

p-ISSN 0215-0883  
e-ISSN 2502-6577

# INDONESIAN AQUACULTURE JOURNAL

Volume 11 Number 1, June 2016



Accreditation Number: 591/AU2/P2MI-LIPI/03/2015

# INDONESIAN AQUACULTURE JOURNAL

---

**Volume 11 Number 1, June 2016**

The Indonesian Aquaculture Journal publishes research results on aquaculture, coastal and freshwater fisheries, and the environment. This journal publishes twice a year and funded by Center for Fisheries Research and Development. Agency for Marine and Fisheries Research and Development

**Managing Director:**

Prof. Dr. Hari Eko Irianto

**Editors in Chief:**

Prof. Dr. I Nyoman Adiasmara Giri (Fish Nutrition, Research and Development Institute for Mariculture, INA)

**Associate Editor:**

Dr. Wijopriono (Fisheries Hidro Acoustic, Center for Fisheries Research and Development, INA)

**Editorial Board:**

Prof. Dr. Ketut Sugama (Aquaculture, Center for Aquaculture Research and Development, INA)

Prof. Dr. Sri Juwana (Marine Culture, Indonesian Institute of Science, INA)

Dr. Anang Hari Kristanto (Aquaculture, Research and Development Institute for Freshwater Aquaculture, INA)

Dr. Alimuddin (Biotechnology, Faculty of Fisheries and Marine Science-Bogor Agricultural University, INA)

Dr. I Nyoman Radiarta (Aquatic Environment, Center for Aquaculture Research and Development, INA)

**Language Editor:**

Dr. Gede S. Sumiarsa

**Assistant Editor:**

Dra. Endang Sriyati

Purnomo Indra Basuki, S.E.

**Graphic Designer:**

Suprapti

**Editorial Office**

Diana Yulianti

**Manuscript may be send to the publisher:**

Indonesian Aquaculture Journal

Center for Fisheries Research and Development

Gedung Balitbang KP II, Jl. Pasir Putih II, Ancol Timur, Jakarta Utara 14430

Phone: (021) 64700928; Fax.: (021) 64700929

E-mail: [publikasi.p4b@gmail.com](mailto:publikasi.p4b@gmail.com); [iaj.puslitbangkan@gmail.com](mailto:iaj.puslitbangkan@gmail.com)

Website: [ejournal-balitbang.kkp.go.id/index.php/iaj](http://ejournal-balitbang.kkp.go.id/index.php/iaj)

Accreditation Number: 591/AU2/P2MI-LIPI/03/2015

## PEER-REVIEWERS OF INDONESIAN AQUACULTURE JOURNAL

---

---

1. Dr. Michael A. Rice (Aquaculture, Departement of Fisheries, Animal, and Veterinary Science, USA)
2. Dr. Emmanuel Paradise (Ecology and Population Biology, Institute de Recherche pour le Developpement, France)
3. Dr. Munti Yuhana (Microbiology, Faculty of Fisheries and Marine Science, Bogor Agricultural University, INA)
4. Prof. Dr. Akhmad Mustafa (Aquatic Environment, Research and Development Institute for Coastal Aquaculture, INA)
5. Dr. Imron (Genetic, Research Institute for Fish Breeding, INA)
6. Dr. Hans Peter Saluz (Moleculer Fish Genetic, Hans Knoll Institute, Germany)
7. Dr. Katsumori Hatanaka (Spatial Modelling Aquaculture, Tokyo University of Agriculture, Japan)
8. Dr. Jesmond Sammut (Environmental Science, University of New South Wales, New South Wales, AU)
9. Prof. Dr. Haryanti (Genetic and Biotechnology, Research and Development Institute for Mariculture, INA)

## ACKNOWLEDGEMENTS FOR PEER-REVIEWERS

---

Editor of Indonesian Aquaculture Journal (IAJ) would like to thank for Peer-Reviewers who have participated in the review paper published in the scientific journal's, so that this journal can be published in a timely manner. Peer-Reviewers who participated in the publication Volume 11 Number 1 June, 2016 are:

