Abstracts das dissertações defendidas no Programa de Pós-Graduação em Ciências Biológicas (Zoologia)

COMPORTAMENTO E BIOLOGIA ANIMAL

(2005)

SUMÁRIO

Verification of the occurrence of quill mites in *Gallus gallus* (L.) in the municipality of Juiz de Fora, MG

Ênio de Oliveira Pires[1] *& Erik Daemon*[2]

ABSTRACT: This research was directed to record the species of quill mites commensals of domestic hen, *Gallus gallus* (L.), raised in barnyards of small propriety in the municipality of Juiz de Fora, Minas Gerais, besides to go deep the knowledge about the biology and ecology of these animals. Were utilized 200 adults birds in two different locality, being 100 hens in each one of them. The hosts were directly captured in the chicken houses and examined. After the capture, the wing feathers were examined e only those parasited were colected and opened in laboratory. The mites collected were kept in numbered glasses contend alcool 70° GL, being later mounted and envoied to Rio de Janeiro Federal Rural University, to identification of the mites. The field work began in october 2003 and ended in july 2004, being the research divided in two stages, searching to collect feathers in different period of the year, change the gradients of the ambient as tempetature and humidity. The first stage was realized in the months of november and december of 2003 and january of 2004. The second stage was realized in the months of june and july of 2004. Of 200 chicken examined, only 11 were infested with quill mites, 5 in the first one and 6 in the second stage. 148 feathers were collected, 68 in the first and 80 in the second. The specie of quill mites registered was *Syringophilus bipectinatus* Heller, 1880. The syringophilid mites live inside the quills of the remiges and they feed on soft tissue fluids of their hosts by piercing the calamus wall. All phases of the biological cycle (eggs, larvae, nymphs and adults) of the *S. Bipectinatus* were found inside the quills, with the dominance of the females above males. Thanatochresis wasn´t observed in any situation. These was a tendency to a symmetrical occupation of the feathers of both sides of the wing, besides were observed a tendency to a occupation in the most central feathers, the third, fourth and fifth feathers, in the case of primaries remiges, and in the case of secondaries remiges, corresponding with the directions of the molt.

Key Words: quill mites*; Gallus gallus*; *Syringophilus bipectinatus*.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Aniumal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientador. Departamento de Zoologia/Universidade Federal de Juiz de Fora.*

Mortality of wild animals in the (ES 060) sun highway – between the cities Vila Velha and Guarapari, Southeast, Brazil

Alexsandro de Almeida Mathias[1] *& Artur Andriolo*[2]

ABSTRACT: The (ES-060) Sun highway is important as connection between the cities of Vila Velha and Guarapari, and crosses the ecosystems of Restinga and Tabuleiro forest. Constructed without any ambient perspective, only from the constitution of the Paulo Cesar Vinha State Park and Setiba Area of Ambient Protection, the Government and Organized Civil Society then started to worry about the effect of this structure on ecosystems. Through a process of concession and consequent licensing, a highway mortality-monitoring program was constituted. In the execution of this program, the present work aimed to verify the composition, space, seasonal and daily patterns of the animals' crossing over the Sun highway. Between May 2001 and April 2003, 41 km were highway cruising in 45 min. for 24 hours during the monitoring, and the wild animals had collected. Data of rainfall, temperature, and traffic flow and landscape characterization had been correlated with the highway mortality. The analyses included the collector curve, $\div^2$*-test* for the number of individuals, *Index of Abundance* between ecosystems, Cluster analysis of discriminated environments, *Kruskal-wallis-test* for daily and seasoning cycles, and Multiple Linear Regression between variables and road-kills. A total of 81 mammals of 16 species, 117 birds of 39 species and 72 reptiles of 13 species were collected. The most abundant were: *Didelphis aurita* (n = 28), *Cerdocyon thous*, *Athene cunicularia* (n = 36), *Pitangus sulphuratus* (n = 12), *Boa constrictor* (n = 30) and *Liophis miliaris* (n = 20). The Restinga presented the biggest number of dead individuals, but the smallest *Index of Abundance* among the classes, in relation to the Tabuleiro forest. In the Restinga, critical environments were: natural on both sides and natural/urban. In the Tabuleiro forest critical areas were: natural on sides, natural/urban, natural/pastures and areas of forestry on both sides. *Index of Abundance* didn't present season cycles in the deaths of mammals, birds or reptiles in the two ecosystems during the period of study. But, in Restinga, lack of rain explained 61% ($p < 0,05$) of mammals' deaths in the first year. In the same ecosystem, rains explained 67% of the birds' deaths in the first year and temperature explained 67% in the second year. In Tabuleiro forest, temperature explained 65% of birds' deaths. For the reptiles, only the set of variables was able to explain deaths during the two years (50,58 %), and in the first year (47,41%) in Restinga ($p< 0,05$). These results are only possible by the correlations between the *Index of Abundance* with the rainfall ($r = 0,55$; $p < 0,05$) and with the temperature ($r = 0,48$; $p < 0,05$) during the two years. These correlations had increased, ($r = 0,69$; $r = 0,57$; $p< 0,05$, respectively) when the first year in Restinga was analyzed separately. The critical period of mammals' highway mortality was between 2:00h - 10:00h and for birds and reptiles the critical periods were between 06:00h - 10:00h and 14:00h - 18:00h.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientador. Departamento de Zoologia/Universidade Federal de Juiz de Fora*

EVALUATION OF THE ACARICIDE EFFECT AND REPELLENT OF THYMOL, MENTHOL, SALICYLIC ACID AND METHYL SALICYLATE ON *BOOPHILUS MICROPLUS* (CANESTRINI, 1887) LARVAE (ACARI, IXODIDAE)

Adriana Maria da Silveira Novelino[1], Erik Daemon[2] & Geraldo Luiz Gonçalves Soares[3]

