

New records and habits of the White-browed Foliage-gleaner (*Anabacerthia amaurotis*) (Passeriformes: Furnariidae) in Rio Grande do Sul, southern Brazil

Glayson Ariel Bencke¹

Departamento de Zoologia, Universidade Estadual Paulista, C. P. 199, 13506-900, Rio Claro, SP, Brasil

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RESUMO. Novos registros e hábitos do limpa-folha-miúdo (*Anabacerthia amaurotis*) (Passeriformes:Furnariidae) no Rio Grande do Sul, Brasil meridional. O limpa-folha-miúdo (*Anabacerthia amaurotis*) era conhecido no estado do Rio Grande do Sul por apenas um espécime coletado por Emil Kaempfer no final da década de 1920 nos arredores de Santa Cruz do Sul, região central do estado. Recentemente, novos registros da espécie foram obtidos pelo autor no mesmo município onde o exemplar de Kaempfer foi coletado, e também no município de Terra de Areia, no extremo nordeste do estado. O limpa-folha-miúdo ocupa principalmente os estratos inferiores da floresta e é um membro regular dos bandos mistos de pássaros do sub-bosque, cuja espécie nuclear na região é *Habia rubica*. A espécie apresenta uma acentuada preferência por matéria vegetal morta como substrato de forrageamento, incluindo folhas secas enroladas e lianas ou ramos apodrecidos.

Os registros disponíveis sugerem que *A. amaurotis* possa estar distribuído continuamente ao longo da Serra Geral no Rio Grande do Sul, dispersando-se em direção ao interior diretamente a partir da Mata Atlântica através da mesma via pela qual outras espécies típicas desta formação fitogeográfica atingem a região central do estado, tais como *Ortalis motmot*, *Triclaria malachitacea* e *Carpornis cucullatus*.

PALAVRAS-CHAVE: *Anabacerthia amaurotis*, Rio Grande do Sul, distribuição, bandos mistos, forrageamento.

KEY WORDS: *Anabacerthia amaurotis*, Rio Grande do Sul, distribution, mixed-species flocks, foraging behavior.

The White-browed Foliage-gleaner (*Anabacerthia amaurotis*) is a near-threatened furnariid (Collar *et al.* 1992) endemic to the Atlantic Forest region, with a rather restricted range in southeastern Brazil and adjacent Argentina and Paraguay (Ridgely and Tudor 1994). Its inclusion by Belton (1978, 1994) on the list of birds of Rio Grande do Sul State, southern Brazil, was based on a single specimen collected by Emil Kaempfer at the municipality of Santa Cruz do Sul in the late-1920's (Belton 1974). The rather curious origin of this specimen - an isolated locality in the center of the state - along with the absence of modern records, gave rise to doubts about the status of this species and its continued existence in Rio Grande do Sul. During recent field work, however, I rediscovered the species at Monte Alverne, in the same municipality where Kaempfer's specimen was obtained, and also encountered it at an additional locality in the extreme northeastern part of the state. Below, notes on the occurrence, habits, foraging behavior and vocalizations of *A. amaurotis* in Rio Grande do Sul are given. A detailed description of the Monte Alverne study site is presented in Bencke (in press). The nomenclature and definitions of foraging maneuvers follow Remsen and Robinson (1990). The foraging data below should be viewed with caution as the sample size is limited. Recordings were made with a Sony TCM-74V cassette recorder and a Sennheiser ME66 shotgun microphone.

Records. The first definitive record of *A. amaurotis* at Monte Alverne was on 27 October 1994, when I had a close view of one foraging in the understory of a 100-ha primary-forest remnant about 3 km west of Monte Alverne village (29° 33' S, 52° 21' W; 500 m a.s.l.; corresponding to "locality 3" in Bencke, in press). Fast-disappearing individuals glimpsed in the same locality in previous opportunities were not positively identified because of the possibility of confusion with the Sharp-billed Treehunter *Heliobletus contaminatus*, a furnariid very similar in size, plumage and bill-shape. As no specimens were collected, *A. amaurotis* was identified on that occasion and in later encounters on the basis of field characters diagnostic between both species, such as the upper-back plumage pattern (unstreaked in *A. amaurotis* and streaked buffy in the local subspecies *camargoi* of *H. contaminatus*) (Silva and Stotz 1992) and the color of eyebrow and throat (whitish in the former and buffy in the latter) (Ridgely and Tudor 1994). In addition to these characters, *A. amaurotis* has a shorter eyebrow relatively to *H. contaminatus*, not

extending so as to almost join the opposite one on the nape. The voice and posture (see below) also helped in the field recognition of *A. amaurotis*. *Anabacerthia amaurotis* is a year-round resident at Monte Alverne, having been recorded so far at only one site.

