

## New records of Brazilian Merganser *Mergus octosetaceus* in the rio das Pedras, Chapada dos Veadeiros, Brazil

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Este trabalho apresenta novos registros do Pato-mergulhão *Mergus octosetaceus*, espécie criticamente ameaçada de extinção, para o rio das Pedras na região da Chapada dos Veadeiros. O período de muda ou a existência de filhotes são discutidos considerando a diferença dos comportamentos das aves durante as observações. A ocorrência de *Mergus* na bacia do rio das Pedras indica a existência de ambientes muito preservados e justifica sua inclusão nos novos limites do Parque Nacional da Chapada dos Veadeiros.

Brazilian Merganser *Mergus octosetaceus* is Critically Endangered at both national and global levels<sup>3,14</sup>, and its world population is presently estimated at just 250 individuals<sup>7,8</sup>. The species currently occurs in Argentina and Brazil (in the states of Minas Gerais, São Paulo, Goiás, Tocantins, Paraná and Santa Catarina, and historically in Rio de Janeiro<sup>15</sup>), and is almost always associated with fast-flowing, clear-water rivers with falls and rapids<sup>2,6,16,19</sup>. Habitat loss and destruction, through deforestation, construction of hydroelectric dams and river pollution are considered the main threats to the species<sup>3,7,8</sup>. Brazilian Merganser was recently observed on the rio Novo, Tocantins<sup>6</sup>, and rediscovered in Argentina<sup>5</sup>. Despite studies in Serra da Canastra National Park<sup>1,12,19</sup> its biology is poorly known. In October 2002, the second meeting of the Brazilian Merganser Recovery Team, held in Brasília, aimed to establish conservation strategies for the species via an action plan<sup>11</sup>, which recommends surveys of 'new' areas and those of historical occurrence (Y. Barros pers. comm.).

The first record of Brazilian Merganser in Goiás was of two specimens held in a private collection<sup>13</sup>, which lack precise details of where they were collected. Another specimen is known from the rio das Pedras, municipality of Nova Roma, that was sent to the Museu Nacional do Rio de Janeiro by Rudolf Pflimer in 1950<sup>18</sup>, although it is possible that all of these individuals were collected in the 1920s and 1930s (J. F. Pacheco pers. comm.). More recent records were made by Yamashita & Valle<sup>20</sup>, who observed several pairs on the rio Preto within Chapada dos Veadeiros National Park (CVNP), by Leeuwenberg<sup>7</sup> at the same location, and in Emas National Park<sup>8</sup>. Here we report new sightings on the rio das Pedras, near CVNP.

### Study area and observations

Chapada dos Veadeiros National Park (CVNP) and environs are on a montane plateau with isolated mountains, rocky outcrops, several waterfalls and different types of cerrado habitat<sup>10</sup>. The hundreds of springs in the area form rivers with clean waters

that flow to the lowlands with many rapids and falls.

We worked in CVNP on 27 August–1 September 2003 and on 14–21 May 2004, with the aim of reviewing and evaluating the new boundaries proposed for the park's enlargement (Fig. 1). During these periods, we undertook both ground-based surveys, using a 4WD vehicle, and aerial transects over the entire area by helicopter. Our goals were to check for potential problems and conflicts concerning land use at the proposed boundaries, and to evaluate levels of human occupancy and disturbance at the current limits of the park. Among areas we sampled was the rio das Pedras basin, where we performed three aerial surveys, on two days in 2003 and once in 2004, all

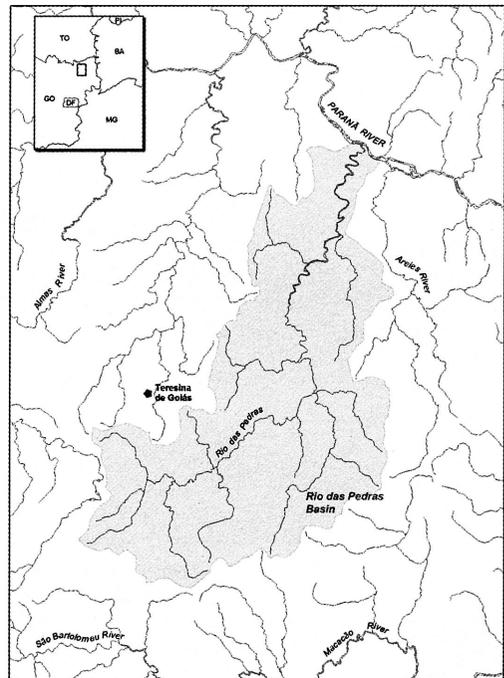


Figure 1. Map of the rio das Pedras basin.

commencing in the morning and made under partially cloudy conditions.