ABSTRACT: The current study was performed in the Acarid Biology and Ecology Laboratory (LABEC) of Biological Sciences Post-graduation Course – Animal Behavior and Biology Department of Universidade Federal de Juiz de Fora – UFJF (Federal University of the City of Juiz de Fora). It was also performed in the Acarology Laboratory of Embrapa Gado de Leite (Dairy Cattle Embrapa) in the City of Juiz de Fora, State of Minas Gerais. In these two laboratories two different experiments were carried out regarding acarid *Boophilus microplus*. 1) In the first study the evaluation of the acarid effect of four natural origin substances: thymol, menthol, salicylous acid, and methyl salicylate on larvae of *B. microplus* was carried out. Among the four tested products only thymol could be considered as a potential acaricid candidate. Average mortality caused by the emulsion containing thymol was of 22.73%, 73.59%, and 100% at the concentrations of 0.25%, 0.5%, and 1.0%, respectively. However, regarding the other tested substances mortality did not exceed 9.76% in all tests. 2) In the second experiment we evaluated repellent activities of the aforementioned substances on larvae of *B. microplus*. Among the four tested substances, three of them showed repellent effect (thymol, menthol, and methyl salicylate). This repellency was of the until 80%, according to the tested substance and concentration. Thymol was repellent and lethal for larvae of *B. microplus*, according to the used concentration, whereas menthol and methyl salicylate acted as repellent (conditioned dose). However, this repellency was inferior the caused to the others substances.

Key Words: Acaricid, repellent, natural origin substances, larvae, *Boophilus microplus*

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista Cnpq.*
[2] *Orientador. Departamento de Zoologia/Universidade Federal de Juiz de Fora.*
[3] *Universidade Federal do Rio Grande do Sul*

ANTIMALARIAL ACTIVITY OF CHLOROQUINE, QUERCETIN AND RUTIN IN YOUNG IDIVIDUALS OF *GALLUS GALLUS* LINNAEUS, 1758 EXPERIMENTALLY INFECTED WITH *PLASMODIUM JUXTANUCLEARE* VERSIANI & GOMES, 1941 (APICOMPLEXA, PLASMODIIDAE)

Kátia Batista do Amaral[1] , Marta D'Agosto[2] & Geraldo Luiz Gonçalves Soares[3]

ABSTRACT: The current study aimed to perform experimental infections of *Plasmodium juxtanucleare* on *Gallus gallus*, and it also aimed to test antimalarial activity of substances such as chloroquine, quercetin and rutin in the infected birds. Forty-six females of white Leghorn, with 10 days of live, were intraperitoneally inoculated by 0.5 ml of infected blood from a donor chicken. Its blood contained 0.4 x 10^6 parasitized erythrocytes per ml. Four experimental groups were formed: the first one was the control group (not treated), which received only the vehicle used on the substances solubilization and other three treated groups. Drugs were preventively tested according to the adaptation to Peters' methodology, and they were given to the birds through gastric catheter from the first to the forth post-inoculation day, at the dose of 50 mg/kg of live weight. Birds were evaluated regarding the occurrence of clinical signs related to avian malaria. They were daily weighed and their haematocrits and body temperature were weekly measured. Parasite presence in the blood was investigated from the 5th to the 37th post-inoculation day. Antimalarial activity of drugs was evaluated through the calculation of the percentage of parasite multiplication inhibition (%PMI), which is carried out as follows: parasitaemia of control group (not treated) less parasitaemia of treated group, divided by parasitaemia of control group, multiplied by 100. Pre-patent period and maximum peak of parasitaemia were also used in order to evaluate drugs' activity. We observed that control group (not treated) was the one that showed higher values of parasitaemia average percentage, whereas the group treated with chloroquine showed lower values. We verified a fine widening in the pre-patent infection period in the birds of chloroquine group, when it was compared with the other groups. Regarding %PMI calculation,it was the group that had the best results presenting %PMI values above 50% in three of all the analyzed days. The proportions of the parasites' erythrocytical forms found in all groups during the entire experiment were similar, indicating that they did not vary because of the treatments. We verified that the birds from the group that received quercetin were the ones that most put on weight during the experiment. Just after the parasitaemia peaks, all groups had reduced weight increase. The most conspicuous reduction was verified in the non-treated group indicating a possible beneficial effect of the tested drugs on the birds' general health condition. We observed the

decreasing of the haematocrit averages of all groups since the beginning of the experiment. Control group (not treated) had the most reduced percentages of haematocrit and chloroquine group had the less reduced one. Birds' body temperatures were normal during the experiment, and the birds did not show clinical signs related to infection. Peters' methodology adaptations were satisfactory for the evaluation of the antimalarial activities of drugs on *G. gallus* experimentally infected by *P. juxtanucleare*. Among the tested drugs, only chloroquine showed an important antimalarical activity, however, the three tested drugs presented a tendency to improve birds' clinical condition.

Key Words: Avian malaria; antimalarial tests; blood parasites; poultry.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora.*
[2] *Orientadora. Departamento de Zoologia/Universidade Federal de Juiz de Fora*
[3] *Universidade Federal do Rio Grande do Sul*

DIVERSITY OF SOCIAL WASPS (HYMENOPTERA, VESPIDAE) IN THE CERRADOS OF UBERLÂNDIA, MINAS GERAIS STATE, BRAZIL

Ábner Elpino-Campos[1] , Kleber Del-Claro[2] & Fábio Prezoto[3]

ABSTRACT: Formicidae, Apidae and Vespidae are the most known families of Hymenoptera with great social and ecological importance, mainly probably due they possess a large amount of interactions with plants and animals. Studies of species' diversity are important for the knowledge of natural resources and useful information of ecological characteristics of an ecosystem, assisting also in its preservation. Although common in Brazil, it does not have studies of surveys and diversity of social wasps in Triângulo Mineiro. The aims of the present study was to contribute for a better understanding of the species of wasps of the cerrado, methodologies of collection and seasonal distribution of these species in fragmentos of cerrado vegetation in Uberlândia-MG. The field work was conducted between October/2003 and September/2004, being carried through 43 samplings using the methodologies of "active searching" and "traps sampling". Twenty-nine species belonging to 10 genera were recorded, the *Polybia* genera and *Polistes* had corresponded to 51.7% of the total listing. *Mischocyttarus cerberus styx* was responsible for 26.5% of the total of individuals for active search and *Agelaia pallipes* represented 57.6% for traps sampling. Two species had presented first register for Minas Gerais state: *Polybia (P.) striata* and *M. cerberus styx*. The studied areas had presented high diversity index (*H'*=0.66 at 1.16), a great amount of rare species and few common species. The method of traps sampling was satisfactory to collect the most common species (ë=0.37) while the active search was important to collect rare species ($H'_{\text{active search}}$=1,16). The methodology of active search was more efficient than traps sampling, however some species alone had been collected only by the method of traps. These factors had disclosed that to effect a survey in wasps different methodologies of collection must be combined.

