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ANTIPSYCHOTIC EFFECT OF AQUEOUS STEM BARK EXTRACT OF *Amblygonocarpus andongensis* IN WISTAR ALBINO RATS

¹EBBO, Abdullahi Aliyu., ²ELSA, Abdullahi Teleh., ³ETUK, Emmanuel Udok., ⁴LADAN, Mohammed Jengebe and ⁵SAGANUWAN, Saganuwan Alhaji

¹Department of Veterinary Pharmacology, Physiology and Biochemistry, Faculty of Veterinary Medicine, Usmanu Danfodiyo University, PMB 2346, Sokoto, Sokoto State, Nigeria.

²Department of Veterinary Medicine, Surgery and Theriogenology, Faculty of Veterinary Medicine, Usmanu Danfodiyo University, PMB 2346, Sokoto, Sokoto State, Nigeria.

³Department of Pharmacology, College of Health Sciences, Usmanu Danfodiyo University, PMB 2346, Sokoto, Sokoto State, Nigeria.

⁴Department of Chemistry, Faculty of Sciences, Usmanu Danfodiyo University, P.M.B. 2346, Sokoto, Sokoto State, Nigeria.

⁵Department of Veterinary Physiology, Pharmacology and Biochemistry, College of Veterinary Medicine, University of Agriculture, PMB 2373, Makurdi, Benue State, Nigeria.

Corresponding Author: Saganuwan, S. A. Department of Veterinary Physiology, Pharmacology and Biochemistry, College of Veterinary Medicine, University of Agriculture, PMB 2373, Makurdi, Benue State, Nigeria. Email: pharn_saga@yahoo.com
Phone: +234 703 9309 400; +234 802 7444 269

ABSTRACT

*The study of antipsychotic effect of the aqueous stem bark extract of *Amblygonocarpus andongensis* was carried out on amphetamine induced psychosis in 42 Wistar albino rats weighing between 105 and 305.2g using two indices: feeding and locomotor activity. Twelve out of the 42 rats were divided into two groups; six per group. Group 1 and 2 received 1.5mg/kg body weight of oral amphetamine. Oral chlorpromazine (0.5mg/kg) was administered to group 2 rats in addition. The remaining 30 rats were divided into 5 groups: A, B, C, D, and E, each group comprised 6 rats. All the groups received 1.5 mg/kg body weight of amphetamine but E received 0.5mg/kg oral chlorpromazine in addition. However, B, C and D received 450, 900 and 1350mg/kg bodyweight of *Amblygonocarpus andongensis* aqueous stem bark extract. Feeding and locomotor activities were measured in groups 1 and 2 and A, B, C, D and E rats respectively. The result showed that there were significant differences in feeding and locomotor parameters between groups 1 and 2 and among groups A, B, C and E ($p < 0.05$) except group E. In amphetamine psychotic model test, group 2 animals have reduced feeding and locomotor activity as compared to group 1. Conclusively, *Amblygonocarpus andongensis* has a dose dependent reducing effect on feeding and locomotor activity at 135mg/kg body weight as compared to chlorpromazine (0.5mg/kg) in amphetamine induced psychosis in Wistar albino rats. Hence both *Amblygonocarpus andongensis* and chlorpromazine may have pharmacokinetic effect on amphetamine and therefore maybe used to treat psychosis induced by amphetamine.*

Keywords: Antipsychotic, effect, *Amblygonocarpus*, *andongensis*, Wistar rat

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EFFECT OF LEAF EXTRACTS OF *Draceana aborea* L. AND *Vitex doniana* SWEET ON THE LARVAE OF *Anopheles* MOSQUITO

¹NNAMANI, Catherine Vera, ²OSELEBE, Happiness Ogba and ¹OGBONNA, Anthony

¹Department of Applied Biology, Ebonyi State University, Nigeria

²Department of Crop Production and Land Landscape Management Ebonyi State University, Nigeria

Corresponding Author: Nnamani, C. V. Department of Applied Biology, Ebonyi State University, Nigeria. Email: nnamanikate2007@yahoo.com Phone: +234 8037786269

