**Australasia -- Cinclosomatidae: Split Black-vented Jewel-Babbler (*Ptilorrhoa nigrocrissus*) from Blue Jewel-Babbler (*P. caerulescens*). #50**

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AusRAG committee input from Andrew Black, Guy Dutson, Anna Kearns, and Leo Joseph

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**Main Points:**

(1) For some time now, the two readily diagnosable subspecies of the Blue Jewel-Babbler -- *Ptilorrhoa caerulescens caerulesc*ens primarily from the Bird's Head, New Guinea and *P. c. nigrocrissus* from the southern lowlands of New Guinea -- have been known to co-exist where their ranges meet on the Bird's Neck Isthmus. Evidence comes both from specimens (Rothschild 1931:265; Hartert et al. 1936:222) and observation (Diamond et al. 2019, see below).

(2) These two forms coexist by separating ecologically by elevation, with *caerulescens* confined to the forested foothills (150-300 m elevation), and *nigrocrissus* claiming the coastal lowlands.

(3) The two forms are distinct vocally (see Diamond et al. 2019 extract below).

(4) A recently published phylogenetic study of all named taxa of jewel-babblers (apart from the recently described but uncollected *P. urrissia*) has identified *Ptilorrhoa caerulescens* as paraphyletic, with the subspecies *nigrocrissus* sister to the species *P. geislerorum* (Blom et al. 2025). The paper proposes elevating *nigrocrissus* to species status.

(5) The Australasian RAG has reviewed the proposal with a quorum of 5 members supporting it and none opposing. Upon request of one of the members, TKP checked at the American Museum of Natural History the identification of the specimens of both species from the zone of geographical overlap on the Bird's Head isthmus and found them to be correct; furthermore these was no evidence of hybridization, although admittedly this would be hard to detect

**Recommendation 1:**

Recognize as a species the monotypic s Black-vented Jewel-Babbler, *Ptilorrhoa nigrocrissus*. This leaves the Blue Jewel-Babbler, *P. caerulescens*, with two subspecies, (a) the nominate subspecies on the Bird's Head and Bird's Neck and (b) the rather thinly differentiated *P. c. neumanni* of New Guinea's northern watershed, from the Mamberamo River to Astrolabe Bay.

**Recommendation 2:**

There is no need to alter the position of *nigrocrissus* in the AviList sequence, where it follows *P. caerulescens neumanni* and precedes *P. geislerorum*.

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Distributional and Vocal Evidence.

Diamond, J. D., K. D. Bishop, and R. Sneider. 2019. An avifaunal double suture zone at the Bird's Neck Isthmus of New Guinea. The Wilson Journal of Ornithology, 131: 435-458. https://doi.org/10.1676/18-167

Diamond et al 2019:455-456, extracted here.

"*Ptilorrhoa caerulescens* complex. Blue Jewelbabbler. Our observations of vocalizations reinforce previous morphological evidence that this species illustrates several stages in speciation.

On the basis of plumage characteristics the lowland jewel-babblers were traditionally assigned to a single species, *P. caerulescens*, divided into 3 groups of populations: the sexually monomorphic races *P. c. caerulescens* (Vogelkop east to Etna Bay in the south, and to the east shore of Geelvink Bay in the north) and *neumanni* (the northern watershed east of the Mamberamo River); the weakly dimorphic race *nigricrissus* (southern watershed west to Etna Bay); and the strongly dimorphic race *geislerorum* (northern watershed of southeast New Guinea west to the Adelbert Mts.). But 2 complications arose. First, *neumanni* and *geislerorum* proved to be sympatric in the Adelbert Mts. and Huon Peninsula (Beehler and Pratt 2016:357, plus our observations), with *geislerorum* (now *P. geislerorum*) at higher elevations and the monomorphic *neumanni* of the *caerulescens* group at lower elevations. Second, the southern-watershed form *P. nigricrissus* was found sympatrically with the northern-watershed form *caerulescens* on the east shore of Geelvink Bay. Examining those records in detail—one specimen collected by Shaw Mayer in the Siriwo district (Rothschild 1931:265) plus 11collected by Stein at KampongWanggar and Unterer Menoo (Hartert et al. 1936:222)—we find that, there too, the 2 forms segregate altitudinally, with the monomorphic *caerulescens* now at higher elevations (all 6 specimens at 150–300 m) and the dimorphic *nigricrissus* now at lower elevations (5 of 6 specimens at sea level).