Key Words: Vespidae, survey, cerrado, methods of collection, diversity

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientador. Universidade Federal de Uberlândia*
[3] *Universidade Federal de Juiz de Fora*

ANXIETY AND GASTROINTESTINAL TRANSIT OF *RATTUS NOVERGICUS* (BERKENHOUT, 1769) (RODENTIA, MURIDAE) AFTER TEGASEROD ADMINISTRATION

João Vicente Linhares Rodrigues[1] & Luiz Carlos Bertges[2]

ABSTRACT: In a study conducted at the physiology laboratory of the Federal University of Juiz de Fora (UFJF), forty wistar rats were divided into two groups, one receiving saline, and the other gavage-administered tegaserod, 1.0ml/animal, for 15 days. Thirty-four animals, seventeen in each group, reached the end of the experiment. Tegaserod dose was 0.09mg/kg. The study aimed to assess the effects of tegaserod on anxiety and on the speed of gastrointestinal transit of wistar rats. The open field test was used to assess anxiety behavior, with scintigraphic reading of the dissected digestive tracts (from the lower esophagus to the rectum) being used to assess intestinal transit. Water and food intakes, and fecal production were measured daily. The intervention group had smaller food (313.3 + 79.2g) and water (205.4 + 62.2ml) intakes, along with smaller fecal production (85.7 + 27.8g) compared to controls, although this difference was not statistically significant ($p = 0.47$; $p = 0.1$; $p = 0.39$, respectively). Animals in the tegaserod group had higher ambulatory activity rates ($p = 0.02$), shorter immobilization times ($p = 0.54$), smaller fecal volumes ($p = 0.03$), and longer time spent in the central area ($p = 0.02$) during the open field behavior test, looking less anxious than the animals on saline. The scintigraphic assessment of the distance covered by the radiotracer in the dissected digestive tract of all animals did not show any statistically significant difference ($p = 0.1$). We conclude that tegaserod, in the 0.09mg/kg dose, did not accelerate the intestinal transit, did not alter food and water intakes, and did not interfere with fecal production, but led to diarrhea in 22% of the animals during the 15 days of the study. Tegaserod-treated animals had fewer criteria for emotionally-determined behavior in the open field test, suggesting a direct or indirect anxiolytic action of the drug.

Key Words: Tegaserod; intestinal transit; behavior; anxiety; rats.

1 Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora.

2 Orientador. Departamento de Fisiologia/Universidade Federal de Juiz de Fora

SURVY OF SOCIAL WASPS (HYMENOPTERA, VESPIDAE) OF MATA DO BAÚ, BARROSO, MG

Marcos Magalhães de Souza[1] *& Fábio Prezoto*[2]

ABSTRACT: The social wasps are important insects in the biologic control of other populations, as pollination agents and in the study evolution of the social behavior. Despite of this great importance, the literature needs of information about this insects and also about seasonal and spatial distribution of social wasps. There is not any study like this in the State of Minas Gerais (Brazil). The city Barroso, considered in the study, located in Minas Gerais, is in the center of the southern part of the State and was an area of exploration vegetal resources. Today, there are few isolated areas called Cerrado (a type of savannah) and the biggest one is called Mata do Baú with an area of four squared kilometers under the influence of the altitude tropical climate. The aim of this study was to make a survey of the species of social wasps and also evaluate the methodologies of collections and the seasonal and spatial distribution, in order to get more information about the diversity of these insects in the region. Collections were made in 26 discontinued days, from June 2003 to August 2004 using the methods of: active searching, attractive traps, quadrant and punctual searching, covering areas of jungle, savannah and anthropic areas (farms). 129 colonies were registered and also 38 species of 10 genera were found: *Agelaia multipicta, A. vicina, Apoica pallens, Brachygastra augusti, B. lecheguana, Mischocyttarus araujoi, M. atramentarius, M. cassununga, M. confusus, M. drewseni, M. funerulus, M. rotundicollis, M. tricolor, M. wagneri, M. sp 01, Polistes actaeon, P. billardieri, P. cinerascens, P. ferrei, P. pacificus, P. simillimus, P. subcericeus, P. versicolor, Polybia bifasciata, P. chrysothorax, P. fastidiosuscula, P. ignobilis, P. jurinei, P. minarum, P. occidentalis, P. platycephala, P. paulista, P. scutelaris, P. sericea, Protonectarina sylveirae, Protopolybia sedula, Pseudopolybia vespiceps* and *Synoeca cyanea*; including four new registers in Minas Gerais: *M. araujoi, M. confusus, M. funerulus* and *M. tricolor,* the second and third ones belong to Mata Atlântica. The active searching method was significantly more efficient than the other kinds of methodologies tested. The species were distributed in three environments: cerrado field (33 species and 77 colonies), jungle (24 species and 37 colonies) and anthropic areas (8 species and 15 colonies). The majority of the species was classified as casual (76,4%), followed by accessory (21%) and constant species (2,6%). *A. vicina* was the most frequently species found in the environment. Some of the registered species in this study had a restriction related to the environment: *B. augusti, B. lecheguana, M. tricolor, M. rotundicollis, P. billardieri, P. chrysothorax, P. platycephala, P. occidentalis* e *P. bifasciata,* restricted to the areas of cerrado field; *M. funerulus, P. pacificus, P. fastidiosuscula* and *P. minarum* restricted to jungle areas. At the hot and humid season there were the bigger number of species and colonies. There is a positive correlation between the number of species

and the number of colonies of social wasps found during the study period, in function of the rain and temperature. It can be concluded that in the hot and humid season, due to of the favorable climate characteristics, the growth of the vegetal biomass occurs. It means good conditions for the wasps, such as places for nesting and alimentation resources (nectar from flowers and herbivores, especially caterpillars, representing the main preys of the social wasps).