ABSTRACT

*The leaf extracts of *Draceana aborea* and *Vitex doniana* of Agavaceae and Verbenaceae families respectively,*

were tested on the larvae of anopheles mosquito for their botanical insecticidal effects. The results of the investigation showed that the minimum percentage mortality concentration (MPMC) of these leaf extracts on the test organisms were at 7.5ml/20ml and 10ml/20ml as the starting points for *D. aborea* and *V. doniana*, respectively. Findings equally revealed that the combination of *D. aborea* and *V. doniana* leaf extracts exerted synergistic effects on these organisms at 5.0ml/20ml, whereas the use of the *D. aborea* and *V. doniana* extracts separately resulted in reduced efficacy. Analysis of variance showed that, there was no significant difference ($P = 0.01$) between the synergy and the individual treatments of the leaf extracts on these organisms. Preliminary phytochemical screening showed the presence of flavonoids, free phenolics, condensed tannins, pseudotannins, triterpenes, glycosides and saponins which have some insecticidal effects on their targeted organisms. These findings represent one of the steps in identifying plants, with insecticidal properties from the rich Bioresources in the Mosaic of the Low-Land Rainforest vegetation zone of Southeastern Nigeria.

Keywords: *Draceana aborea*, *Vitex doniana*, Leaf extract, Botanical insecticide, Phytochemical, *Anopheles* mosquito

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HAEMOPARASITES OF CAMELS (*Camelus dromedarius*) IN MAIDUGURI, NIGERIA

¹JOSHUA, Kamani., ³TURAKI, Aliyu, Usman., ²EGWU, Godwin Onyemaechi., ²MANI, Aliyu, Usman., SAIDU, Mohammed Kida., ³ABDULLAHI, Jibrin Gimba and ²KUMSHE, Hussaini Adam

¹Parasitology Division, National Veterinary Research Institute, PMB 01, Vom, Plateau State, Nigeria

²Department of Veterinary Medicine, University of Maiduguri, Nigeria

³ National Veterinary Research Institute Laboratory, Maiduguri Outstation, Borno State, Nigeria

Corresponding Author: Joshua, K. Parasitology, Division National Veterinary Research Institute, PMB 01, Vom Plateau State, Nigeria. Email: shapumani@yahoo.com Phone +2347035517715; +2348052052829

ABSTRACT

A study was conducted to determine the prevalence and significance of haemoparasite of camels slaughtered in Maiduguri abattoir. Blood samples were collected aseptically from camels before slaughter noting age and sex of animals. The samples were processed for packed cell volume (PCV) and thin smear stained with Geimsa stain according to standard procedure. An overall prevalence of 14.2 % (n = 16) of the 113 animals examined was recorded in this study. Theileria camellensis was most prevalent (n = 9 or 8.0 %) followed by Trypanosoma evansi (n = 4 or 3.5 %) and mix infection with both T. evansi and T. camellensis (n = 3 or 2.7 %). There was no significant difference ($P > 0.05$) between male and female camels, however, there was significant difference between young and adult camels ($P < 0.05$) using student t-test at 95 % confidence interval. All the parasites seen in this study significantly ($P < 0.01$) affected the packed cell volume of the animals when compared to PCV of non infected animals. The haemogram shows marked macrocytic normochromic cells. Further work on the pathogenesis and effects of haemoparasites of camel is required. This is the first report of haemoparasites of camel in this region of Nigeria.

Keywords: Prevalence, Haemoparasite, *Theileria camellensis*, *Trypanosoma evansi*, Camel, Abattoir, Tropics

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DETERMINATION OF HYDROPHILE-LIPOPHILE BALANCE (HLB) OF BOVINE MUCIN FOR POSSIBLE EMULSIFYING PROPERTIES

MOMOH, Mumuni Audu and ADIKWU, Micheal Umale

Department of Pharmaceutics, Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka

Corresponding Author: Momoh, M. A. Department of Pharmaceutics, Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka. Email: jointmomoh@yahoo.com Phone: 234 8037784357

ABSTRACT

The Hydrophile-Lipophile balance (HLB) of bovine mucin was evaluated. Mucin was processed from the small intestine of freshly slaughtered cow via precipitation with chilled acetone, air-drying and pulverization. Series of emulsion were formed with bovine mucin and paraffin oil, in varying ratios, the most stable emulsion with the least creaming level was found to be mucin-oil ratio of 1:9, after a period of 7 days and the HLB value of mucin calculated according to standard methods. The HLB value of mucin was 8.4. These HLB value fell within the range of 8 – 18, that is characteristics of oil-in-water (o/w) emulgents.