At Terra de Areia, *A. amaurotis* was recorded in two visits to a remnant of Atlantic Forest *sensu stricto* (29° 22' S, 50° 11' W; 350 m a.s.l.) on the abrupt escarpment (Serra Geral) of the Brazilian Southern Plateau at northeastern Rio Grande do Sul, on 12 August and 14 October 1995, in primary and mature secondary forests.

Habitat and behavior. *Anabacerthia amaurotis* occupies primarily the forest understory, actively scanning the fronds of small trees, but also occurs at midlevel and lower canopy, mainly in the early morning when not associated with mixed-species flocks. Occasionally, it occurs near the ground, especially in bamboo thickets. Most sightings ($n = 27$) were of birds foraging between 0.3-7 m above the ground, and only a quarter of the observations were of birds in middle story or subcanopy between 9-15 m (canopy at c. 18-23 m).

J. L. B. Albuquerque (*in litt.* 1995) has often observed *A. amaurotis* in second-growth woodlands in Santa Catarina State. At Monte Alverne, I did not record *A. amaurotis* in secondary forests, in part because the larger remaining patches of forest in the region are mostly primary, but the species occasionally occurs in fairly disturbed habitats at forest edges and, at Terra de Areia, also in old secondary forests contiguous to primary ones.

In southeastern Brazil, *A. amaurotis* typically occurs in montane forests above 600 m in the "serras" of the coast (e.g., Pinto 1978, Willis and Oniki 1981, 1991:32, Scott and Brooke 1985, Graham 1991, Höfling and Lencioni 1992, Ridgely and Tudor 1994). In the southern portion of its range, it is usually found at lower elevations (it has been recorded as low as 50 m in Santa Catarina State; J. L. B. Albuquerque (*in litt.* 1995), as it occurs with several other highland species of the Atlantic Forest, such as *Stephanoxis lalandi*, *Hemitriccus obsoletus* and *Stephanophorus diadematus* (Sick 1985). In Rio Grande do Sul, *A. amaurotis* appears to be a species of middle elevations. Near Terra de Areia, it was not recorded either in mixed Araucaria woodlands at the top of the Serra Geral escarpment in Tainhas (29° 18' S, 50° 11' W; 1000 m a.s.l.), where *H. contaminatus* is fairly common, or in coastal forests at sea level. In Santa Catarina State, most records of *A. amaurotis* are from altitudes between 100

and 700 m (J. L. B. Albuquerque, *in litt.* 1995).

Anabacerthia amaurotis is a regular member of mixed-species flocks of the understory, whose nuclear species in the region is the Red-crowned Tanager *Habia rubica*. In about 80% of the records ($n = 38$), *A. amaurotis* was associated with interspecific flocks, which in addition to *Habia rubica* also frequently included *Philydor rufus*, *Lepidocolaptes fuscus*, *Cyclarhis gujanensis*, and *Basileuterus culicivorus*, and occasionally *Veniliornis spilogaster*, *Lepidocolaptes squamatus*, *Sittasomus griseicapillus*, *Syndactyla rufosuperciliata*, *Synallaxis ruficapilla*, *Dysithamnus mentalis*, *Phylloscartes ventralis*, *Hylophilus poicilotis*, and *Trichothraupis melanops*, among others. I often observed *A. amaurotis* as the only species associated with homospecific groups of *H. rubica*, suggesting that it seeks to follow this species in particular rather than join mixed-species flocks in general. I recorded *A. amaurotis* accompanying bird flocks not containing *H. rubica* only five times. In southeastern Brazil, another furnariid, the White-eyed Foliage-gleaner *Automolus leucophthalmus*, also regularly follows homospecific groups of *H. rubica* (E. O. Willis, pers. comm. 1994). Normally, I observed only one individual or a pair per bird flock, but at Terra de Areia three individuals were foraging in a mixed-species flock early in the breeding season of 1995 (October). Members of a pair usually forage away from one another within interspecific groups.

J. L. B. Albuquerque (*in litt.* 1995) and Albuquerque and Brüggermann (*in press*) list the Black-capped Foliage-gleaner *Philydor atricapillus* as one of the most common attendants of interspecific flocks accompanied by *A. amaurotis* in the neighboring state of Santa Catarina, together with *H. rubica* and *Philydor rufus*. In Rio Grande do Sul, however, *P. atricapillus* is restricted to lowland coastal forests in the extreme northeastern state (Belton 1994), where *A. amaurotis* does not occur (see above), and it appears rather that the latter species replaces the former in mixed-species flocks of *H. rubica* at middle elevations and southward along the Serra Geral in Rio Grande do Sul.

