

Razieh Ghayoumi

Tehran, Iran

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RESEARCH INTERESTS and SKILLS

Passionate about collaborating with other researchers to address environmental change and its impact on biodiversity (mostly marine and coastal) and society. Committed to research that helps us to understand our changing environment and create safe, sustainable solutions for development and building sustainable communities by creating “win-win” opportunities for the environment and economy.

- More than 22 years of experience working within government (local, provincial and federal), academia and with local communities
- Experienced in managing and investigating research projects, writing research proposals, preparing technical reports and academic publications
- Researcher, lecturer and officer within academic and government departments. Areas of research expertise include conservation and restoration of marine and coastal ecosystems, social-ecological systems for coastal community conservation, statistical analysis and species distribution modeling
- Participated in several training sessions and workshops on the marine and coastal environment, as well research and research related projects
- Advanced knowledge in research related to aquatic species, ecosystems and sediment contaminated by heavy metals
- Technical skills include: field sampling (marine, coastal and terrestrial) and preparation of samples; laboratory techniques; using biological laboratory/research Instruments; staining & mounting animal and plant specimens; sea water analysis; sample preparation for heavy metal analysis

EDUCATION

PhD in Marine Biology **Feb. 2005 – Feb. 2009**

Graduate School of Marine Science and Technology. Islamic Azad University, Tehran, Iran

- 1st rank and GPA 18.11 out of 20
- **PhD Thesis:** Helminth parasite of Caspian Kilka (Genus *Clupeonella*) as bioindicators of heavy metals.
- Intestinal helminth parasite fauna of three species of kilkas were investigated. Also the lead and cadmium concentrations in the intestine, muscle, liver, kidney and gonad of kilkas and their parasites were measured and compared.

MSc in Marine Biology **Oct. 1998 - March 2001**

Faculty of Natural Resources and Marine Sciences. Tarbiat Modares University, Noor, Iran

- 1ST rank student of all M.Sc. alumni at the Faculty of Natural Resources and Marine Sciences, 2001.
- **M.Sc Thesis:** The Study of Anaesthetic Effects of Clove (Essence & Extraction) in Common Carp (*Cyprinus carpio*).

BSc in Biology, (Zoology concentration) **Oct. 1993 - July 1997**

University of Agriculture Sciences and Natural Resources of Gorgan, Gorgan, Iran

PROFESSIONAL EXPERIENCE

Research and management roles at academic institutions and with government in Iran, Canada and USA. (See section research project for specific applied science experience).

The United Nation Regular Process Pool of Expert**May. 2023 - Present**

- Reviewing the state of the marine environment, including socioeconomic aspects on a continual and systematic basis by providing regular assessment at the global and regional levels and an integrated view of environmental, economic and social aspects

UNEP/GEO-7**Jan. 2023 - Present**

- Member of the Multidisciplinary Expert Scientific Advisory Group (MESAG) for the Seventh Edition of the Global Environmental Outlook (GEO-7)
https://wedocs.unep.org/bitstream/handle/20.500.11822/41823/MESAG_GEO7.pdf?sequence=3

Community conservation horizon scan**Mar. 2021 - Present**

- Working group member
<https://cchorizonscan.org/the-members/>

Research Officer (Biodiversity)**Feb. 2019 - Present**

Research Center for Environment and Sustainable Development

Department of Environment, Tehran, Iran

- Used a variety of qualitative and quantitative biodiversity research methods and analysing data
- Work with field teams, external researchers, students and government counterparts in collating high quality research data
- Develop biodiversity research work plans
- Monitored research group performance in the development of biodiversity surveys and assisting with the improving of on the ground data collection
- Collected the literature reviews
- Reported, worked and provided logistical support and policy development for different divisions of Department of Environment

Research Associate**Oct. 2018 – Feb. 2019**

Community Conservation Research Network

Saint Mary's University, Halifax, NS, Canada

- Conduct literature reviews and assist with synthesis research
- Community Conservation Research Network is a global resource platform on local communities conserving environment to sustain their livelihood
- Funded by Social Science and Humanities Research Council

