

## Survey of literature for edible and useful rodents

**Year 2007**

**Authors:** Fujimoto, R. Y., Castro, M. P. de, Honorato, C. A., Moraes, F. R. de.

**Title:** Body composition and nutrient efficiency use by pacus fed on ration supplemented with chromium.

**Source:** Pesquisa Agropecuaria Brasileira (2007), 42(12): 1763-1768.

**Language:** Portuguese

**Address:** Universidade Federal do Para, Alameda Leandro Ribeiro, s/no, CEP 68600-000 Braganca, PA, Brazil.

**Abstract:** The study was conducted to determine the body composition and nutrient efficiency of pacus fed with diet supplemented with chromium (0, 6, 12 and 18 mg/kg) at two stocking densities (4 and 20 kg/m<sup>3</sup>) in a completely randomized experimental design with 24 treatments for three periods (30, 60 and 90 days). Results revealed an increase in the efficiency of crude protein retention and in percentage of crude protein and decrease in efficiency of fat retention and smaller values of fat percentage in the carcass. The chromium level at 6 mg/kg was enough for higher accumulation of protein and smaller fat concentration in the carcass at stocking density of 4 kg/m<sup>3</sup>. It was observed that the requirements for chromium was higher (12 mg/kg) in 20 kg/m<sup>3</sup> stocking density to obtain similar results with low stocking density. Pacus fed on diet supplemented with chromium showed lean meat with smaller fat concentration until 60 days of experimental feeding.

**Authors:** Goncalves, A. Q., Pinto, R. M., Durette-Desset, M. C.

**Title:** Parasitism of two zoonotic reservoirs *Dasyprocta leporina* and *D. fuliginosa* (Rodentia) from Amazonas, with *Trichostrongylina* nematodes (Heligmonellidae): description of a new genus and a new species.

**Source:** Memorias do Instituto Oswaldo Cruz (2007), 102(6): 763-768.

**Language:** English

**Address:** Laboratorio de Doencas Parasitarias, Instituto Oswaldo Cruz -Fiocruz, Av. Brasil 4365, 21045-900 Rio de Janeiro, RJ, Brazil.

**Abstract:** A new genus and a new species of Heligmonellidae nematodes are described parasiting the stomach of three agoutis (two *Dasyprocta fuliginosa* and one *D. leporina*) captured in the middle and high Negro river microregion, state of Amazonas, Brazil. The new genus, as well as its type-species, are closely related to the trichostrongylids included in *Fuellebornema*, particularly on what concerns the pattern of the caudal bursa, but differing from them by the characteristics of the synlophe, that presents a poorly developed carene, when compared to the referred number of body ridges in *Freitastrongylus* n. gen. and consequently in *F. angelae* n. sp., in which the ridges are well developed and the carene at mid-body has a similar size when compared to the ridge situated in front of the right field (ridge no. 5). Caudal bursa is of the type 1-4, with rays 9 shorter than rays 10, with a very long genital cone.

## Year 2006

**Authors:** Goncalves, A. Q., Boia, M. N., Coura, J. R., Pinto, R. M.

**Title:** New records for helminths of hystricognath rodents from the middle and high Rio Negro microregion, State of Amazonas, Brazil.

**Source:** Revista Brasileira de Zoologia (2006), 23(3): 716-726.

**Language:** Portuguese.

**Address:** Laboratorio de Doencas Parasitarias, Departamento de Medicina Tropical, Instituto Oswaldo Cruz, Avenida Brasil 4365, 21045-900 Rio de Janeiro, Rio de Janeiro, Brazil.

**Abstract:** The morphology, taxonomic summary and geographical distribution of 4 nematode and one cestode species obtained from 2 *Dasyprocta fuliginosa*, one *D. leporina* and 6 *Agouti paca* captured from tributaries in middle and high Rio Negro microregion, (Amazonas, Brazil), between 2000 and 2002, are described. The nematodes *Physaloptera torresi* and *Physocephalus mediospiralis* and the tile cestode *Raillietina trinitatae* are reported from the State of Amazonas for the first time. The studied helminths represent new host record for *D. fuliginosa*. New morphometric data and remarks about each species are provided.

**Authors:** Mendonca, I. L. de, Almeida, M. M. de, Conde Junior, A. M., Cavalcante, R. R., Moura, S. G. de, Carvalho, M. A. M. de.

**Title:** Coproparasitologic analysis of Agouti (*Dasyprocta* sp.) in captivity. (Análise coproparasitológica de cutias (*Dasyprocta* sp.) criadas em cativeiro).

**Source:** Ciencia Animal Brasileira (2006), 7(3): 285-288.

**Language:** Portuguese.

**Address:** Departamento de Clinica e Cirurgia Veterinaria, Universidade Federal do Piaui, CEP 64049-550-Teresina, PI, Brazil.