In the field we observed that the dimorphic and monomorphic populations are distinct vocally. All populations of *caerulescens*, *neumanni*, and *nigricrissus* known to us share a song consisting of a very high-pitched broken whistled repeated note at constant pitch, plus an explosive call of 2 identical notes ''tsp! tsp!'' in quick succession. Only the monomorphic populations have an additional remarkable song that we term the ''hezok

song'' from the name given to it in the Bauzi language of the Van Rees Mts. The hezok song is a loud, crescendoing, dry, insect-like, totally unmusical, extremely rapid series of notes at constant pitch, lasting several seconds (Fig. 10). We heard the hezok song frequently at 5 locations within the range of the monomorphic populations: Weri and Wanggasten in the Fakfak Mts. and the north slope of the Kumawa Mts. (race caerulescens), and Danau Bira and Biri in the Van Rees Mts. (presumably race *neumanni*). But we have never heard the hezok song at any location in the southern-watershed range of *nigricrissus* (Strickland River, Fly River, Oriomo, many sites in the Kikori River drainage), nor did we ever hear it on the Isthmus, although we encountered birds of the *P. caerulescens* complex and heard their broken-whistle song and explosive call on most days. Isthmus birds that we saw briefly were blue with a white throat and no brown, ruling out *geislerorum* but insufficient to distinguish visually among *caerulescens*, *neumanni*, and *nigricrissus*.

We suggest the following interpretation for testing by field observations and specimens. The southern watershed form *nigricrissus* has spread north across the Isthmus to achieve sympatry with the vocally very distinctive northern-watershed form *caerulescens* in a strip at least 50 km wide on the north coast, where the 2 forms segregate altitudinally. Hence *P. nigricrissus* and *P. caerulescens* are distinct species at the earliest stage of speciation. The same process is unfolding for *P. geislerorum* and *P. caerulescens* in a wider strip in the Adelbert Mts. and Huon Peninsula. The same process has also unfolded 2 other times to completion, because *P. caerulescens*/*P. nigricrissus* are now sympatric over all of New Guinea with the higher-elevation species *P. castanonotus* (which sings its own version of the hezok song but with a different quality), in turn sympatric over all of New Guinea with the still-higher elevation species *P. leucostictus*."