Keywords: Hydrophile-Lipophile balance, Bovine mucin, Emulsifying properties

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EVALUATION OF BURNS HEALING EFFECTS OF NATURAL HONEY, DERMAZINE CREAM® AND THEIR ADMIXTURE

¹MOMOH, Mumuni Audu, ²NWACHI, Uche Emmanuel and ¹ERAGA Sylvester

¹Department of Pharmaceutics, Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka

²Department of Biochemistry, Faculty of Biological Sciences, University of Nigeria, Nsukka

Corresponding Author: Momoh, M. A. Department of Pharmaceutics, Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka. Email: jointmomoh@yahoo.com Phone: +2348037784357

ABSTRACT

The healing effect of natural honey was evaluated in vivo using the excision wound healing model. Unpurified honey was used to treat burns inflicted on the experimental rats. The healing effects of the honey were compared to that of dermazine, honey-dermazine mixture, and methylated spirit. The burns healing agents all shown a progressive decrease in the wound, the healing effect of honey was more than any of the other agents used, with 100% healed in the 15th day, dermazine attained 100% by 21st day, indicating that natural honey has healing property than formulated dermazine, methylated spirit gives 61% by 21st day.

Keywords: Honey, Dermazine®, Burns, Healing, Admixtures

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A SURVEY OF THE GUT PARASITES OF RODENTS IN NSUKKA ECOLOGICAL ZONE

OKOYE, Ikem Chris and OBIEZUE, Rose Nduka Nwanyo

Department of Zoology, University of Nigeria, Nsukka, Enugu State, Nigeria

Corresponding Author: Okoye, I. C. Department of Zoology, University of Nigeria, Nsukka, Nigeria. Email: ikemchris@yahoo.co.uk; Phone: +2348069284633

ABSTRACT

*A survey of gut parasites of rodents was undertaken in Nsukka ecological zone. Out of the 87 rodents caught and examined, 47 (54.0%) were positive for helminth parasites. The prevalence rates for the various rodents examined were 60.0% for *Xerus erythropus* (squirrels); 59.3% for *Cricetomy sp.* (giant rats) and 48.9% for *Rattus rattus* (house rats). The difference in prevalence rates amongst the rodents was statistically insignificant ($P > 0.05$). The parasites isolated were 2 Cestode species- *Hymenolepis sp* (17.2%) and *Raillietina sp*; 3 nematode species- *Trichuris muris* (9.2%), *Ascaris sp* (2.3%), *Cyathostomum sp* (4.6%) and one Acanthocephalan- *Moniliformis morniliformis* (6.9%).*

Keywords: Rodents, *Xerus erythropus*, *Cricetomy sp*, *Rattus rattus*, Gut parasites, *Hymenolepis sp*, *Raillietina sp*, *Trichuris muris*, *Ascaris sp*, *Cyathostomum sp*, *Moniliformis morniliformis*

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PRELIMINARY SURVEY OF ECTOPARASITES OF CHICKEN IN AWKA, SOUTH-EASTERN NIGERIA

IKPEZE, Obiora Osegboka., AMAGBA, Immaculata Chioma and ENEANYA, Christine Ifeoma

Department of Parasitology and Entomology, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

Corresponding Author: Ikpeze, O. O. Department of Parasitology and Entomology, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria. Email: ikpezevet@yahoo.com Phone: +2348035838255

ABSTRACT

A total of 4650 domestic chickens, comprising 1410 cocks (30.3 %), 2550 hens (54.8 %) and 690 chicks (14.8 %), displayed for sales between February and May 2008 at Eke-Awka market in Anambra State, south-eastern Nigeria were systematically examined for ectoparasites. Most of the cocks originated from the

North while the hens and chicks were raised on nearby farms in Anambra and Enugu States. Overall, ectoparasites infested about 40.5 % of the chickens examined. The wing louse, *Lipeurus caponis* moderately infested 1935 chickens (41.61 %). The shaft louse, *Menopon gallinae*, extensively infested 2205 (31.90 %), while the fluff louse, *Gonoicotes gallinae*, lightly infested 471 (7.07 %) chickens. The sticktight flea, *Echidnophaga gallinacea*, attacked the head region of 3087 (69.37 %) while the symptoms of scaly leg mite, *Knemidocoptes mutans*, was observed on 1679 (27.70 %) of the birds, respectively. Market survey revealed a depreciation of about 10 to 20 % in the selling prizes of the affected chickens, a positive indication that ectoparasites on chickens are associated with financial losses incurred by operatives of the poultry industry in Nigeria.

