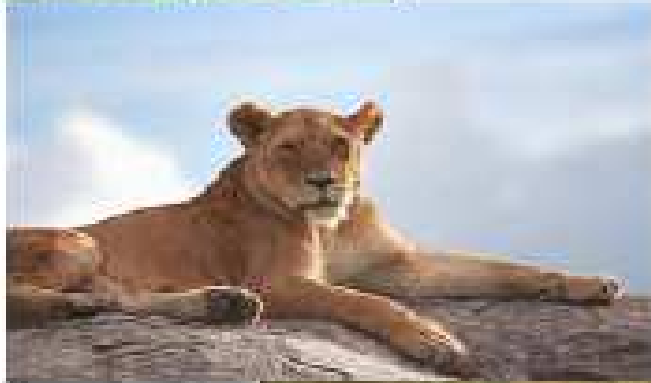


**ANIMAL
RESEARCH
HORIZONS
INTERNATIONAL
JOURNAL**



Volume 8 Number 1

April 2011

**An International Journal Publishing Original
Research Involving the Use of Animals and
Animal Products**

ISSN: 519 3115

Website: www.zoo-unn.org

Animal Research International®

Animal Research International is an online Journal inaugurated in University of Nigeria to meet the growing need for an indigenous and authoritative organ for the dissemination of the results of scientific research into the fauna of Africa and the world at large. Concise contributions on investigations on faunistics, zoogeography, wildlife management, genetics, animal breeding, entomology, parasitology, pest control, ecology, malacology, phytonematology, physiology, histopathology, biochemistry, bioinformatics, microbiology, pharmacy, veterinary medicine, aquaculture, hydrobiology, fisheries biology, nutrition, immunology, pathology, anatomy, morphometrics, biometrics and any other research involving the use of animals are invited for publication. While the main objective is to provide a forum for papers describing the results of original research, review articles are also welcomed. Articles submitted to the journal is peer reviewed to ensure a high standard.

Editors:

Professor FC Okafor

Professor JE Eyo

Editorial Advisory Committee

Prof. M. C. Eluwa

Prof. N. M. Inyang

Prof. B. O. Mgbenka

Prof. Bato Okolo

Prof. I B Igbiosa

Prof. A. A. Olatunde

Prof. O. A. Fabenro

Prof. R. P. king

Prof. E. Obiekezie

Prof. J. A. Adegoke

Prof. D. N. Onah

Prof. A. O. Anya

Prof. E. I. Braide

Dr. G. T. Ndifon

Prof. P O. Ubachukwu

Prof. N. Umechue

Prof. B. E. B. Nwoke

Prof. F. J. Udeh

Prof. A. A. Adebisi

Prof. W. S. Richards

Prof. W. A. Muse

Prof. O. U. Njoku

Animal Research International®

Notice to Contributors

Original research papers, short communications and review articles are published. Original papers should not normally exceed 15 double spaced typewritten pages including tables and figures. Short communications should not normally exceed six double spaced typewritten pages including tables and figures. Manuscript in English including all illustrations should be submitted

online at joseph.eyo@unn.edu.ng to The Editor, Animal Research International, Department of Zoology and Environmental Biology, P. O. Box 3146, University of Nigeria, Nsukka. Submission of research manuscript to Animal Research International is understood to imply that it is not considered for publication elsewhere. Animal Research International as a policy will immediately acknowledge receipt and process the manuscript for peer review. The act of submitting a manuscript to Animal Research International carries with it the right to publish the paper. A handling charge of US \$ 10.00 or ₦1000.00 per manuscript may be sent along with the manuscript to the Editor, Animal Research International. Publication will be facilitated if the following suggestions are carefully observed:

1. **Manuscript** should be typewritten in double spacing on A4 paper using Microsoft Word. An electronic copy [CD] should be enclosed, or submit online at joseph.eyo@unn.edu.ng or divinelovejoe@yahoo.com
2. The **title page** should include title of the paper, the name(s) of the author(s) and correspondence address (es).
3. **Keywords** of not more than 8 words should be supplied.
4. An **abstract** of not more than 5% of the length of the article should be provided.
5. **Tables and figures** should be kept to a minimum. Tables should be comprehensible without reference to the text and numbered serially in Arabic numerals.
6. **Figures** (graphs in Microsoft excel format, map in corel draw 10 format and pictures in photo shop format) should be comprehensible without reference to the text and numbered serially in Arabic numerals. Electronic version of figures should be submitted either in Microsoft excel format, map in corel draw 10 format and pictures in photo shop format online.
7. **Symbols and common abbreviations** should be used freely

and should conform to the Style Manual for Biological Journals; others should be kept to a minimum and be limited to the tables where they can be explained in footnotes. The inventing of abbreviations is not encouraged- if they are thought essential, their meaning should be spelt out at first use.

