, but we did document and photograph feeding on four herbaceous and shrub flowering plants that are presently being identified.

Individuals clung to vegetation while feeding and also hovered. All were totally silent during periods of perching and feeding. However, a flight call broadly reminiscent of Green Violetear *Colibri thalassinus* was heard during prolonged direct flights across larger distances. Unfortunately, we were unable to make sound recordings of vocalisations.



Figure 2. Blue-bearded Helmetcrest (*Oxypogon cyanolaemus*) in low vegetation (same individual as Fig. 1).

Individuals were predominantly seen in the morning from 08:00-09:30 hours (after night-time frost had melted) and from 16:00-18:00 hours, before probably staying at a nearby roost. Between 9:30 to 16:00 hours, we suspect that individuals may have wandered across a larger area in search of flowers before returning to this key site. Unfortunately, other areas outside the 10 studied hectares of natural habitat were severely affected by burning and almost all natural vegetation except grasses was destroyed, so we suspect their flowering resources to be thinly distributed over a broader area of potentially hundreds of hectares.

Various photographs of the Helmetcrest were taken (Figs. 1-2). Collar & Salaman (2013) illustrated specimens of all species in the genus and analysed plumage differences. They considered O. cyanolaemus uniquely to possess a (narrowly white-bordered) glittering purplish-blue beard, dull greenish sheen on the crown-sides, brown-and-whitish mottled underparts, a white undertail except for dark distal edges and central rectrices and a relatively short crest. All these features are clearly visible from the photographs presented here. The photographs

presented here clearly match those of *O. cyanolaemus* specimens in Collar & Salaman (2013). Blue-bearded Helmetcrest is a highly distinctive species in its plumage and no other species in this genus is expected at the observation locality high in the Santa Marta mountains. There can be no doubt as to the identification based on the photographs presented, and that this long-lost species has finally been found.

Several pairs of the Critically Endangered Santa Marta Wren *Troglodytes monticola* were also present alongside the Helmetcrest. This species was itself only recently rediscovered (Luna & Quevedo 2012) and the discovery of a new locality gives further hope for its conservation.

Conservation issues

The highest elevations of Sierra Nevada de Santa Marta were declared a National Park in 1964. Fifteen years later, in 1979, the park was declared a UNESCO Biosphere Reserve. Several indigenous reserves cover the mountain range, with approximately 50,000 indigenous people present, principally of the ethnic groups the Kogis and Arhuacos.



Figure 3. Fires being set across the Sierra Nevada de Santa Marta, nearby a Kogi farmstead.

Sadly, the survival of the Blue-bearded Helmetcrest hangs by a thread. The impacts of recent fire damage are everywhere to be seen around the site of its rediscovery, with many charred remnants of natural paramo plant species (Figs. 4-5). Local people allege that Kogi indigenous peoples have been setting fires and running pigs and cattle across the higher parts of the massif. It is crucial that fires are stopped immediately and that cattle and pigs are removed from the highest elevations of the Santa Marta mountains to allow the fragile páramo ecosystem to recover. If this is not done, this unique hummingbird and equally rare plants which comprise its habitat could become extinct.

Unfortunately, the situation for introducing practical conservation measures to protect this species is complicated, because indigenous peoples living in Colombia's national parks are afforded special rights to carry on their livelihoods. In contrast, over one million inhabitants of the dry, arid lowlands below the Sierra Nevada depend on the filtration and provision of water from its snow-capped mountains, páramo and montane forest ecosystems. Further degradation of the páramo by fires for livestock production not only endangers the survival of the Blue-bearded Helmetcrest, but could also result in further desertification and pollution impacting downstream human populations.



Figures 4-5. Environmental damage caused by forest fires, even affecting vegetation clinging to steep rocky hillsides above 4,200 meters elevation.

The Sierra Nevada de Santa Marta National Park has been considered the world's most important protected area for the conservation of threatened terrestrial species – rated across over 173,000 protected areas worldwide (Le Saout *et al.* 2014). The damaged habitats of the Blue-bearded Helmetcrest are already subject to the highest possible level of legal protection

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in Colombia. The prioritisation of the region for conservation attention is already well-justified and legal protection are therefore already theoretically in place. Conservation efforts should therefore focus on environmental education and other community initiatives with the collaboration of conservation organisations, the National Parks authority, and indigenous peoples. Working with local communities to find solutions that protect their interests and livelihoods while beginning to protect and restore tracts of paramo habitat needs to be stressed. Further initiatives are needed to survey other remaining paramo patches for the Helmetcrest and Wren, to investigate their ecology and habitat needs and to find better-preserved habitat. We also need to understand better the farming practices of the Kogis in more detail and consider how these can be reconciled with conservation outcomes.

If all these groups understand better the importance of saving the Blue-bearded Helmetcrest and its habitats, it is possible that such collaborations could lead to better prospects for the future of threatened species of the Sierra Nevada de Santa Marta – the planet's most irreplaceable mountain for biodiversity.

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Figure 6: The authors searching for fires across the Sierra Nevada de Santa Marta.