**Abstract:** A report on the parasitological examination conducted for Agouti to find out and control losses due to protozoal infestations, and parasitic worms such as *Trichuris* and *Strongyloides* and mixed infections of both parasites is discussed

**Authors:** Olayemi, F. O., Nssien, M. A. S., Ozegbe, P. C.

**Title:** The comparative assessment of the haematological values in the African giant rat (*Cricetomys gambianus* Waterhouse) and the African grass cutter (*Thryonomys swinderianus* Temminck).

**Source:** Folia Veterinaria (2006), 50(3): 127-130.

**Language:** English.

**Address:** Department of Veterinary Physiology and Pharmacology, University of Ibadan, Ibadan, Nigeria.

**Abstract:** The haematological values were determined in apparently healthy young and adult wild African giant rat and young and adult wild African grass cutter captured in Nigeria. It was shown that the red blood cell counts (RBC), neutrophil counts, eosinophil counts and monocyte counts, packed cell volume (PCV), haemoglobin concentration (Hb), mean corpuscular volume (MCV), mean corpuscular haemoglobin (MCH) and mean corpuscular haemoglobin concentration (MCHC) were similar in the adults of both species. However, the adult African giant rat had higher white blood cell count and lymphocyte count than the African grass cutter. Young African giant rats had lower RBC counts, PCV and lymphocyte counts but

higher neutrophil counts than adults. All the haematological values were similar in young and adult African grass cutter.

**Authors:** Dubost, G., Henry, O.

**Title:** Comparison of diets of the acouchy, agouti and paca, the three largest terrestrial rodents of French Guianan forests.

**Source:** Journal of Tropical Ecology (2006), 22(6): 641-651.

**Language:** English.

**Address:** Museum national d'Histoire naturelle, Menagerie, UMR 5173 MNHN-CNRS, 57 rue Cuvier, F-75231 Paris Cedex 05, France.

**Abstract:** The diets of the acouchy (*Myoprocta exilis*), agouti (*Dasyprocta leporina*) and paca (*Agouti paca*), the three largest terrestrial rodents of French Guiana forests, were investigated from stomachs collected over a minimum of 2 consecutive years. These species are primarily frugivores. The percentage of fruit in their diet decreased, and seasonal variation increased from the smallest species, the acouchy, to the largest, the paca (contents in dry mass: respectively, 98.5 plus, 87.4, and 83.9 %). They differed from each other in the proportions of pulp and secondary foods (leaves, fibre, insects) consumed annually as well as seasonally. Dietary diversity in the acouchy was half that of the two other species. The seasonal variation in consumption of different fruit parts and of secondary foods by these species corresponded well with the fruit production in the forest, and was linked to their reproductive events. Overall, the diets of these three large rodents appeared intermediate between the small rodent species and the artiodactyls inhabiting the same areas, which also concords with their body mass and their place within the guild of terrestrial mammals.

**Authors:** Kunzle, H., Nautrup, C. P., Schwarzenberger, F.

**Title:** High inter-individual variation in the gestation length of the hedgehog tenrec, *Echinops telfairi* (Afrotheria).

**Source:** Animal Reproduction Science (2007), 97(3/4): 364-374.

**Language:** English.

**Address:** Institute of Anatomy, Ludwig Maximilians University of Munich, Pettenkoferstrasse 11, D-80336 Munich, Germany

**Abstract:** The gestation length (GL) of Tenrecs is still uncertain. This lack of knowledge also applies to the lesser hedgehog tenrec, the species most commonly bred and maintained in captivity. The animals used in this study were held under controlled conditions (light, temperature and humidity). In order to determine the GL, groups of female tenrecs were subjected to various mating procedures followed by isolation periods of different lengths. A total of n=249 pregnancies were analysed and the number of offspring per litter was 3.29. The length of gestation could be determined in n=199 pregnancies and a mean GL of 67.53 days was calculated. Initial attempts with isolation periods of less than 16 days did not allow to accurately define the GL. Experiments with longer isolation periods and females subjected to only one mating procedure (n=10) revealed a variation in the GLs of 57-79 days. However, in one female a GL of only 50 days was also observed indicating an even greater range in GL variation. There was a tendency for shorter GLs in the animals that conceived later in the mating season. In conclusion, an unexpected high variability in gestation length in *E. telfairi* was demonstrated although the study animals were kept under

controlled environmental conditions. The factors and mechanisms regulating this high intra-species variability in gestation length need further investigations.

**Authors:** Peterson, A. T., Papes, M., Reynolds, M. G., Perry, N. D., Hanson, B., Regnery, R. L., Hutson, C. L., Muizniek, B., Damon, I. K., Carroll, D. S.