8. **References:** Text references should give the author's name with the year of publication in parentheses. If there are two authors, within the text use 'and'. Do not use the ampersand '&'. When references are made to a work by three or more authors, the first name followed by *et al.* should always be used. If several papers by the same author and from the same year are cited, a, b, c, etc., should be inserted after the year publication. Within parentheses, groups of references should be cited in chronological order. Name/Title of all Journal and Proceeding should be written in full. Reference should be listed in alphabetical order at the end of the paper in the following form:

EYO, J. E. (1997). Effects of *in vivo* Crude Human Chorionic Gonadotropin (cHCG) on Ovulation and Spawning of the African Catfish, *Clarias gariepinus* Burchell, 1822. *Journal of Applied Ichthyology*, 13: 45-46.

EYO, J. E. and MGBENKA, B. O. (1997). Methods of Fish Preservation in Rural Communities and Beyond. *Pages 16-62. In: Ezenwaji, H.M.G., Inyang, N.M. and Mgbenka B. O. (Eds.). Women in Fish Handling, Processing, Preservation, Storage and Marketing.* Inoma from January 13 - 17, 1997.

WILLIAM, W. D. (1983) *Life inland waters.* Blackwell Science, Melbourne

9. **Cover letter** stating that the manuscript is original and as long as it is being considered for publication in ARI, has not been sent any where for publication. Suggestion of three reviewer and their emails will hasten peer review and shorten time of publication. Peer reviewed manuscripts are copy edited for clarity, conciseness, and for conformity to journal style.

Proof

A marked copy of the proof will be sent to the author who must return the corrected proof to the Editor with minimum delay. Major alterations to the text may not be accepted.

Page charges

A subvention of US \$60.00 (N8, 000.00) is requested per published article. The corresponding author will receive five off-prints and a copy of the journal upon payment of the page charges.

Copy right

Manuscript(s) sent to ARI is believed to have not been send elsewhere for publication. The author upon acceptance of his/her manuscript give ARI the full mandate to electronically distribute the article globally through African Journal Online (AJOL) and any other abstracting body as approved by the editorial board.

Address

Animal Research International, Department of Zoology and Environmental Biology, P. O. Box 3146, University of Nigeria, Nsukka

Phone: 08026212686, 08054563188

Website: www.zoo-unn.org

Email: joseph.eyo@unn.edu.ng or divinelovejoe@yahoo.com

Subscription Information

Animal Research International is published in April, August and December. One volume is issued each year. Subscription cost is US \$200.00 a year (N1, 400.00) including postage, packing and handling. Each issue of the journal is sent by surface delivery to all countries. Airmail rates are available upon request. Subscription orders are entered by calendar year only (January - December) and should be sent to The Editor, Animal Research International, Department of Zoology and Environmental Biology, P. O. Box 3146, University of Nigeria, Nsukka. All questions especially those relating to proofs, publication and reprints should be directed to The Editor, Animal Research International, Department of Zoology and Environmental Biology, P. O. Box 3146, University of Nigeria, Nsukka

Change of address

Subscribers should notify The Editor of any change in address, 90 days in advance.

Advertisements

Apply to Animal Research International, Department of Zoology and Environmental Biology, P. O. Box 3146, University of Nigeria, Nsukka.

ANNUAL SUBSCRIPTION RATE THREE NUMBERS PER VOLUME

CATEGORY	DEVELOPING COUNTRY	DEVELOPED COUNTRY	NIGERIA
STUDENT	\$ 200.00	\$ 300.00	N 1,400.00
INDIVIDUALS	\$ 300.00	\$ 350.00	N 2,000.00
INSTITUTION/LIBRARY	\$ 500.00	\$ 600.00	N 5,000.00
COMPANIES	\$ 600.00	\$ 750.00	N 10,000.00

Pay with bank draft from any of the following banks **only**. **(a)** Afribank **(b)** Eco Bank **(c)** Access Bank **(d)** Standard Trust Bank **(e)** United Bank for Africa **(f)** Union Bank **(g)** Zenith Bank **(h)** First Bank Nig. PLC **(i)** Western Union Money Transfer.

Addressed to **The Editor**, Animal Research International, Department of Zoology and Environmental Biology, P. O. Box 3146, University of Nigeria, Nsukka.

Alternatively, you may wish to send the bank draft or pay cash directly to **Prof. JE Eyo** Animal Research International Editorial Suite, 326 Jimbaz Building, University of Nigeria, Nsukka.

For more details contact, The Secretary, Animal Research International, Department of Zoology and Environmental Biology, Editorial Suite Room 326, Faculty of Biological Sciences Building (Jimbaz), University of Nigeria, Nsukka. Enugu State, Nigeria.