Key Words**: Seasonal distribution, spatial distribution, savannah, jungle, survey.**

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientador. Departamento de Zoologia/Universidade Federal de Juiz de Fora*

BIOLOGY AND BEHAVIOR OF THE SOCIAL WASP *POLISTES VERSICOLOR* (OLIVIER, 1791) (HYMENOPTERA, VESPIDAE) IN URBAN AREAS

Simone Alves de Oliveira[1] *& Fábio Prezoto*[2]

ABSTRACT: The social paper wasps *Polistes versicolor* (Olivier, 1971), has a primitive social organization, that added to the observation easiness and abundance of colonies, turns the species an excellent model for the study of the behavior. The objective of this work went know the development of the immature stages, the foraging behavior and its relationship with the age, the dominance hierarchy, the foundation pattern, the success and the productivity of the colonies *P. versicolor*. The study of the behavior showed that before beginning the construction of the nest, the female accomplished flights on the selected area, soon after; it begins the construction of the peduncle and of the first cell, accomplishing the oviposition in the sequence. With the increase in the cell's number appear the hexagonal contours of the nest. The masonry was the substratum more used for nesting (59,9%), proceeded by metal (18,3%), wood (15,6%), synthetic materials (4,2%), glass (1,0%) and vegetation (1,0%), what shows a preference for human constructions. On the average the nests presented about 244,2 cells and the 171,67 adults' production. A nest presented a cell with six meconium (fecal pellet) layers. Most of the colonies were founded by pleometrotic, with a success of 51,5% for the new foundation. The average duration of the immature stages of *P. versicolor* was of 14,8 ± 2,5 days to eggs, 28,3 ± 3,4 for larvae and 23,9 ± 4,1 for pupae. During the first week of life, the wasps accomplished recognition flights in the proximities of the colony. The nectar and wood pulp collections starting began from the second week of life, and went until the end of the experiment. The prey collection was observed of the third up to 12nd week of life. The dominance hierarchy showed a positive correlation between the number of aggressive behaviors and the number of individuals of the colony and the post-emergence stage was the most aggressive, due to the great number of interactions observed. The aggressive behaviors can involve all the individuals of the colony, but are exhibited by the females that occupy the first positions of the hierarchical rank.

Key Words: Immature stages; forage; foundation; dominance hierarchy; productivity; success.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientador. Departamento de Zoologia/Universidade Federal de Juiz de Fora*

ECOLOGICAL AND BEHAVIORAL ASPECTS ASSOCIATED WITH DISTRIBUTION OF *CAIMAN LATIROSTRIS* (DAUDIN, 1802) (CROCODYLIA, ALLIGATORIDAE) AT PEREQUÊ RIVER, CARDOSO ISLAND STATE PARK, CANANÉIA, SÃO PAULO

Gleberson Marques da Silva[1] & Bernadete Maria de Sousa[2]

ABSTRACT: Ecological and behavioral aspects associated with distribution of a native population of *Caiman latirostris* (Daudin, 1802) from Perequê river, located in Cardoso Island State Park, were studied. Two consecutive excursions were performed monthly during the period from april to november, 2004. Perequê river course was divided into four border classes and into four depth ranges. The abundance, distribution and behavior of the *C. latirostris* specimens were observed and counted at night and the results were correlated to the location. A total of 77 specimens could be observed along the experiment, mostly around October. The average distance observed between two individuals was 406m and the population density was 0.8 individuals per kilometer. Most observations occureed in the Mangue class, which is related to food availability and safety, and at lower depths, what is probably due to easier fish capturing in these waters. The presence of nestlings was observed only in october and november.

Key Words: *Caiman latirostris*; broad-snouted caiman; distribution; ecology.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Biológo, IpeC. Bolsista CAPES. crocpepo@yahoo.com.br*

[2]: *Orientadora. Departamento de Zoologia /Universidade Federal de Juiz de Fora. bernadete.sousa@ufjf.edu.br*

DIET, FORAGING, MORPHOLOGY AND MICROHABITAT USE OF *ENYALIUS PERDITUS* JACKSON, 1978 (SQUAMATA, LEIOSAURIDAE) IN THE RESERVA BIOLÓGICA MUNICIPAL SANTA CÂNDIDA, JUIZ DE FORA, MINAS GERAIS

André Felipe Barreto Lima[1] *& Bernadete Maria de Sousa*[2]

ABSTRACT: This work evaluates behavioral aspects associated with the diet, morphology, foraging mode and microhabitat use of Enyalius perditus. Lizards specimens and arthropods were collected in the Santa Cândida Municipal Biological Reserve, in Juiz de Fora city, Minas Gerais state, between October 2003 and November 2004, using pit-fall traps. Morphometric variables and body mass were measured, and the stomach contents were extracted by gastric aspiration in the field and/or dissection in laboratory. Prey items were identified in orders or families. Prey frequency, occurrence frequency, mass and volume were recorded and, compared between sexes and periods of collection, in association with temperature and local rainfall indices. Behavioral informations were registered when marked animals were released in the natural habitat, being monitored from 09:00 to 18:00h, with the focal animal sampling technique. Foraging mode was inferred by using daily and hourly displacement frequencies. Microhabitat use was analyzed based on registered frequencies of use. Morphologic data indicated significant statistical differences between sexes. In general, this species predominantly fed on Formicidae, insects larvae, Orthoptera and Isoptera, with no significsant sexual or seasonal differences collecting periods. Animals were observed foraging and active predominantly in the litter, during the day, with males tending to cover larger areas. The most used microhabitat was the leaf litter, followed by shrub that was used in late afternoon, when animals perched to sleep, a few centimeters from the ground. This species is suggested to be a generalist "sit-and-wait" foraging predator, however it is not discarded the possibility of being able to modulate this mode.