Keywords: Ectoparasites, Chickens, *Lipeurus caponis*, *Menopon gallinae*, *Gonoicotes gallinae*, *Echidnophaga gallinacea*

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MOSQUITO FAUNA OF A TROPICAL MUSEUM AND ZOOLOGICAL GARDEN COMPLEX

¹ONYIDO, Angus Ejidike., ¹OZUMBA, Nwora Abiodun., ²EZIKE, Venantius Izuka., ²CHUKWUEKEZIE, Okechukwu Chimaeze., ²NWOSU, Emmanuel Okechukwu.,
¹NWAORGU, Obioma Comfort and ¹IKPEZE Obiora Osegboka

¹Department of Parasitology and Entomology, Nnamdi Azikiwe University, Awka, Nigeria.

²National Arbovirus and Vectors' Research Centre, 17/33 Park Avenue, GRA Box 104, Enugu, Nigeria.

Corresponding Author: Ozumba, N. A. Department of Parasitology and Entomology, Nnamdi Azikiwe University, Awka, Nigeria. Email: nwaozumba@yahoo.com Phone: +234 80 23239056

ABSTRACT

The mosquito fauna of Museum and Zoological Garden Complex (JZC), a major tourist attraction in Jos Metropolis of Nigeria, was studied. The choice of the complex was out of public health curiosity. A total of 627 mosquitoes comprising 4 genera, Aedes, Culex, Coquilletidia and Eretmapodites, and 9 species were caught in two different study trips. Five species, namely, Aedes aegypti, A. africanus, A. vittatus, Culex quinquefasciatus and Eretmapodites chrysogaster, caught by human bait method are known variously to be involved in the transmission of yellow fever and other viral diseases. Culex quinquefasciatus had the highest frequency followed by Aedes aegypti. Simpson's dominance and Shannon-Wiener diversity indices of 0.4942 and 0.4550 were respectively recorded for the whole mosquitoes sampled by the human bait method. C. quinquefasciatus was the most frequent species with diversity values of 0.4444 (Simpson's) and 0.1174 (Shannon-Wiener), followed by A. aegypti with 0.0455 (Simpson's) and 0.1431 (Shannon-Wiener). Ecological statistics demonstrated a highly significant difference in diversity between samples in March, during the dry season, and June in the rainy season (P < 0.001). The presence of man-biting mosquitoes in JZC constitutes apparent public health danger and calls for regular surveillance and control operations on such disease vectors in the complex.

Keywords: Mosquitoes, Zoo Complex, Public Health, *Aedes*, *Culex*, *Eretmapodites*, *Coquilletidia*

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STUDIES ON THE REPRODUCTIVE POTENTIAL OF HOMOPLASTIC AND HETEROPLASTIC PITUITARY HORMONES IN *Heterobranchus bidorsalis* (GEOFFROY SAINT HILAIRE, 1809)

¹NWOKOYE, Charles Ononju., ¹NWUBA, Lucy Afuluenu and ²EYO, Joseph Effiong

¹Department of Zoology, Nnamdi Azikiwe University, Awka, Anambra State

²Fisheries and Hydrobiology Research Unit, Department of Zoology, University of Nigeria, Nsukka, Nigeria.

Corresponding Author: Nwokoye, C. O. Department of Crops Science and Horticulture, Faculty of Agriculture, Anambra State University, Igboriam Campus, Anambra State. Email: aquafishc@yahoo.com Phone: +2348035489844.