Foraging behavior. *Anabacerthia amaurotis* forages actively and moves rapidly through the vegetation, commonly employing acrobatic postures while foraging, including hang-up, hang-sideways, hang-upsidedown and, rarely, hang-down. It also frequently hops up vertical perches, such as bamboo stems, pendent lianas and slender stalks. While moving between foraging substrates, however, it maintains a nearly horizontal posture, unlike *H. contaminatus*, which stays most of time hanging vertically from substrates. *Anabacerthia amaurotis* often searches dense tangles of suspended lianas and twigs in the lower growth and middle level and often investigates both dead-leaf clusters and isolated dead leaves. Twice I saw it probing debris trapped at the base of leaves of young understory palms.

Attack maneuvers ($n = 30$) most frequently recorded were glean (2), peck (2), and especially probe (13) and a

variant of the pull maneuver in which the bird grasped and pulled a distant substrate (usually a curled dead leaf) with its bill and gripped it against the perch with the feet to inspect it through the maneuvers probe, peck or pull (9). Probes were used principally to take out hidden prey from curled dead leaves. The maneuvers peck and pull, and apparently also gape (one record), were often used to tear dead leaves or rotting twigs and lianas. Aerial maneuvers, rarely observed, included a sally-strike toward the foliage and a sally-pounce at an outer green leaf of a branch.

The species showed a remarkable preference for dead vegetation as foraging substrates, including dry leaves, and rotted twigs and lianas. Roughly four-fifths ($\approx 80\%$) of all foraging maneuvers observed ($n = 33$) were at dead vegetation in general, and about 60% were at dead leaves. Based on the limited data available, the species would be classified as a regular user of dead leaves (Remsen and Parker 1984) which very frequently manipulates the substrate while searching for food, revealing a strong tendency toward specialization on the use of this resource (Rosenberg 1990 *after* Whitney 1994). *Anabacerthia amaurotis* seems to often investigate live foliage and branches when foraging but attempts to capture prey on these substrates were only very occasionally observed. I recorded two caterpillars and a small, unidentified insect extracted from dead leaves as preys of *A. amaurotis*.

I have not studied in the wild the other two species of *Anabacerthia*, *striaticollis* and *variegaticeps*, but they seem to share with *A. amaurotis* their active behavior and the preference for dead vegetation as foraging substrates, though they seem to be more often found in higher forest storeys (Hilty and Brown 1986, Ridgely and Tudor 1994); both regularly accompany mixed-species flocks. The Montane Foliage-gleaner *A. striaticollis* from the Andes of Venezuela south to Bolivia is listed as a dead-leaf specialist by Remsen and Parker (1984), and the Scaly-throated Foliage-gleaner *A. variegaticeps* is reported to have similar habits (Ridgely and Tudor 1994) and, much like *A. amaurotis*, to frequently investigate hanging vine tangles and dead branches in Costa Rica (Stiles and Skutch 1990) (although the Central American form of this species may be more closely allied to *striaticollis*; Stiles and Skutch 1990, Ridgely and Tudor 1994).

Vocalizations. In Rio Grande do Sul, the song of *A. amaurotis* is a rapid series of high-pitched (frequency amplitude of about 5-7.5 kHz), piercing notes in "staccato" delivered at a rather uneven cadence (figure 1A). The complete song lasts about two seconds but the number of notes and length varies widely. Although the overall impression is of a more or less horizontal sequence, the notes fluctuate in pitch throughout the series as the bird alternates between two types of notes. The higher one is remarkably similar to the contact calls in structure (compare notes 2-3 and 5-7 in the spectrogram A of figure 1 with those in B and C) and its main component of frequency is centered at about 7 kHz. The second note type is