Our first record of *M. octosetaceus* was on 31 August 2003, at 12h40, when we observed two individuals swimming together and a third c.30 m away. By the time we turned the helicopter the lone bird had disappeared. We spent ten minutes following the two mergansers (Fig. 2). The birds swam quickly up and downstream, diving and searching for cover along the riverbank. The second sighting was made next day (1 September 2003) whilst undertaking another survey of the rio das Pedras basin, starting at the headwaters and again flying 20–30 m above ground, mainly over the river. On this occasion, only a pair was observed (at 09h50), in the same area as the preceding day. We again followed them for several minutes as the mergansers sought cover along the riverbank.

On 16 May 2004, at 14h35, during a flight over the rio das Pedras, we found a pair of mergansers c.8–9 km upstream of our sightings in September 2003. We flew above the birds for several minutes, although as we initially approached the pair flew off upriver for c.3 km, before seeking cover in vegetation along the riverbank, where they were lost to view.

## Discussion

We consider the pair observed in 2004 to be the same as in 2003, considering the distance between the sightings and knowledge of the species' territory size<sup>19</sup>. Behaviour in September 2003 clearly differed from that in 2004. That the birds only dived and swam as we hovered over them in 2003 may suggest that they were moulting as neither individual attempted to fly, unlike in May 2004 when, at the first approach of the helicopter, the pair immediately took flight. Another hypothesis is that those in 2003 were young birds, unable to fly, or adults with unseen young nearby, given that September is the known breeding season (L. F. Silveira pers. comm.).

The rio das Pedras (Fig. 1) is an important tributary of the rio Paraná and floods torrentially, as do most rivers in the central Brazilian cerrado. During the dry season (June–October) the river is at low water, with just small pools of calm water in deeper sections along its course (as described by Silveira & Bartmann<sup>19</sup> for the Serra da Canastra). The rio das Pedras is an oligotrophic river with clear waters, rapids and small waterfalls in some stretches, a varied depth and width, and a bed that alternates from rocky to stony or sandy soil. The headwaters are at c.1,200 m, and after 96 km the river flows into the rio Paraná, at c.350 m. Vegetation where we recorded the mergansers was typical cerrado and *campo rupestre*<sup>10</sup>, with sparse shrubs, low to mid-height trees and many rocky outcrops. The river was enclosed by a steep valley,

not within a canyon of exposed cliffs, but similar to that described by Yamashita & Valle<sup>20</sup>. From the valley's head towards the riverbank vegetation was denser but did not form gallery forest. Given our observations, and notwithstanding that mergansers occur on rivers fringed by gallery forests elsewhere in the range<sup>19</sup>, we consider that forest width and continuity are not important factors governing the species' occurrence, as has been previously observed<sup>6,19,20</sup>. Habitat beside the rio das Pedras appears to possess suitable breeding sites for *Mergus*, based on descriptions by Partridge<sup>16</sup> and Lamas & Santos<sup>12</sup>.

Habitat loss and degradation are considered critical threats to the species<sup>2,3,7,8</sup>, especially through silting of rivers and water pollution<sup>5</sup>. Our surveys revealed significant habitat degradation in the rio das Pedras basin, both in the headwaters and the cerrado along the lower course of the river. Large deforested areas were observed on several farms, where natural vegetation has recently been converted to pasture. Silting is initiated by deforestation, and subsequent erosion was observed on tributaries upstream of the 2003 merganser observation, the water appearing muddied and dark. Agriculture and charcoal production were also noted on a smaller scale.

Habitat composition and the species' shy behaviour require close consideration in determining strategies for *Mergus* conservation. Yamashita & Valle<sup>20</sup> suggested that Brazilian Merganser habitat is typically linear, disjointed and scarce. We believe that due to its fragile nature such habitat may be drastically changed, either by cattle grazing and agriculture (which may result from large-scale deforestation), and even through lower impact activities such as ecotourism. Thus, the most effective action to protect mergansers is the creation of reserves in key areas for the species. Recommendations are already in place concerning the legal protection of Brazilian Merganser and its habitat<sup>7</sup>.

According to the proposed CVNP expansion, the rio das Pedras basin is the main area to be included within the new boundaries as it lies in the Pouso Alto region, which is considered of extremely high biological importance and a priority for conservation in the cerrado biome<sup>9</sup>. Beyond the importance of the rio das Pedras as a tributary of the Paraná, the varied vegetation types in its basin differ from those within the current park limits and apparently benefit a broader diversity of species. Our records of *M. octosetaceus* are a further indication of habitat quality and the area's conservation importance. Given the observations of Yamashita & Valle<sup>20</sup> and other recent data<sup>7</sup>, the Brazilian Merganser population in north-east Goiás appears to be among the largest in the world, after Serra da Canastra<sup>19</sup> and western Bahia<sup>17</sup>. Our



Figure 2. Pair of Brazilian Mergansers *Mergus octosetaceus* on the rio das Pedras, Goiás, Brazil, September 2003 (Carlos A. Bianchi)

sightings of *M. octosetaceus* represent a strong reason to expand the boundaries of CVNP, thus protecting the species, its habitat and the overall biodiversity of the rio das Pedras basin.

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