1. Dr. Ketut Mahardika (Aquaculture, Research and Development Institut for Mariculture, INA)
2. Prof. Budi Prayitno (Aquaculture and Fish Health, Diponegoro University, INA)
3. Dr. Andi Parenrengi (Breeding, Genetic and Biotechnology, Research and Development Institute for Coastal Aquaculture, INA)
4. Prof. Dr. Haryanti (Genetic and Biotechnology, Research and Development Institut for Mariculture, INA)
5. Dr. Irma Sita Arlyza (Molecular Ecology, Indonesian Institute of Science, INA)

## PREFACE

Indonesian Aquaculture Journal (IAJ) in 2016 entered the Volume 11. The process of publishing this journal is funded by Center for Fisheries Research and Development of the fiscal year 2016. All submissions should be published through the process of evaluation by the Editorial Board, Peer-Reviewers, and editing by Editorial Office.

Management of Indonesian Aquaculture Journal (IAJ) in 2016 began referring to the Open Journal Systems (OJS). In terms of appearance there was a little change, namely:

1. Inclusion of p-ISSN and e-ISSN in the upper right corner on the face skin page, title page and table of contents page of issue, without colons
2. Special Sheets for Peer-Reviewers
3. Sheet gratitude for Peer-Reviewers involved in the review of each number
4. Each title sheet no additional information on the website, email address and information about the IAJ.

This change information is displayed on each foreword for 2 (two) publications.

First published in Volume 11 Number 1, 2016 presented six fisheries research articles. Those six articles are: Gene transfer on *Betta imbellis* through transfection method with different DNA concentration, The ability of fast-growing transgenic African catfish (*Clarias gariepinus*) on predator avoidance, Response to selection for body weight in the third generation of mass selection of the african catfish (*Clarias gariepinus*) at research institute for fish breeding Sukamandi, Induction of gonadal maturation of pond cultured male tiger shrimp, *Penaeus monodon* with different dosages of gonadotropin releasing hormone analogue against eye stalk ablation, Efficacy of GP-11 KHV DNA vaccine in *Cyprinus carpio haematopterus*, Potency and efficacy test of a vaccine in addition with adjuvant against koi herpesvirus in koi (*Cyprinus carpio*).

Those scientific papers are expected to contribute to policy makers and managers of fisheries resources in Indonesia. Editor would deliver sincere thanks to reseachers from the Center for Fisheries Research and Development and outside for their active participation in this edition.

Editor in Chief

## INDONESIAN AQUACULTURE JOURNAL

---

---

Volume 11 Number 1, June 2016

### CONTENTS

PEER-REVIEWER .....	iii
ACKNOWLEDGEMENTS .....	v
PREFACE .....	vii
CONTENT .....	ix
Gene transfer on <i>Betta imbellis</i> through transfection method with different DNA concentration By: Eni kusrini, Alimuddin, Muhammad Zairin Jr., and Dinar Tri Sulistyowati .....	1-7
The ability of fast-growing transgenic African catfish ( <i>Clarias gariepinus</i> ) on predator avoidance By: Huria Marnis, Bambang Iswanto, Imron, Selny Febrida, and Raden Roro Sri Pudji Sinarni Dewi .....	9-13
Response to selection for body weight in the third generation of mass selection of the african catfish ( <i>Clarias gariepinus</i> ) at Research Institute for Fish Breeding Sukamandi By: Bambang Iswanto, Imron, Huria Marnis, and Rommy Suprpto .....	15-21
Induction of gonadal maturation of pond cultured male tiger shrimp, <i>Penaeus monodon</i> with different dosages of gonadotropin releasing hormone analogue against eye stalk ablation By: Asda Laining, Usman, and Rachman Syah .....	23-30
Efficacy of GP-11 KHV DNA vaccine in <i>Cyprinus carpio haematopterus</i> By: Sekar Ayu Chairunnisa, Sri Nuryati, Alimuddin, Sri Murtini, Ayi Santika, and Dwi Hany Yanti .....	31-39
Potency and efficacy test of a vaccine in addition with adjuvant against koi herpesvirus in koi ( <i>Cyprinus carpio</i> ) By: Lili Sholichah, Munti Yuhana, Angela Mariana Lusiastuti, and Tri Heru Prihadi .....	41-47