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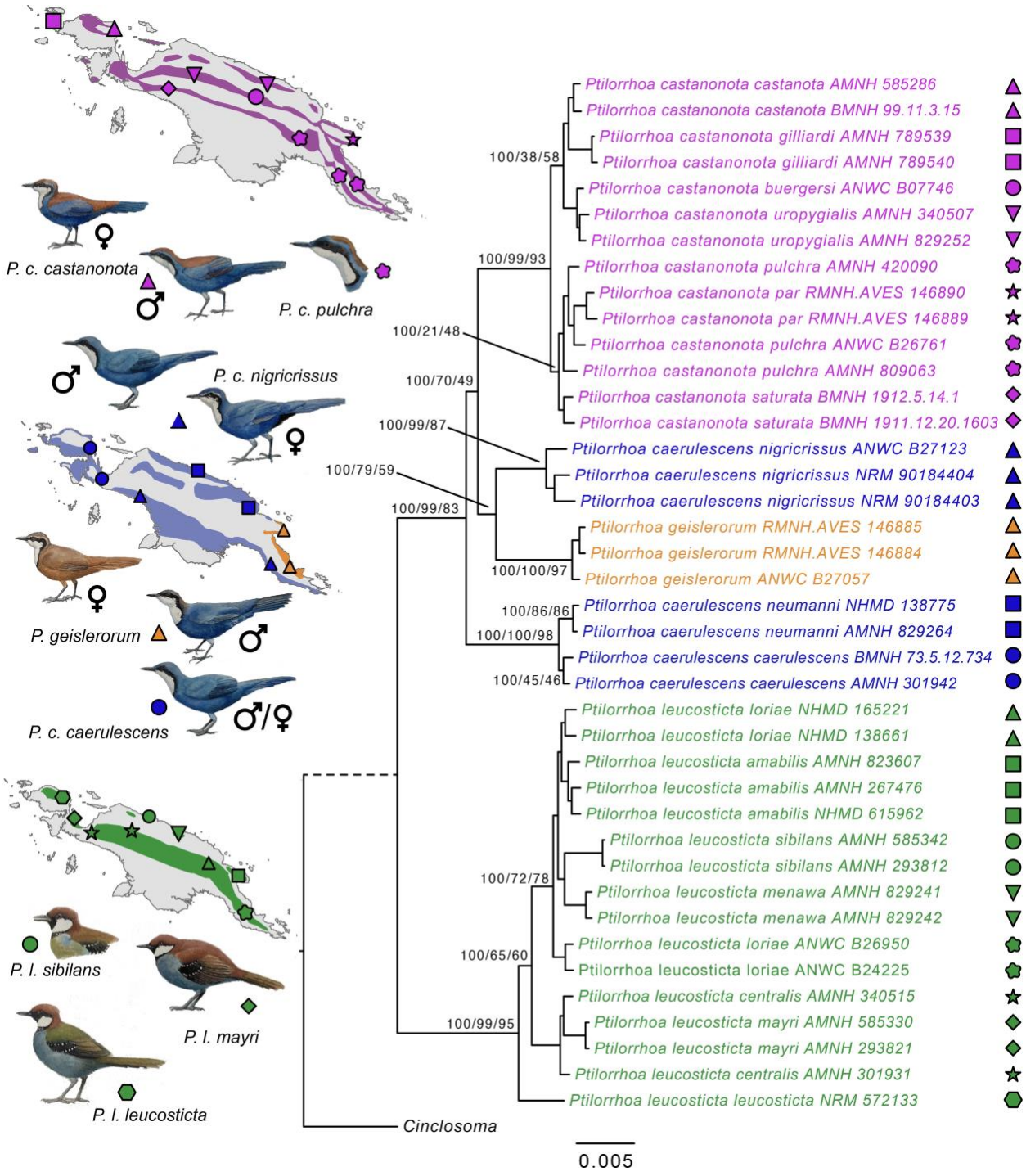
Genetic Evidence.

Blom, M. P. K, S. Bloom-Quinn, P. Z. Marki, B. Koane, L. Joseph, M. Irestedt, and K. A. Jønsson. 2025. Museomics unravels cryptic diversity in an endemic group of New Guinean songbirds. Biol. Lett. 21: 20240611. https://doi.org/10.1098/rsbl.2024.0611

"In this study, we focus on an endemic group of New Guinean birds, the jewel-babblers (genus: Ptilorrhoa), and study the diversification history of all known taxa. We assemble a de novo genome using linked-read sequencing and genomic data for 40 historical specimens. Both phylogenomic and population-genomic analyses strongly support the recovery of a cryptic species and shed new light on the diversification history of this group. The blue jewel-babbler (*Ptilorrhoa caerulescens*) is a paraphyletic species complex and *P. c. nigricrissus* is more closely related to the phenotypically distinct and sexually dimorphic *P. geislerorum*, than to other *P. caerulescens* subspecies." Blom et al. 2025, quoted from abstract.




"Figure 1. Phylogenetic history of *Ptilorrhoa* species with biogeographic distributions. The phylogeny was inferred using maximum-likelihood and a concatenated dataset of 10 kb autosomal genomic windows sampled at 100 kb intervals. The phylogeny has been manually rooted at the *Cinclosoma p. dovei* outgroup. Numbers at nodes indicate bootstrap support values, window- and site-concordance factors. Population sampling

sites are indicated on the geographic map of New Guinea. Illustrations of *Ptilorrhoa* species (by Jon Fjelds.) are presented with an emphasis on plumage differences between sexes and across species. Tip names are coloured to indicate currently recognized species. The branch leading to the outgroup *Cinclosoma p. dovei* is dotted to indicate that the branch has been shortened for graphical purposes." (Blom et al. 2025:3).

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