Key Words: *Enyalius perditus,* morphology, diet, foraging, microhabitat use

[1]*Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES. afblima@hotmail.com*

[2] *Orientadora. Departamento de Zoologia/Universidade Federal de Juiz de Fora. bernadete.sousa@ufjf.edu.br*

INTRA AND INTERSPECIFIC RELATIONS OF MARSH DEER *BLASTOCERUS DICHOTOMUS* (ILLIGER, 1815) (MAMMALIA, CERVIDAE) AT PARANÁ RIVER BASIN

Marcos Rogério Soares Lemes[1] *& Artur Andriolo*[2]

ABSTRACT: The marsh deer has peculiar habits preferring environments with dense vegetation and particular water level, this makes possible to prevent from predators. Considered an animal with solitary habits, it adopts a social system that is determined by a balance, which optimizes the procedures anti-predators, as well as a better strategy of foraging allowing reaching a reproductive success. During four years and a half the marsh deer intra and inter-specific relations were studied at the Paraná River basin, specifically of surrounding the Hidrelétrica Plant "Sergio Motta" reservoir, with the objective to clarify aspects of marsh deer social organization and the predation by large felids. It was observed in the intra-specific relation that, independent of the season and the gender, the marsh deer have high fidelity (95,87±1,16%) to its home range. The overlapping of male activity core areas was significantly smaller than the female's areas. During the aerial sightings males with more than 3 females were frequent. Considering the inter specific relations the predation mortality by large felids was of 10% for the studied area, and significantly higher during the dry season. Possibly because the increase of availability area for the predator with reduction of the prey area availability. The knowledge of the social structure and the inter-specific relations becomes a comparative base for the analysis and interpretation of the natural and artificial increasing of density, as well for the translocations results. This information will turn possible applying better conservation strategy for these animals.

Key Word: Marsh deer, social structure, predation, large felids.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientador. Departamento de Zoologia/Universidade Federal de Juiz de Fora*

HYMENOPTERA GALLS FROM *CALLIANDRA BREVIPES*

Fabrício Medeiros de Carvalho[1] , Geraldo Luis Gonçalves Soares[2] & Rosy Mary dos Santos Isaias[3]

ABSTRACT: Galls are vegetal tumours induced by several organisms which receive both shelter and food. In Calliandra brevipes populations found in the "Zona da Mata" (south-east) of Minas Gerais, the presence of hymenopterans induced by two Tanaostigmoses species not yet described was found. Two galls were found: a fusiform type and a globose one. The healthy parts present uniserial epidermis and are covered by a thick cuticle. It is thinner in the foliole's adaxial surface. The foliole has dorsoventral mesophil and collateral vascular bunches. The healthy stem at initial secondary growth stage where the globose galls are found has an anatomic organization typical of dicotyledoneae. An angular chollenchyma is found both in the stem cortex and in the petiole of compound leaves. The petiole is composed by two differently sized flanges. The vascular system is covered by thick fibers. The galls have a similar impact on the anatomy of *C. brevipes*. They show a growing nutritive tissue adjacent to the inducer chamber where digitiform or fusiform cells are seen. In the tissues altered by the action of inducers, cell hypertrophy and sclerenchyma are clear, stressed by the presence of fibers and braquiasclereides, the latter characteristic of fusiform galls. In the healthy parts, starch was more often found in the stem and less often found in the foliole. The globose gall presented starch in August and December and its level was similar to the one found in the stem though its concentration was stronger in those cells further from the larvae chamber. Both the galls have lipids as their main storing substance. This storage process is not found in the stem or foliole. The healthy parts show a large production of phenols and flavonoids. In the foliole, the appearance of phenols was stronger in the palisade parenchyma. In the stem, such substance was more often found in the cortex and the outer medullar parenchyma. The detection of flavonoids was similar to the detection pattern for phenols in both parts. The galls stimulate the production of phenols. The infestation in the globose gall remained high for most of the period under analysis. In both galls infestation is different as regards low and high plants. The fusiform gall had two infestation peaks, one in November (20.45±14.13) and a smaller one in May (7.15±7.54). Apparently, the increased infestation level in the globose gall was constant. In February the average infestation level was (1.05±1.39) gall/bunch and in December it was (46.7±10.11) gall/bunch. Low rainfall tended to reduce the infestation averages of the globose galls and the morphometrics of both galls. The present work was aimed at determining the manifestation of the influence of the host in the cecidogenesis process and learning the infestation and morphometrics occurring in C. brevipes, thus contributing to the broadening of knowledge on tropical. It is concluded that the inducer handles vegetal resources, unveiling the host's potentialities. The gall fails to be a mere gall-maker extended phenotype. The gall-makers can benefit from the high production of phenols, being protected from unspecific phytophages. Climate seems to have little influence on the production of metabolic substances.

Key Words: Gall, hymenopterans, *Calliandra brevipes*.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientador. Universidade Federal do Rio Grande do Sul*
[3] *Universidade Federal de Minas Gerais*

CAFFEINE AND THYMOL INFLUENCE UPON SURVIVAL, GROWTH AND REPRODUCTION OF THREE TERRESTRIAL SNAILS SPECIES, UNDER LABORATORY CONDITIONS

Paula Ferreira dos Santos[1] *& Elisabeth Cristina de Almeida Bessa*[2]

Some species of terrestrial snail are cited in literature as intermediate hosts and agricultural plagues. The use of synthetic products in the control of these animals is highly expensive, being also harmful to the environment. The moluscicidall substances of vegetal origin represent a safe and efficient form of snails controlling. Caffeine and thymol are substances of vegetal origin, with potential moluscicidall action, found in some species of plants. The objective of this work was to evaluate the influence of caffeine and thymol in different concentrations on the survival, growth and reproduction of *Leptinaria unilamellata* (d'Orbigny, 1835), *Bradybaena similaris* (Férussac, 1821) and *Subulina octona* (Brugüière, 1879), in different ages, under laboratory conditions, observed during 120 days. Results had shown that thymol 2,5g/L and 5g/L functioned as ovicidall for B. similaris and S. octona, and furthermore acted as moluscicidall for *L. unilamellata*, *B. similaris* and *S. octona*, in different concentrations and ages, also presenting residual effect on the reproduction of *B. similaris*. Thymol and caffeine presented no influence in the growth of none of the three tested species. Caffeine 5g/L acted as moluscicidall for *newborn L. unilamellata*. Caffeine 2,5g/L did not present moluscicidall or residual effects in young L. *unilamellata*, *B. similaris* and S. *octona*, between 10 and 30 days of age. New studies utilizing different concentrations are necessary.

