

**Sympatry of the Black-faced Hawk *Leucopternis melanops*  
and the White-browed Hawk *Leucopternis kuhli* in the  
Lower Rio Tapajós, Pará, Brazil**

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## **Abstract**

O genero neotropical *Leucopternis* contem 10 espécies de gaviões sub-buteonine, todos os quais habitam as florestas úmidas. Duas especies deste genero, *Leucopternis melanops* e *Leucopternis kuhli*, são geralmente consideradas serem aloespécies, e a anterior evidência de simpatria nas baixos margems do rio Tapajós estava pensamento duvidoso por causa a validade da situação dos pontos das coleções esta incerto. Porém, aqui nos relatamos sobre capturas destas duas especies nas matas na margem oeste do baixo rio Tapajós, Amazonia central, Brasil. Algumas outras especies interessante neste região estão notificadas também.

Black-faced Hawk *Leucopternis melanops* is distributed north of the Amazon river and has been considered allopatric with *Leucopternis kuhli*, a similar species (or race separated by the Amazon river<sup>4</sup>) south of the Amazon<sup>12</sup>. However, doubt exists as to whether *L. melanops* also occurs south of the Amazon. Although two specimens of *L. melanops* were reportedly collected in the Tapajós region by the Olallas in the 1930s<sup>1</sup>, the accuracy of this has been brought into question owing to a lack of subsequent evidence and because the validity of these collection localities has been questioned<sup>1</sup>. Most subsequent authors describe *L. melanops* as being restricted to forests north of the Amazon [Hellmayr & Conover<sup>6</sup>, Grossman & Hamlet<sup>3</sup>, Haffer<sup>4</sup>, Sick<sup>12</sup> and Oren<sup>7</sup>] and only Stotz et al.<sup>13</sup> regard it as occurring south of the Amazon. Here we report on the capture of both species in forest in the Arapiuns area, on the west bank of the Rio Tapajós.

The hawks were trapped in mist-nets, during research on the impacts of ground fires on understorey avifauna. The nets were located in the understorey of terra firme forest within 4 km of the village of Cachoeira de Maró, in westernmost Pará, Brazil

(02°34'S 55°22'W) on the Maró, a clear water tributary of the Arapiuns, and at the western limit of the newly created Tapajós-Arapiuns extractive reserve (RESEX Tapajós-Arapiuns). This area was unsampled prior to this investigation<sup>7</sup>, but there are several collecting sites within 50 km of both banks of the Tapajós<sup>7,8</sup> and the avifauna of the Tapajós National Park, 200 km to the south, is well documented<sup>9</sup>. Other species of interest recorded in these forests include the Tapajós-Madeira interfluvial endemics *Dendrocolaptes hoffmannsi*, *Pteroglossus bitorquatus*, *Pipra nattereri* and *Rhegmatorhina berlepschi*. The spectacular *Conopophaga melanogaster* is relatively abundant in these forests, and we captured two *Dendrocolaptes picumnus*, a species unrecorded in Tapajós National Park and whose presence here increases the regions already impressive list of woodcreepers to 20 species.

Both birds were caught in unburnt primary forest and weighed (*L. kuhli* = 342.5g; *L. melanops* = 350g), measured (in mm, wing measurements are for extended chord; *L. kuhli*; wing = 215, tail = 135; *L. melanops*; wing = 216, tail = 145) and photographed in the hand (Fig. 1). Both species were attracted to mist-nets by captured birds: *L. melanops* learnt the benefits of the nets quickly and was caught attempting to prey upon a Snow-capped Manakin *Pipra nattereri*, while *L. kuhli* was caught preying upon a Rufous-capped Antthrush *Formicarius colma*. The mist-net captures were our only records of these secretive forest birds during five months in the region, although this is unsurprising given that both are considered rare and of restricted range<sup>7,12</sup>. Furthermore *L. kuhli* is known to follow primate groups<sup>10</sup> and the relatively heavy hunting pressure in this area meant that these were only rarely encountered.

The capture of these two secretive forest hawks within forests only 6 km apart suggests the species may be sympatric in the lower Tapajós region, and parapatric

rather than allopatric in general, occupying 'narrowly overlapping ranges'<sup>5</sup>. However, with only one capture of each we cannot be certain about the possibility of hybridisation in this region, though the two specimens collected by the Olallas (if considered valid) and our own captures indicate their sustained sympatry in this area and suggest they are able to occupy different niches. However, we have little evidence to suggest a mechanism for the co-existence of these similar species, as the diets and foraging behaviour of both are poorly known. Information on the stomach contents of three *L. kuhli* specimens demonstrate that birds, reptiles and beetles are among their prey, and Robinson<sup>11</sup> makes a preliminary classification of *L. kuhli* as a predator of small vertebrates and large arthropods. Del Hoyo et al.<sup>2</sup> state that snakes are the main prey of all *Leucopternis*, suggesting a similar diet for *L. melanops* if this is correct. There is also little to suggest these species partition habitat use and both our specimens were caught in tall mature primary forest supporting their classification by Stotz et al.<sup>13</sup>. However, available information may suggest a difference in foraging technique: *L. kuhli* is a known primate commensal<sup>10</sup>, but we have found no records of such behaviour by *L. melanops*. Records of Marc van Roosmalen (pers. comm.) and Zhang<sup>14</sup> demonstrate that north of the Amazon this niche is occupied by *L. albicollis*.

To conclude, the record of *L. melanops* in the Tapajós region lends support to the validity of the specimens collected by the Olallas in the 1930s, and suggests that these species should not be considered allospecies or races, as suggested by Haffer<sup>4</sup> and Sick<sup>12</sup>. Further work in the relatively unknown interior forest between the rios Tapajós and Madeira would help shed more light on the range of *L. melanops* south of the Amazon, and the extent to which these species are able to coexist.

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**Figure 1.** *L. kuhli* (top-left and bottom right) and *L. melanops* (others), showing characteristic features such as single white tail band. The main plumage differences of *L. kuhli* such as the “mainly blackish slate coloration of the pileum and hind neck, the absence of the white spots on wing coverts and scapulars, and the possession of conspicuous white superciliaries”<sup>6</sup> are clearly shown. Both specimens are phenotypically typical of the species elsewhere in their ranges, suggesting they are not hybridising in this area. (Photos: T. Haugaasen)

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