Cecropia fruits and Müllerian bodies in the diet of Chestnut-bellied Seedeater Sporophila castaneiventris

Sérgio Henrique Borges and Ingrid Torres de Macêdo

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Frutos de Cecropia sp. e corpúsculos de Müller são registrados pela primeira vez na dieta Sporophila castaneiventris, uma ave granívora de ampla distribuição na Amazônia. Nós observamos S. castaneiventris se alimentando em 10 espécies de plantas, sendo que Cecropia sp. (frutos e corpúsculos de Müller) foi o item mais comum, explicando por 30% das observações (17/57). Os outros 70% das observações foram divididos entre nove espécies de gramíneas. Aparentemente as espécies de Cecropia spp. só frutificam na época de seca nas regiões de matas inundadas de várzea, o habitat mais utilizado por S. castaneiventris. A época seca coincide, também, com a baixa produção de frutos pelas gramíneas, o que destaca a importância de Cecropia sp. na dieta de Sporophila castaneiventris.

Cecropia tree fruits are reported as one of the most important items in the diets of several Neotropical birds and mammals^{2-1,10,12}. Another food item provided by Cecropia are the Müllerian bodies, small white corpuscular structures adhering to leaves, petioles and stems of Cecropia trees⁸. Müllerian bodies are well known for providing food for Azteca ants that live in mutual association with Cecropia¹ and are one of the few plant structures that contain glycogen, a typical animal polysaccharide⁸. For birds, ingestion of Müllerian bodies has been reported by warblers, such as Yellow Warbler Dendroica petechia and Golden-crowned Warbler Basileuterus culicivorus^{4,11}.

Here we report Cecropia fruits and Müllerian bodies in the diet of Chestnut-bellied Seedeaters

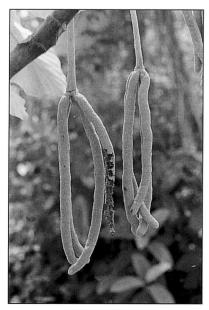


Figure 1. Fruits of Cecropia sp. showing a fruit pecked by birds in the centre (Sérgio Henrique Borges)



Figure 2. Petiole of a young *Cecropia* leaf showing the small white Müllerian bodies. Note that the specks are all over the leaf but are concentrated at the base of the petiole (Sérgio Henrique Borges)

Sporophila castaneiventris, a granivorous species widespread in the Amazon⁷. S. castaneiventris is a small finch commonly found in open fields, secondary vegetation and even in cities in Amazonia^{5,9}. It prefers habitats such as floating vegetation, shrubs and small trees beside rivers⁶. We studied the feeding ecology of S. castaneiventris at two sites: one within a rural settlement and another near the Solimões (Amazon) River with seasonally inundated white-water floodplain vegetation (várzea). Both are near Manaus, Amazonas, Brazil.

During our field study, in March 1997-April 1998, we observed *S. castaneiventris* feeding on 10 plant species on 55 occasions (Macêdo *et al.* unpubl.).

Cecropia was the most common item, accounting for 32% of observations (17/55). Other species recorded in its diet including the grasses Panicum maximum (20%, 11/55), Hymenachne amplexicaulis (18%, 10/55), Paspalum spp. (16%, 9/55), Digitaria spp. (3.6%, 2/55), Tripsacum sp. (1.8%, 1/55), Homolepsis sp (1.8%, 1/55), Brachiaria decumbens (1.8%, 1/55) and two unidentified taxa (5.5%, 3/55).

On nine occasions, we observed castaneiventris feeding on fruits of Cecropia already pecked at by other bird species, such as Blue-grey Tanager Thraupis episcopus, Palm Tanager T. palmarum, Blue-winged Parrotlet Forpus crassirostris and Tropical Kingbird Tyrannus melancholicus (Fig. 1). S. castaneiventris was never observed feeding on unpecked fruits, probably because they are too compact to be manipulated in its beak. Feeding behaviour of S. castaneiventris on Cecropia consists of perching in branches near the fruits, or on the fruits, and pecking them. Several interspecific encounters were observed between S. castaneiventris and the other species mentioned above; S. castaneiventris was always flushed by the other species.

We recorded ingestion of Müllerian bodies by S. castaneiventris on eight occasions. Initially, we considered the bird to be eating Azteca ants living in association with the Cecropia. However, more detailed observations demonstrated that it pecked the white specks adhering to young leaves, which we subsequently identified as Müllerian bodies (Fig. 2). S. castaneiventris perched in branches near the petioles and opened a sheath that protects the new leaves, exposing the Müllerian bodies. Six other granivorous species were recorded at the study sites: Variable Seedeater Sporophila americana, Lined Seedeater S. lineola, Orange-fronted Yellow-finch Sicalis columbiana, Lesser Seed-finch Oryzoborus angolensis, Common Waxbill Estrilda astrild (introduced) and Blue-black Grassquit Volatinia jacarina, but only S. castaneiventris was observed feeding in Cecropia.

In Brazilian Amazonia at least 15 species of Cecropia have been reported¹. Typical várzea species are C. latifolia and C. membranaceae, which according to Berg¹ and our pers. obs. produce fruits only in the low water season (September–January). During this period only a few grass species (Panicum maximum and Digitaria sp.) are in seed (Macêdo et al. unpubl.). For example, Hymenachne amplexicaulis, the second most important grass species in S. castaneiventris diet, produces seeds only in the wet season (pers. obs.). Given this situation, it is likely that Cecropia fruits and Müllerian bodies are important food sources for S. castaneiventris when grass seeds are scarce.

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Sérgio Henrique Borges

Fundação Vitória Amazônica, Rua R/S, casa 7, Quadra Q, Morada do Sol, Aleixo, 69080-060, Manaus, AM, Brazil. E-mail: sergio@fva.org.br.

Ingrid Torres de Macêdo

Departamento de Biologia, Instituto de Ciências Biológicas, Universidade Federal do Amazonas, Av. Gen. Rodrigo Otávio Jordão Ramos, 3000, Mini-campus, 69077-000, Manaus, AM, Brazil. Current address: Instituto Nacional de Pesquisas da Amazônia (INPA), C. P. 478, 69011-970 Manaus, AM, Brazil. E-mail: ingridtm@inpa.gov.br.