

Abstract of Animal Research International (2005) Volume 2 Number 3

Animal Research International (2005) 2(3): 358 – 362

EFFECT OF *Meloidogyne incognita* (ROOT- KNOT NEMATODE) ON THE DEVELOPMENT OF *Abelmoschus esculentus* (OKRA)

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ABSTRACT

Seedlings of Okra Abelmoschus esculentus were inoculated with different numbers of egg masses (0, 4, 8 and 12) of Meloidogyne incognita. The different inoculums elicited varied reactions on the Okra plants. Root galls increased progressively and significantly with increased levels of inoculum. At 0 (zero) inoculum level no root gall was observed. At low inoculum levels, 4 and 8 egg masses, the plants performed seemingly better than the control (in terms of plant dry weight, flower and fruit production). At high inoculum levels very low mean yields of the above parameters were recorded when compared to the control. The implications of enhanced performance observed at low inoculum levels on experimental crops are discoursed.

Keywords: *Meloidogyne incognita*, Root-knot nematode, *Abelmoschus esculentus*, Okra, Root galls

Animal Research International (2005) 2(3): 363 – 365

THE EFFECT OF HOMOPLASTIC PITUITARY INJECTION OVERDOSE ON INDUCED SPAWNING OF AFRICAN CATFISH *Clarias gariepinus*, BURCHELL 1822

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ABSTRACT

Twelve pairs of male and female African catfish, Clarias gariepinus broodfish were monthly treated with graded doses of crude homoplastic pituitary injection. Different sets of pairs were used for each month, after certifying their gonadal maturity fitness for induced breeding. The first two pairs of spawners received one pituitary gland (3.8 – 5.7 mg) each from donors having equivalent body weight. The second two pairs received two glands (7.2 – 11.3 g), the third two pairs received three glands (10.1 – 16.2 mg) the fourth two pairs received four glands (13.5 – 22.2 mg) and the fifth two pairs received five glands (17.7 – 27.5 mg) the sixth two pairs (control) were not injected. Each spawning pair was kept in concrete spawning tank for 24 hours for natural spawning to take place. Administration of one pituitary injection failed to induce spawning, two and three glands yielded optimum results. Four and five yielded good spawning but all the hatchlings died after hatching. Death may be attributed to over secretion of thyroxin, thus leading to faulty vitellogenesis.

Keywords: Overdose, Homoplastic, Pituitary injection, *Clarias gariepinus*

RISK FACTORS ASSOCIATED WITH CANINE PARVOVIRUS ENTERITIS IN VOM AND ENVIRONS

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ABSTRACT

A study was carried out to assess the effects of age, sex, breed, location of cases and tick infestation on the prevalence of canine parvovirus (CPV) enteritis in dogs treated in the Veterinary Clinic of the National Veterinary Research Institute Vom between July 1999 and July 2002. A case control study design was used to assess the association between the risk factors and the disease. Out of 3075 dogs examined during the period, 87 had CPV enteritis (2.8%). Dogs between 0 to 5 months of age had elevated risk (OR = 25.14; 95% CI = 9.74, 67.26%). Other factors did not significantly affect the occurrence of the disease. The disease was most prevalent in May and June with a lesser peak in January. Age and seasonal variation should be considered in planning a control programme.

Keywords: Risk factors, Canine parvovirus enteritis

METALS AND MINERAL NUTRIENT CONCENTRATION IN *Oreochromis niloticus*, *Clarias gariepinus* AND *Chrysichthys furcatus* FROM BENUE RIVER, MAKURDI, NIGERIA

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ABSTRACT

*Concentration of five metals and minerals, Iron (Fe), Zinc (Zn), Copper (Cu), Lead (Pb), Cadmium (Cd), Sodium (Na), Potassium (K), Ammonia (NH₃), phosphate (PO₄) were determined in three species, of fish from the Benue River (*Oreochromis niloticus*, *Clarias gariepinus* and *Chrysichthys furcatus*), at four different sampling stations. The levels of metals and minerals were assayed from the muscle, liver, kidney, and intestine and gills of the three species. Differences in all means concentration of metals and minerals were analyzed using F-LSD and comparisons were made between stations and the fish species, significant difference were shown between values of iron and ammonia nitrogen amongst the species and between upstream stations and downstream stations respectively.*

Keywords: Metals, Nutrients, Fishes, Benue river

MORPHOMETRIC VARIATIONS AMONG THREE *Distichodus* SPECIES OF ANAMBRA RIVER, NIGERIA

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ABSTRACT

Studies on the morphometric variations of three Distichodus species namely D. rostratus, D. brevipinnis and D. engycephalus from Anambra river were investigated from November 2002 to October 2003. Fish specimens were collected monthly at Otuocha and Ogurugu area using hook and line, traps, baskets, gillnets, dragnets, surface drift nets and cast nests of various mesh sizes. Specific differences among the Distichodus species occurred in 2 raw characters; pelvic fin height and pectoral-pelvic fin space and 6 ratio (transformed) characters notably pelvic fin height, anal fin height, pectoral-pelvic fin space, pelvic-anal fin space, head length and caudal peduncle depth. Sexual dimorphism occurred in two ratio characters namely pectoral-pelvic fin space and pelvic-anal fin space among Distichodus brevipinnis. These characters are recommended as key characters in the taxonomy of Distichodus.