Key Words: *Leptinaria unilamellata* ; *Bradybaena similaris; Subulina octona;* moluscicidall.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora.*
[2] *Orientadora. Departamento de Zoologia/Universidade Federal de Juiz de Fora*

MORPHOLOGY, BIOMETRY AND ASPECTS OF THE DEVELOPMENT OF EGGS AND PREPARASITIC LARVAE OF RHABDITIDA AND STRONGYLIDA GASTROINTESTINAL NEMATODES PARASITES OF *HYDROCHAERIS HYDROCHAERIS* (LINNAEUS, 1766) (RODENTIA, HYDROCHAERIDAE), IN JUIZ DE FORA CITY, MINAS GERAIS STATE

Fabiano Matos Vieira[1], Elisabeth Cristina de Almeida Bessa[2] & Sueli de Souza Lima[3]

ABSTRACT: Capybara (Hydrochaeris hydrochaeris Linnaeus, 1766) is a wild rodent whose economic interest is mainly related to the meat and leather production. Many studies shows that this rodent species is parasited by diverse helmints, amongst them the Rhabditida nematode of the Strongyloides chapini Sandground, 1925 species and Viannella hydrochoeri (Travassos, 1914) and Hydrochoerisnema anomalobursata Arantes & Artigas, 1980 species of the Strongylida group, natural parasites of capybara, beyond Cooperia punctata (Von Linstow, 1907), C. pectinata Ranson, 1907, Haemonchus sp. (Cobb, 1898) and Trichostrongylus axei (Cobb, 1879), strongilid nematodes known as accidental parasites. An important alternative for the diagnosis and study of wild animals helmintofauna, amongst these the capybaras, is the excrement processing for attainment of eggs and larvae, aiming to identify the parasites and study its morphobiology. Intending to furnish morphologic, biometric and egg biology data of preparasitic gastrointestinal nematode larvae of capybara, was realized the present study. Using Gordon & Whitlock techniques, simple fluctuation and modified Baermann, capybara fecal samples collected in Juiz de Fora city were selected using as criteria the biggest ratios of eggs and larvae in initial periods of development. The selected excrements were destined to morphologic and biometric studies of eggs and larvae in the diverse periods of development and studies relating to its development during 10 consecutive days, under conditions of controlled temperature of 20ºC, 26ºC and 30ºC, and relative humidity maintained around 90%. They were characterized and morphometrically differentiated: eggs, L1, L2 and L3 of Rhabditida and Strongylida nematodes, probably of S. chapini, V. hydrochoeri and H. anomalobursata species. It was observed that in the three studied temperatures the full development of eggs occurs until L3, being that the duration of the period of development is inversely proportional to the temperature.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*
[2] *Orientadora. Departamento de Zoologia/Universidade Federal de Juiz de Fora*
[3] *Departamento de Zoologia/Universidade Federal de Juiz de Fora*

SURVEY OF ECTOPARASITS AND HEMOPARASITS ON RURAL AREA DOGS OF THE CITY OF JUIZ DE FORA, STATE OF MINAS GERAIS, MG

Denise de Fátima Rodrigues Daemon[1] & Erik Daemon[2]

ABSTRACT: The current study aimed to verify ectoparasits and hemoparasits occurrence on rural area dogs of the City of Juiz de Fora, State of Minas Gerais. Collections were carried out from July to September 2003 and we examined 101 vagabond dogs. Ectoparasits were collected through visual and tactile examination on animals' bodies. We used tweezers to catch them and they were conditioned in flasks containing ethanol 70° GL and they were identified through stereoscopy. Specimens were clarified and positioned for photonic microscopic analysis. Among siphonapterae *Ctenocephalides felis* was more prevalent (64.35%) with average intensity of 4.8±6.16 siphonapterae/dog, *Khopalopsyllus lutzi* (3.96%), hybrid *C. felis* X *C. canis* (1.98%), and *Tunga penetrans* (1.98%). The only phthirapterum specie that we found was *Trichodectes canis* (7.92%) with average intensity of 0.2±1.2 phthirapterum /dog. Among ixodids *Rhipicephalus sanguineus* was the most prevalent specie (49.50%) with average intensity of 3.6±8.17 ixodids/ dog, followed by *Amblyomma cajannense* (3.96%), by *Boophilus microplus* (2.97%), by *A. ovale* (1%), and by *A. aureolatum* (1%). Ixodid nymphs were separated in *Amblyomminae* nymphs (58.41%) with average intensity of 4.5±8.2 nymphs/dog, and in *Rhipicephalinae* nymphs (24.75%) with average intensity of 0.5±1.9 nymphs/dog. On 3.96% of the dogs we found larvae of ixodids. *R. sanguineus* prevalence was superior to the one of *Amblyomma genus*'s species, fact that was not expected in a rural area. However, *Amblyominae* nymphs were more prevalent than *Rhipicephalinae* nymphs, indicating that other studies in different period of the year are necessary. Species *R. lutzi* and *T.penetrans* were not reported in studies performed in the urban area of Juiz de Fora, indicating a possible contact between rural area dogs and sylvestral animals or animals which are regular hosts of such species. In order to evaluate hemoparasits we collected peripheral blood samples by using fleams and by perforating their auricular region's blood vessels. We prepared 2 fine blood smears' slides per animal. They were fixed by methanol, colored by Giemsa, and examined in a photonic microscope equipped with an immersion objective lens (1000x). Among the 101 studied dogs 52.48% (53 dogs) showed negative results in the hemoparasit research, 9.90% (10 dogs) showed questionable results regarding *Ehrlichia platys*, and 5.94% (6 dogs) showed questionable results regarding *Ehrlichia canis*. Among positive result animals only 1.98% (2 dogs) showed positive results regarding *Babesia canis*, 19.80% (20 dogs) regarding *Hepatozoon canis*, and 17.82% (18 dogs) regarding *E. canis*. We found 4 animals with concomitant infections of *E. canis* and *H. canis*, and 1 dog infected by *B. canis* and *E. canis*.