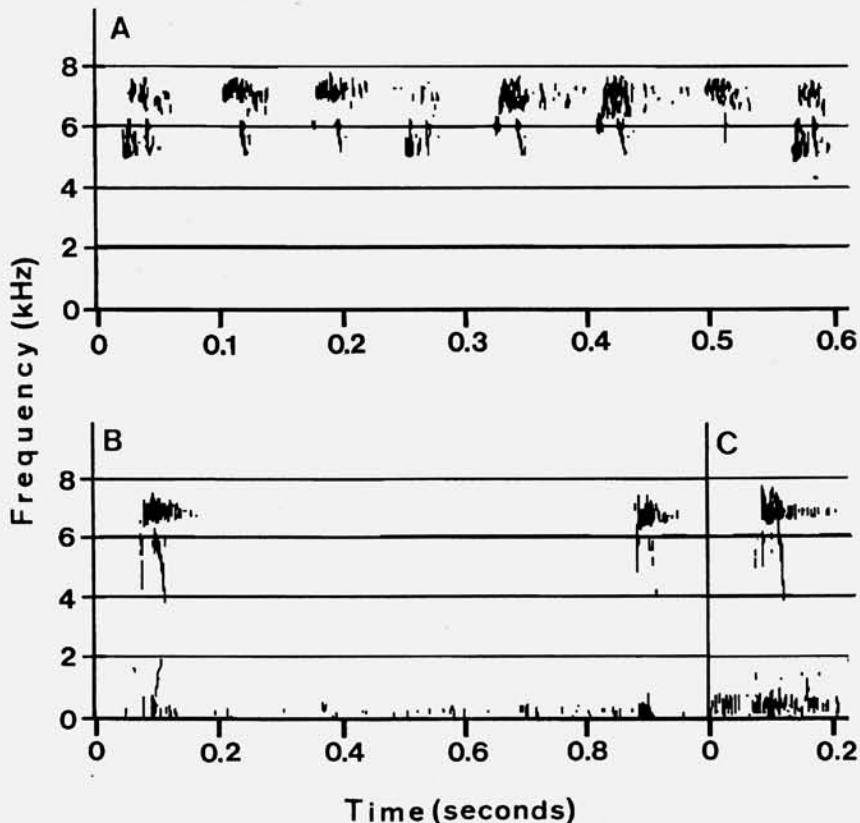


Figure 1. Vocalizations of *Anabacerthia amaurotis*. A: Series of intermediate notes of the song (complete song with 24 notes); 30 November 1995. B and C: "Pseek" contact calls of two individuals (28 November and 13 December 1995, respectively); individual in C is possibly the same as in A. All birds recorded at Monte Alverne, Santa Cruz do Sul, Rio Grande do Sul. Spectrograms produced with MacRecorder Sound System 2.0.5 (Micromind Paracomp) on a Macintosh Classic computer using a MacRecorder digitizer. Recordings were archived at the Laboratório de Bioacústica, Universidade Estadual Paulista, Rio Claro, São Paulo.

structurally diverse and sounds lower than the previous one because its basic component is centered at about 5.5 kHz, with a strong harmonic at about 7 kHz. I never recorded the shrieking final notes or longer songs (lasting "several seconds") as mentioned by Ridgely and Tudor (1994) for birds in southeastern Brazil. Differences in the song of birds from south and southeastern Brazil deserve investigation.

The usual call consists of single short notes irregularly paced "pseek...pseek..." (figure 1 B and C). This vocalization seems to be a contact call and is frequently given by members of pairs foraging in mixed-species flocks in response to each other. Another vocalization, heard only once, is a descending, high-pitched short trill ("trre'e'eu") registered during an agonistic encounter between two individuals in a flock. *Heliobletus contaminatus* delivers high-pitched shrieks while foraging, which are similar to some notes of *A. amaurotis*, but its song is a lower sequence of notes repeated at a regular cadence and whose notes do not fluctuate in pitch.

Distribution and status in Rio Grande do Sul. To date, *A. amaurotis* is known in Rio Grande do Sul from only two widely separated areas, and its full range in state is thus far unknown. Ridgely and Tudor (1994) tentatively included the north-central section of Rio Grande do Sul within the range of *A. amaurotis*, suggesting this as a way by which it reaches the Santa Cruz do Sul region. However, the species has not been cited for the 17,000-ha Turvo State Park (Albuquerque 1981, J.F. Pacheco and P.S.M. Fonseca, pers. comm. 1990, Mähler in press) and remains unreported from northern parts of the state. Alternatively, records from Terra de Areia indicate that *A. amaurotis* may disperse into central Rio Grande do Sul directly from the Atlantic Forest via the Serra Geral escarpment, as do other species of birds such as the Variable Chachalaca *Ortalis motmot*, the Blue-bellied Parrot *Triclaria malachitacea* and the Black-hooded Fruiteater *Carpornis cucullatus*, all of which do not regularly occur either in the north and northwest of the state or in adjacent Argentina (Narosky and Yzurieta 1993, Belton 1994).

The paucity of records of *A. amaurotis* in Rio Grande do Sul may reflect a genuine rarity near the southern limit of its range or may indicate that it was merely overlooked in previous surveys, owing to its inconspicuousness and the likelihood of confusion with other furnariids. However, until its status and distribution in Rio Grande do Sul are better known, the species should be considered rare and very local in state.

Anabacerthia amaurotis is not known to occur within any protected area in Rio Grande do Sul, and not a single conservation unit preserve what is left of the over-fragmented escarpment forest in the center of the state. Fortunately, there is a plan to establish a reserve exactly at the site where the species has been recorded at Terra de Areia, because of the construction of a highway which will cross the area.

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