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- Salehi-Farsani A., Soltani M., Kamali A., Shamsaie M., 2014 Effect of immune motivator Macrogard and Spirulina platensis on some growth, carcass and biochemical indices of stellate sturgeon *Acipenser stellatus*. *AACL Bioflux* 7(3):137-147.
- Susanto A., Irnawati R., 2014 Length-weight and width-weight relationship of spiny rock crab *Thalamita crenata* (Crustacea, Decapoda, Portunidae) in Paniang Island Banten Indonesia. *AACL Bioflux* 7(3):148-152.
- Declarador R. S., Serrano Jr. A. E., Corre Jr. V. L., 2014 Ulvan extract acts as immunostimulant against white spot syndrome virus (WSSV) in juvenile black tiger shrimp *Penaeus monodon*. *AACL Bioflux* 7(3):153-161.
- Palm H. W., Bissa K., Knaus U., 2014 Significant factors affecting the economic sustainability of closed aquaponic systems. Part II: fish and plant growth. *AACL Bioflux* 7(3):162-175.
- Rumeaida M. P., Daud S. M. M., Badri F. M. I., 2014 Fish diversity and abundance in Bidong Island, South China Sea, Malaysia. *AACL Bioflux* 7(3):176-183.
- Caipang C. M. A., Lucanas J. B., Lay-yag C. M., 2014 Updates on the vaccination against bacterial diseases in tilapia, *Oreochromis* spp. and Asian seabass, *Lates calcarifer*. *AACL Bioflux* 7(3):184-193.
- Jontila J. B. S., Balisco R. A. T., Matillano J. A., 2014 The Sea cucumbers (Holothuroidea) of Palawan, Philippines. *AACL Bioflux* 7(3):194-206.
- Yedier S., Gumus E., Livengood E. J., Chapman F. A., 2014 The relationship between carotenoid type and skin color in the ornamental red zebra cichlid *Maylandia estherae*. *AACL Bioflux* 7(3):207-216.
- Pattikawa J. A., Wenno P. A., 2014 Effect of temperature and photoperiod on growth, molting and survival of marron *Cherax tenuimanus*. *AACL Bioflux* 7(3):217-224.
- Ibrahim S., Hasaruddin H., Hussin W. M. R. W., Ahmad W. M. A. W., 2014 Durability of coconut fronds as attractors for fish aggregating devices (FADs): an observation based on leaf epidermis structure. *AACL Bioflux* 7(3):225-233.

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