ABSTRACT

Artificial induce breeding of gravid Heterobranchus bidorsalis was carried out using two hormonal materials – homoplastic and heteroplastic hormones. The study which involved 10 trials was carried out with 60 gravid female and 20 mature male. The broodfish used for the study were 18 months hatchery produced H. bidorsalis. The hormonal treatments led to the following results in terms of percentage weight loss (3.16 and 3.06%); fertilization rate (9522.77 ± 348.13 and 8,857.93 ± 255.57); and hatchability (9,180.13 ± 343.37 and 8,476.83 ± 345.95) for homoplastic and heteroplastic hormones respectively. The mean

numbers of dead eggs were 396.10 ± 19.15 for homoplastic hormone injected catfish and 425.53 ± 17.09 for those injected heteroplastic hormone. Recorded deformed of larva were low (35.80 ± 1.11 and 34.27 ± 1.43) respectively for catfish injected homoplastic and heteroplastic hormones. Survival of hatchlings was high (99.61 and 99.59 %) for gravid catfish injected homoplastic and heteroplastic hormones respectively. There was no significant difference ($P < 0.05$) in weight of pre and post female spawners. Although the two tested hormones investigated were effective inducers, homoplastic hormone is recommended as it recorded better results.

Keywords: Homoplastic and Heteroplastic hormones, Induced spawning, Hatchability, *Heterobranchus bidorsalis*

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SPECIES COMPOSITION AND ABUNDANCE OF MOSQUITOES OF A TROPICAL IRRIGATION ECOSYSTEM

OGUOMA, Victor Maduabuchi and IKPEZE, Obiora Osegboka

Department of Parasitology and Entomology, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

Corresponding Author: Ikpeze, O. O. Department of Parasitology and Entomology, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria. Email: ikpezevet@yahoo.com Phone: +2348035838255

ABSTRACT

Exophagic-anthropophilic mosquitoes were collected during the April 2007-January 2008 planting season in four designated millet and guinea-corn irrigation fields sampled in Gezawa Agro-ecological Zone of North-central Nigeria. Gezawa-1, Gezawa-2, Ketawa and Jogana irrigation fields contributed about 31.2 %, 24.8 %, 22.8 % and 21.2% respectively, to the number of mosquito species collected in the zone. There was preponderance of Anopheles gambiae complex (20.7 %) over Culex quinquefasciatus (11.8 %), C. pipiens fatigans (9.0%), A. funestus complex (7.0 %), Aedes aegypti (6.9%), A. albopictus (6.6 %), C. pipiens pipiens (5.7 %). C. tigripes (5.0%), A. pharoensis (3.7 %), A. africanus (3.6%), A. taylori (3.4%), A. coustani (3.3 %), A. luteocephalus (2.9 %), A. vittatus (2.8 %), A. rhodesiensis (2.1 %), Mansonia (2.0 %), A. simpsoni (1.9 %) and Psorophora species (1.6 %). A Shannon-Wiener and Simpson's diversity values of 1.1431 and 0.0925 were recorded for the mosquito species in Gezawa Agricultural Zone. A. gambiae had the highest Shannon-wiener diversity and Simpson's dominance indices of 0.1415 and 0.0427 respectively. There was no significant difference between species diversity for the four irrigation fields ($P > 0.001$). Vector control must be carried out in the irrigation fields to reduce the number of these out-door biting mosquitoes, since total reliance on ACTs and ITNs could not offer full protection against malaria to farmers in Gezawa irrigation fields.

Keywords: Mosquitoes, Composition, Diversity, Dominance, Tropical ecosystem, Irrigation

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PREVALENCE OF URINARY TRACT INFECTIONS (UTI) IN SEXUALLY ACTIVE WOMEN OF ABAKALIKI, EBONYI STATE, NIGERIA

ANI, Ogonna Christiana and MGBECHI, Edna Kelechukwu

Department of Applied Biology, Ebonyi State University, Abakaliki, Ebonyi State, Nigeria

Corresponding Author: Ani, O. C. Applied Biology Department, Ebonyi State University, Abakaliki, Ebonyi State, Nigeria. Phone +234 8076688913

ABSTRACT

A research to investigate the prevalence of urinary tract infections in sexually active women (18 – 41 years) from selected health care centres in Abakaliki was carried out. Attempt was made to find out the number of treated cases, aetiologic agents and age range with highest incidence of urinary tract infections over the study period (2004 – 2005). Medical records of urinary tract infected women from the selected health care centres were reviewed. The prevalence of urinary tract infections was high (1232) among the study group and Escherichia coli was implicated as the principal causative agent of these infections. The high prevalence recorded in this study makes it necessary for women to be adequately educated on matters affecting their reproductive health. There is also the need for government of the state to provide improved, adequate and affordable health care services in the communities.