Research Officer**Sept. 2016 - Oct. 2018**

Research Center for Environment and Sustainable Development

Department of Environment, Tehran, Iran

- Used a variety of qualitative and quantitative research methods and analysing data
- Lead investigator and author on research projects
- Monitored research group performance
- Collected the literature reviews
- Reported, worked and provided logistical support and policy development for different divisions of DOE

Researcher**Sept. 2014 - Present**

Community Conservation Research Network

Saint Mary's University, Halifax, NS, Canada

- Lead scientist for one of 41 international sites (Case study lead of Qeshm Island, Iran)
- Participated as part of a global team of 57 scientists
- Network Researcher Profile: <https://www.communityconservation.net/people/razieh-ghayoumi/>

UN Fellow – Selected as the Nippon Foundation of Japan Fellowship for 2013-2014

United Nations, New York, NY, USA

April - Dec. 2013

- 9-month Fellowship Program composed of two phases. Phase 1 was comprised of three months of research and training undertaken at Division for Ocean Affairs and Law of the Sea (DOALOS) at the United Nations Headquarters in New York. The 2nd phase was a six months of advanced academic research and study at Saint Mary's University, Halifax, NS, Canada

Senior Coastal Wetlands Officer

Sept 2007- Sept. 2016

Marine Division

Department of Environment, Tehran, Iran

- Assisted senior staff in planning, developing, managing and coordinating implementing programs and projects
- Preparation of writing and leading reports, fact sheets, and other materials utilized by scientists, policy-makers and the public.
- Developed and managed budgets
- Coordinated work in support of the adoption of key strategies and the implementation of conservation projects throughout the global coastal wetlands and regional program areas related to marine and coastal natural resources, coastal restoration, coastal zone management, and others
- Established communication with local, state and federal resources agencies with regard to wetlands, natural resources, Marine Protected Areas

Assistant Professor

Jan. 2006 - Oct. 2012

Faculty of Agriculture and Natural Resources, Environmental Sciences Dept.

Islamic Azad University, Arak, Iran

- Taught graduate level Marine Ecology, Ichthyology, Wetland Ecology, Biology, Research methods
- Chair of Environment Scientific Society
- Principal Representative for Environmental Sciences Dept. at Research Council
- Advised 14 students during research projects for Bachelor of Environmental Sciences degree
- Investigating and assisting on research projects

Marine Biology Officer

Sept 2004 - Sept 2007

Marine Division

Department of Environment, Tehran, Iran

- Provided scientific information to senior level staff needed to best manage the marine environment and advocate this in the policy process through the government
- Engaged in coring techniques, geographic information systems (GIS), visual recording, sampling, preserving specimens, lab working and tracking the distribution of coastal and marine populations in order to determine the health of the coastal and marine environments
- Prepared national and international technical reports

Environmental Officer

Dec 2001- Sept 2004

Department of Environment, Golpayegan, Iran

PROFESSIONAL DEVELOPMENT and MEMBERSHIPS

Memberships

- Community Conservation Horizon Scan, (2020-present)
- The Commission on Environmental, Economic and Social Policy (CEESP) for the Quadrennial Period 2017-2020 and 2021-2025 (2017-present)
- Black & Caspian Seas Nippon Fellowship Alumni (2017-present)
- The Global Environment Outlook (GEO-6 and GEO-7), The United Nations Environment Programme (UNEP) (2015 – Present)
- Community Conservation Research Network (CCRN), (2013-present)

Presentations

Invited as presenter:

- The Nippon Foundation Conference gathering Alumni from four different fellowship programs in the Black & Caspian Sea region (2017) Tbilisi, Georgia.
- Community Conservation Research Network (CCRN) meeting (2015) Tofino, BC, Canada.
- Community Conservation Research Network (CCRN) meeting (2013) Halifax, NS, Canada.