Key Words: *Babesia canis*, *Erlichia canis*, *Hepatozoon canis, Rhipicephalus sanguineus, Amblyomma cajannense,* rural area, dogs.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora.*
[2] *Orientador. Departamento de Zoologia/Universidade Federal de Juiz de Fora*

MORPHOMETRIC CHARACTERIZATION OF *HAEMOPROTEUS COLUMBAE* KRUSE, 1890 (PROTISTA, APICOMPLEXA) STADIUMS ON THE VERTEBRATE HOST *COLUMBA LIVIA* GMELIM, 1879 AND ON THE INVERTEBRATE HOST *PSEUDOLYNCHIA CANARIENSIS* MACQUART, 1839 (DIPTERA, HIPPOBOSCIDAE) AT THE MUNICIPALITY OF JUIZ DE FORA, MINAS GERAIS STATE, BRAZIL

Fabiana Nicolatino Ruella[1] *& Marta D´Agosto*[2]

ABSTRACT: *Haemoproteus columbae* Kruse, 1890 is a wide geographically distributed hemoparasite. It has as vertebrate intermediary hosts, *Columba livia* (Gmelim, 1879), and as invertebrate definitive hosts, flies of the Hippoboscidae family, *Pseudolynchia canariense*s Macquart (1839). The aim of the present study was to evaluate the prevalence and the parasitemia of H. columbae in pigeons, and to morphologically and morphometrically characterize this hemoparasite's different stadiums (macrogametocytes, microgametocytes, ookinetes, macrogamets, microgamets, oocysts, sporozoites). Amongst the 41 pigeons captured in Juiz de Fora city, MG state, it was found a 95% of prevalence, being 83.3% found in the 35 animals captured in the Mariano Procópio Museum (Locality 1) and 100% in the six animals captured in the Jarbas de Lery Santos Square (Locality 2). Parasitemia was evaluated by making a counting of parasited red blood cells, in 100 microscopical fields of the pigeons' blood smears, with a 1000x increase. The differential quantification of the erythrocytic forms registered the following averange numbers, with respective standard deviations and percentile relations: macrogametocytes 448.44±1492.25; 59.8%; microgametocytes 205.73±547.11; 27.1%; young forms 36±102.31; 4.8%; poliparasitism 58.78±286.91; 7.8%. In localities 1 and 2, it were registered, respectively, the following average numbers: macrogametocytes 519.77±1607.46 and 29.5±21.28; microgametocytes 237.9±587.41 and 20.83±24.46; young forms 42.31±109.76 and 3±3.35; poliparasitism 68.86±310.05 and zero. The length and width averages of the eritrocitic forms found, in localities 1 and 2, respectively, were the following ones: macrogametocytes 12.15µm±1.88 x 5.2µm±1.89 and 11.86µm±1.63 x 4.65µm±1.82; microgametocytes 11.61µm±1.61 x 3.49±1.23µm and 11.49µm±1.25 x 3.33µm±0.89. Length and width averages of *H. columbae* mensurated stadiums in *P. canariense*s, collected on hosts captured in locality 1 were, respectively, the following ones: macrogamets 7.44x6.33µm; ookinetes 15.92±3.5x3.38µm±0.87; sporozoites 9.13±2.67x1.47µm±0.52.

Key Word: Hemoparasite; erythrocytics forms; pigeon-malaria.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*

[2] *Orientadora. Departamento de Zoologia/Universidade Federal de Juiz de Fora*

THE BLASTOCYST IMPLANTATION IN RATS (*RATTUS NORVEGICUS* BERKENHOUT, 1769) AFTER TREATMENT WITH THE DRY EXTRACT OF *CAESALPINEA FERREA* MART. (LEGUMINOSAE)

Síntia de Oliveira Souza[1] & Vera Maria Peters[2]

ABSTRACT: The embryonic development of a mammal depends on the perfect interaction between the macro-environment, the matronenvironment and the micro-environment. This is due to the dependence that exists between them in order to ensure the perfect development of the embryo. Thus, nutrients and other substances ingested by the mother can be directly received by the embryo through the placenta. The effect on the mother's organism and the embryonic development caused by drugs popularly known as "natural" must be studied. *Caesalpinia ferrea* Mart. (Leguminosae) has been used in combat of diabetes and in the treatment of diarrhea and enterocolitis. Besides, it has presented effective action against gastric ulcer. However, *C. ferrea* has not been tested concerning its potential reproductive toxicity. In order to test its potential toxic effect during the blastocyst implantation, Wistar rats (*Rattus norvegicus* Berkenhout, 1769) obtained from the colony of the Reproduction Biology Center of the Federal University of Juiz de fora – MG, were inseminated by males presenting attested fertility and were then distributed into two groups of fifteen animals each: Control Group (0.5 mL of distilled water) and Treated Group (300 mg/Kg of body weight of *C. ferrea*, diluted in 0.5 mL of distilled water). The treatment of the animals was always carried out at 09:00 a.m., using intragastric medium, on the fifth, sixth and seventh days of pregnancy. All the animals were sacrificed by anesthesia, on the fifteenth day of pregnancy. In order to evaluate the reproductive toxicity of the drug, the following maternal biological parameters were measured: body weight (g); daily feeding intake average (g); daily water intake average (mL); liver and kidneys weight (g); left and right ovaries weight (g); number of corpora lutea in each ovary and also the implantation rate and the reabsorption proportion, together with the number of living and dead fetuses. The following biological parameters of the offspring were also measured: offspring weight average(g); placenta average weight(g). The data obtained were submitted to Student's "t" (independently) so that a continuous comparison of data and a Chi square test to compare the proportions could be carried out. The level of significance was of a= 0.05.The results showed that the phyto therapeutic studied caused neither maternal nor fetal toxicity.

Key Words: *Caesalpinea ferrea*; Implantation; Blastocyst; Rats.

[1] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora.*
[2] *Orientadora. Departamento de Biologia/Centro de biologia da Repreodução/Universidade Fderal de Juiz de Fora*

ASSOCIATION BETWEEN THE ENTOMOPATHOGENIC NEMATODE *STEINERMA GLASSERI* (STEINER, 1929) (RHABDITIDA, STEINERNEMATIDAE) AND AN ACARICIDE IN CONTROL OF *BOOPHILUS MICROPLUS* (CANESTRINI, 1887) (ACARI, IXODIDAE)

Cíntia Moreira Ramos dos Reis[1], John Furlong[2] & Márcia Prata[3]

ABSTRACT: Studies that evaluate the interaction between commonly used insecticides and entomopathogenic nematodes for control of insects plague have been carried through, but this same approach has not been made how much to the use of entomopathogenics nematodes and acaricides. In this way, this work objectified to evaluate the association between a species of entomopathogenic nematode, Steinernema glaseri (Steiner, 1929), and an organofosforate acaricide, for the control of engorged females of Boophilus microplus (Canestrini, 1887). Engorged females of tick B. microplus had been separate in 12 groups, contend ten individuals. The females of these groups had been immersed per five minutes in varied concentrations of acaricide, associates or not it 10000 nematodes (commercial dose, half, fourth, eighth, tenth sixth parts of the commercial dose). The control group was made with distilled water and the negative control group was made with distilled water and 10000 nematodes. The initial weights of the females had not shown significant difference between the treatments. It did not have variation of the average time of the period of preoviposition, except for the eighth and tenth sixth part of the commercial dose of acaricide associated with nematodes. The weight of the egg mass and the percentage of larvae emergence had presented significant difference between the treatments. The treatments had shown high effectiveness, mainly in the groups dealt with acaricide associates to the nematodes. Conclusion of the cycle of S. glaseri was observed in the treatments with the corresponding doses the eighth and tenth sixth part of the commercial dose, unknown fact in literature. The results gotten in the present work point with respect to a bigger effectiveness of the treatments with the lowest concentrations of acaricide in association with S. glaseri, making possible better control of B. microplus with lesser ambient impact and reduction of the costs of the control.