Keyword: Prevalence, Urinary, Tract infection, Sexually active women

ISOLATION AND CHARACTERIZATION OF *Pasteurella multocida* FROM CAPRINE PNEUMONIC LUNGS

UGOCHUKWU, Emman Ikenna

Department of Veterinary Medicine, University of Nigeria, Nsukka, Nigeria. Email: emmaugochukwu@yahoo.com Phone: +234 7039071914

ABSTRACT

By conventional microbiological methods, investigation was carried out in Nsukka and Enugu areas of Enugu State, Nigeria to determine the percentage frequency of occurrence of Pasteurella multocida from caprine pneumonic lungs in Nsukka and Enugu areas of Enugu State, Nigeria. In this study that spanned 12 years, a total of 350 pneumonic lung samples were collected from West African Dwarf goats, Sokoto Red goats and Fulani goats slaughtered in Nsukka and Enugu Municipal abattoirs in Enugu State. By cultural, biochemical and physiological attributes, four (4) of the isolates were characterized as Pasteurella multocida Both gross and histopathological lesions of the pneumonic lung specimens from which this aerobic bacterium was isolated were correlated with the organism. In spite of the low percentage frequency (1.14%) of isolation of Pasteurella multocida in this study, attention is drawn to the pathogenic potential of this organism for goats and other livestock in this part of Nigeria.

Keyword: Isolation, Characterization, *Pasteurella multocida*, Pneumonic, Caprine

ANTAGONISTIC EFFECTS OF CEFTRIAXONE AND SULPHADIMIDINE ON KETAMINE AND THIOPENTONE ANAESTHETICS IN NIGERIAN LOCAL DOG

SAGANUWAN, Alhaji Saganuwan

Department of Veterinary Physiology, Pharmacology and Biochemistry, College of Veterinary Medicine, University of Agriculture, PMB 2373, Makurdi, Benue State, Nigeria.
Email: pharn_saga2006@yahoo.com Phone: +234 8027444269, +234 8026745993

ABSTRACT

Antagonistic effects of ceftriaxone and sulphadimidine on ketamine and thiopentone anaesthetics were studied in Nigerian local dogs. Twenty – four Nigerian local dogs were used for the study. The dogs were divided into six groups: A, B, C, D, E, and F, with four dogs per group. Groups A and B were intravenously administered 17 mg/kg and 20 mg/kg body weight of thiopentone and ketamine respectively. But groups C and D were administered 23 mg/kg and 100mg/kg body weight of ceftriaxone and sulphadimidine respectively in addition to 20 mg/kg body weight of ketamine. However, groups E and F were administered intravenous dose of 23 mg/kg and 100 mg/kg of ceftriaxone and sulphadimidine respectively in addition to 17 mg/kg weight body of thiopentone. Vital parameters such as determination of anaesthesia; onset and duration, temperature, respiratory and heart rates were recorded. The results of onset of duration of anaesthesia revealed significant difference ($P < 0.05$) among group E, F and A animals. Although the result of onset anaesthesia revealed significant difference between group A and B animals ($P < 0.05$). The values of respiratory rate revealed significant difference between the animals in groups D and B as well as groups F and A ($P < 0.05$). The values of heart rate showed significant difference between group C and D animals as well as between E and A animals ($P < 0.05$). Conclusively, sulphadimidine and cerftriaxone caused decreased duration of both anaesthesia and onset of anaesthesia when either was co-administered with ketamine or thiopentone in Nigerian local dogs. Sulphadimidine also caused increased respiratory rate, but cerftriaxone caused decreased and increased heart rate if co-administered with ketamine and thiopentone respectively. More so, thiopentone had higher durations of both anaesthesia and onset of anaesthesia in comparison with ketamine. So thiopentone is more potent than ketamine.

Keywords: Antagonistic, Anaesthetics effect, Thiopentone, Katemine, Sulphadimidine, Cerftriaxone, Dog