**Title:** Native-range ecology and invasive potential of *Cricetomys* in North America.

**Source:** Journal of Mammalogy (2006), 87(3): 427-432.

**Language:** English

**Address:** Natural History Museum and Biodiversity Research Center, The University of Kansas, Lawrence, KS 66045, USA.

**Abstract:** African giant pouched rats (*Cricetomys*) are native to tropical Africa, where they range from Senegal and Gambia east across West Africa and the Congo Basin to the Indian Ocean coast of East Africa. Ecological niche models show that *Cricetomys* species differ in their invasive potential. Although neither of the presently recognized *Cricetomys* species appears to have genuinely broad distributional potential in North America, models predict that *C. emini* would have extremely restricted distributional potential, whereas *C. gambianus* would have a broader potential across the southeastern United States.

**Authors:** Perry, N. D., Hanson, B., Hobgood, W., Lopez, R. L., Okraska, C. R., Karem, K., Damon, I. K., Carroll, D. S.

**Title:** New invasive species in southern Florida: Gambian rat (*Cricetomys gambianus*).

**Source:** Journal of Mammalogy (2006), 87(2): 262-264.

**Language:** English

**Address:** Department of Wildlife and Fisheries Science, Texas A&M University, College Station, TX 77843, USA.

**Abstract:** On 17 August 2004, 5 Gambian rats (*Cricetomys gambianus*; 2 males and 3 females) were collected on Grassy Key, Florida. Evidence obtained from this collection confirms the existence of the 1st North American established and reproducing *Cricetomys* population. This invasive rodent population could represent a new series of ecological threats to the native and endemic flora and fauna of southern Florida.

**Authors:** Engeman, R., Woolard, J. W., Perry, N. D., Witmer, G., Hardin, S., Brashears, L., Smith, H., Muiznieks, B., Constantin, B.

**Title:** Rapid assessment for a new invasive species threat: the case of the Gambian giant pouched rat in Florida.

**Source:** Wildlife Research (2006), 33(6):439-448.

**Language:** English

**Address:** National Wildlife Research Center, 4101 LaPorte Ave., Fort Collins, CO 80521-2154, USA.

**Abstract:** The Gambian giant pouched rat (*Cricetomys gambianus*) is a large rodent that has established a breeding population in the Florida Keys. Should it successfully disperse to mainland Florida, it could continue spreading through much of North America where significant negative ecological and agricultural consequences could result. We rapidly developed the information for implementing an efficient and successful eradication program before dispersal to the mainland occurs. This included

development of monitoring and indexing methods and their application to define the animal's range, the development of baits attractive to Gambian giant pouched rats, efficacy testing of toxicants, and development of bait-delivery devices that exclude native animals. Gambian giant pouched rats appeared confined to the western two-thirds of Grassy Key, but have dispersed across a soil-filled causeway west to Crawl Key. We identified preferred habitat characteristics and potential dispersal pathways. We developed photographic and tracking tile methods for detecting and indexing Gambian giant pouched rats, both of which work well in the face of high densities of non-target species. We identified a commercial anticoagulant bait and we developed a zinc phosphide (an acute toxicant) bait matrix that were well accepted and effective for controlling Gambian giant pouched rats. We also developed a bait station for delivering toxic bait to Gambian giant pouched rats without risk to native species. We consider that the criteria are met for a successful eradication to commence.

**Authors:** Trujillo Aramburo, L. E., Henao Restrepo, G., Gonzalez Perez, C., Rios Gomez, J.

**Title:** Synchronous induction of the estral cycle in the black guagua (*Agouti taczanowskii*) in captivity.

**Source:** Revista - Facultad Nacional de Agronomia Medellin (2006), 59(1): 3281-3293.

**Language:** Spanish

**Address:** Universidad Nacional de Colombia, Sede Medellin, Facultad de Ciencias Agropecuarias, A.A. 1779, Medellin, Colombia.

**Abstract:** To induce and synchronize the estral cycle in the black guagua *Agouti taczanowskii* in captivity, each of six females varying from four to seven years of age were implanted with a quarter dose of norgestomet and injected with 1,25 mg of estradiol valerate. Starting on the day of the application of the implant, the diameter of the vulvar orifice was measured three times per week until day 52, and with same frequency beginning on the day the implant was removed, blood sampling was conducted to determine progesterone levels for radioimmunoassay. The hormonal treatment induced and synchronized the estral cycle in three of the six treated females, which presented increases in progesterone levels more than or equal to 10 ng/m, preceding the opening of the vulvar orifice. The induced estral cycle had a variable duration of from 11 to 29 days. The spontaneous estral cycles, which occurred following the ones induced by the hormonal treatment, presented variable durations of from 10 to 30 days. During the course of the experiment, a negative correlation between progesterone levels and the diameter of the vulvar orifice was documented. It was concluded that the application of a norgestomet implant accompanied by an injection of estradiol valerate can induce and synchronize the estral cycle in the black guagua.