Keywords: Anambra river, *Distichodus*, Taxonomy, Morphometric character

HOMESTEAD ARTIFICIAL PROPAGATION, GROWTH AND MORPHOMETRIC CHARACTERISTICS OF THE AFRICAN CATFISH (*Clarias gariepinus*, PISCES: CLARIIDAE)

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ABSTRACT

*Thirty (30), eighteen months old gravid females (458.20 ± 2.256) of the African catfish, *Clarias gariepinus* were injected intramuscularly with different doses (0.00, 10.00, 30.00, 50.00 and 70.00 $\mu\text{g Kg}^{-1}$) of luteinizing hormone releasing hormone analog (LHRHa) at a water temperature of $25 \pm 1.00^\circ\text{C}$. Fifteen (15) mature males ($453.97 \pm 2.13\text{g}$) received half the dose given to the females and they provided the milt (spermatozoa) used in the artificial fertilization of ovulated eggs from females. The hatched fry were randomly allotted to 15 indoor concrete tanks (0.70 x 1.50 x 0.50m), arranged in 5 rows with 3 replicates per row (5 x 3) and allowed to stay for 10 days. Twelve (12) concrete tanks (8.00 x 4.00 x 1.00m) were used outdoor for the feeding of the advanced fry on formulated ration (CP = 38%) at 5% body weight per day for 7 days. The results of the*

artificial inducement of the catfish with different doses of LHRHa (10-70 µg Kg⁻¹) indicate that there were significant variations in the percent ovulation (P < 0.01), spawn weight (P < 0.01), percent fertilization, and survival (P < 0.05) of the fish. The mean body weight, head diameter, standard and total body lengths of the fry also varied significantly among the different hormonal doses (P < 0.05). These results signified that different doses of LHRHa affected the growth and morphometric indices of C. gariepinus fry.

Keywords: *Clarias gariepinus*, Luteinizing hormone, Artificial inducement

Animal Research International (2005) 2(3): 382 – 387

HETEROSEXUAL BEHAVIOUR OF IN-SCHOOL ADOLESCENTS IN OGBADIBO LOCAL GOVERNMENT OF BENUE STATE

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ABSTRACT

The heterosexual behaviour of secondary school adolescents in Ogbadibo Local Government Area was investigated to find out the sexual relationship of schoolboys and girls. The survey research design was utilized for the study and the instrument for data collection was the questionnaire. Data were collected from a sample of five hundred adolescents students. Five hundred copies of the questionnaire were distributed, out of which data from 450 heterosexual active respondents were used for the analysis. Simple percentage was used for the analysis of the data collected. The findings of the study showed that some adolescents experienced their first heterosexual intercourse before the age of twelve years, and had one life-time heterosexual partner. Some never used condom while most of them use condom during heterosexual intercourse. There were also findings on school adolescent's sex sales. Further more, the study revealed that age and school type influenced the adolescent's patterns of heterosexual behaviour. Some recommendations were also made.

Keywords: Heterosexual, Behaviour and Heterosexualism

Animal Research International (2005) 2(3): 388 – 392

ACETYLSALICYLIC ACID AND CELLULAR DAMAGE IN KIDNEY OF METABISULPHITE TREATED RATS

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ABSTRACT

The effect of acetylsalicylic acid (ASA) as membrane stabilizers was investigated on the kidney of experimental rats treated with sodium metabisulphite. Administration of sodium metabisulphite has been shown to labilize the plasma membrane of some rat tissues. Sodium metabisulphite (10 mg/kg b.wt) acetylsalicylic while both chemical substances of same dose were both chemicals were concurrently administered to three group of rats for two weeks (14 days) while the fourth (4th) group of rats served as control and were given physiological saline alone. Two 'marker' enzymes, alkaline

phosphatase (ALP) and acid phosphatase (ACP) activities were spectrophotometrically determined to monitor the efficacy of acetylsalicylic acid in membrane stabilization. Following the initial administration of metabisulphite alone, immediate significant decreases ($p < 0.05$) in ALP activities were observed. The activity latter recovered towards control value by the tenth day. For ACP, the loss in activities was sustained throughout the experimental period. However, the difference showed no significant difference ($p > 0.05$). In acetylsalicylic acid administered rats the activities of ALP were higher than for the control group while the activities of ACP were not appreciably affected. The combined treatment gave values that were not significantly different from the control values ($p < 0.05$).

Keywords: Acetylsalicylic acid, Kidney, Metabisulphite, Cellullar damage

Animal Research International (2005) 2(3): 393 – 398

SEASONAL TESTICULAR HISTOLOGY AND REPRODUCTIVE CYCLE OF THE RAINBOW LIZARD, *Agama agama agama*, L, (AGAMIDAE, REPTILIA) IN ILE-IFE, SOUTH WESTERN NIGERIA

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ABSTRACT

*Seasonal histological features of the testis and epididymis were studied in male *A. agama agama* from July 1990 to June, 1992 at Ile-Ife, Nigeria. Testis weights showed no significant difference ($P > 0.05$) in the dry and rainy seasons, but were generally low from August to January. Whereas seminiferous tubule diameter and epithelia heights showed no seasonal variation ($p > 0.05$), the epididymal tubule diameter and epithelia heights varied seasonally ($P < 0.001$). Although males in full breeding condition were caught all through the months, such were more prevalent from April to July. Females with eggs or enlarged ovarian follicles were caught all through the study period. Cases of multiple clutches were predominant from February to July. However vitellogenic activities decreased from August to January thus coinciding with the observed decrease in spermatogenic activity in the male. We propose that individual male *Agama* lizards maintain peculiar breeding patterns and that reproduction in *Agama* seems to be influenced by food availability as well as microclimatic conditions at oviposition sites.*

Keywords: Tropical lizards, Agamidae, Histology, Testes, Spermatogenesis, Reproduction