Key Words: *Steinernema glaseri*, *Boophilus microplus*, organofosforate acaricide.

1 Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/ Universidade Federal de Juiz de Fora. Bolsista CAPES.
2 Orientador. Embrapa Gado de Leite.
3 Embrapa Gado de Leite.

MORPHOMETRY, MORPHOLOGY, LEVEL OF INFESTATION AND BIOLOGY ASPECTS OF GALL FORMING HYMENOPTERS OF *LECYTHIS LANCEOLATA* POIRET (LECYTHIDACEAE)

Thatiana de Oliveira Pereira[1] *& Geraldo Luiz Gonçalves Soares*[2]

ABSTRACT: Galls can be defined as the abnormal growth produced in vegetal tissues under influence of a parasitic organism, involving cellular hiperplasy/hipertrofy, guaranteeing shelter and food for the inductor until the emergency of the adults. Hymenoptercecids are little studied in tropical regions, and literature registers of the occurrence of galls in the Lecythidaceae family do not exist. Healthy and containing galls vegetal material originating from Matias Barbosa city, Zona da Mata Mineira region, were collected and evaluated throughout twelve months. This work objectified to describe unpublished morphometric, morphologic, anatomic and histochemical data of Lecythis lanceolata Poiret spherical and piriform galls, and also the fluctuation of annual infestation level related to the fenology of the host plant. Some aspects of the biology of the gall forming hymenopters are also described in accordance to the morphologic type of gall. Compared to leaf galls, independently of the considered morphologic type, stem galls shows more development, presenting bigger diameters, due to the direct access of the gall forming to vascular beams of bigger bores, which would contribute for a bigger nutrient arrival for the gall structure. The gall persistence in the branches, when the host passes through seasonal leaf fall (caducifolia) process, is probably a relevant factor in the establishment of new infestations, occasioned by the tree's new leaves emission: these galls would function as a reservoir for the beginning of new infestation cycles, and would be in sincrony with the host plant fenology. The high infestation found during low rainfall periods would be explained by the energy deviation of the host plant for the maintenance of its physiological activities, in detriment to the answers directed to the herbivory defense. Females proceeding from spherical galls are probably partenogenetic, and the piriform gall ones would be responsible for the sexuated cycle of the gall forming, because of the emergency of males and females from these galls. Despite their distinct morphologies, they present the same histological intern organization and are histochemically similar. Both of them presented cellular hiperplasy and hipertrofy and also vascular beams neoformation. When compared to the healthy leaves' nervures, the gall leaves' nervures exhibit vascular beams disorganization close to the gall's insertion region. It calls attention the periderm formation, containing characteristic lenticels, especially distinct on spherical galls. The two kinds of galls presented accumulated lipid contents in the inductor's chamber adjacent cells, characterizing the hymenoptercecid's typical nutritive tissue. On the other hand, starch was not detected in the analyzed galls. Healthy leaves' mesofile reacted to fenolic substances and proantocianidines, also detected on the galls' cortical parenchyma. Proantocianidines were especially detected on the galls' floem and lenticels. Those substances, classically considered herbivory defense metabolits, have not impeded the galls induction and development on their hosts, being possible that the inductor is being beneficiated with its production, because parasitoids, cecidophags or fungi were not observed on the analyzed galls during the experiment.

Key Words: Hymenopterocecid, *Lecythis lanceolata*, morphometry, biology, anatomy, histochemical.

[1.] *Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Aniumal/Universidade Federal de Juiz de Fora. Bolsista CAPES.*

[2.] *Orientador, Universidade Federal do Rio Grande do Sul.*

EVALUATION OF NATURAL INFECTION BY *PLASMODIUM (NOVYELLA) JUXTANUCLEARE VERSIANI & GOMES, 1941) IN GALLUS GALLUS LINNAEUS, 1758 AND OTHER GALLIFORMES*

Márcio Eduardo Felizardo de Almeida[1] & Marta D´Agosto[2]

ABSTRACT: The aim of this study was to analyze the appearance of *Plasmodion* (*Novyella*) j*uxtanucleare* (Versiani & Gomes, 1941) in Galliformes kept together with G*allus gallus* (Linnaeus, 1758), naturally infected, in towns of the state of Minas Gerais and, therefore, bood samples of 138 birds were examined - 90 of Gallus gallus and 48 of other Galliformes such as M*elleagris gallopavo* (21), N*umida meleagris* (6), P*avo cristatus* (2), P*hasianus colchicus* (7), C*risolopus pictus* (5), P*hasianus versicolor* (4) e *Lophura nyctomera* (3)- in the cities Juiz de Fora, Santa Barbara do Tugúrio, Matias Barbosa e Chácara, State of Minas gerais, Brazil. Futhermore, the infection of 69 (76,66%) *G. gallus* and the negative result of such analysis in other galliforms were noticed and the prevalence varied from 50% to 100% depending on the environment which was studied. In addition, the density of parasite varied from 1 to 146 stages on 100 areas of a microscopic-analysis blade with an increase of 1000X. As far as the parasite stages are concerned, there has been a prevalence of throphozoites (62,1%), shizontes (30,7%) and gametocytes (7.2%). Finnally, there was no relation between the birds sex or weight and the erythrocyticals stages.

Key Words: Avian malaria; blood parasites; prevalence.

1 Programa de Pós-graduação em Ciências Biológicas – Comportamento e Biologia Animal/Universidade Federal de Juiz de Fora.
2 Orientadora. Departamento de Zoologia/Universidade Federal de Juiz de Fora