Invited as participant:

- First in-person Meeting of the MESAG, 14-16 March 2023, Bangkok, Thailand.
- The first round of five regional workshops in the third cycle of The Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects, Belitung, Indonesia, 13-15 December 2022.
- Eye on Earth Summit (2015) Abu Dhabi, United Arab Emirates.
- United Nations– Nippon Foundation Fellowship Programme Alumni meeting (2014) Tokyo, Japan.
- Sixth International Workshop on Cestode Systematics and Phylogeny. 15-20 June 2008, Smolenice, Slovakia.

Certifications

The United Nations

- Certificate: Ocean Governance and Science-Policy Interface Aug. 2023

IOI-CANADA

- Certificate: Ocean Governance: Sustainable Development in the Decade of Ocean Science Jun. 2021

United Nations Institute for Training and Research (UNITAR)

- Certificate – e-Workshop on Women’s Leadership Nov. 2020

Department of Environment, Tehran, Kermanshah & Gorgan, Iran

- Certificate – Team Building Activities and Teamwork (Online) Aug. 2020
- Certificate – Wildland Firefighting and Prediction (Online) Jun. 2020
- Certificate – Coronavirus: Training Employees during Pandemic (Online) Mar. 2020
- Certificate – Getting Started with R Packages Feb. 2019
- Certificate – Research Commercialization Feb. 2018
- Certificate – The Biosafety of Genetically Modified Food Jul. 2018
- Certificate – Municipal Waste Management and Appropriate Waste Treatment Methods Mar. 2018

- Certificate – Orientation with Reclamation Methods of Sensitive Marine and Coastal Habitats Jun. 2014
- Certificate - Marine and Coastal Habitat Restoration Methods Jun. 2014
- Certificate - Determining and Introducing New Coastal-Marine Protected Areas for Conservation and Management in the Khouzestan Province of Iran Mar. 2013
- Certificate – The Assessment of the Potential of Dayyer-Nakhiloo National Marine Park Using the Overlaying Method Mar. 2013
- Certificate - Geographical Information Systems (GIS) & Essentials of ArcGIS (80 hours) Mar. 2013
- Certificate - Plankton, Benthos and Other Aquatic Organisms Sampling Methods Nov. 2010
- Certificate - GPS Applied Learning Aug. 2010
- Certificate - Environment and Green Government Aug. 2010
- Certificate - Promoting the Environmental Awareness for Journalists Aug. 2008
- Certificate - Management of Wetlands & Internal Waters May 2006

International Oceanographic Data and Information Exchange, Tehran, Iran

- Certificate – Basic Oceanographic Data Management Jan. 2016

Road, Housing and Urban Development Research Centre, Ministry of Road and Urban Development

- Certificate – Orientation with Coastal Morphology and Their Erosion Vulnerability Oct. 2015

Tehran Governor General Office of Research and Education, Tehran, Iran

- Certificate - The Principles Modify Consumption Patterns, 1-3 Dec. 2010
- Certificate – Entrepreneurship Jan. 2010
- Certificate - Statistical Analysis Nov. 2010
- Certificate - Civilization & Culture Sept. 2008
- Certificate - Effective Communication with Environment & Others. Nov. 2008
- Certificate - Identification and Use of Mental Capacities Nov. 2008

Tehran University, Department of Biotechnology, Tehran, Iran

- Certificate - Identification of Animals at the Species Level by Barcoding Jul. 2010

- Inspected industrial operations to ensure compliance with environmental laws and regulations within an officer's jurisdiction and mandate
- Collected samples from sites under investigation, analyzed acquired information and prepared reports
- Patrolled natural areas to ensure their conservation and protection and enforce all environmental legislation
- Worked with rangers and collaborate with other environmental agencies
- Prepared court actions with legal professionals (for cases of environmental infractions)
- Developed public relations and education materials
- Selected as an "excellent employee" in 2002

RESEARCH PROJECTS

Principal investigator and Co- investigator for significant applied science projects. Coordinated and managed all aspects of research projects:

Co- investigator- "**Horizon Scan on Community-based Conservation**", 2021-2022, Community Conservation Horizon Scan Collaboration, The Calgary Zoological Foundation, Calgary, Canada.

Co- investigator- "**Investigating the sanctuary's effectiveness in the protection and management of hunting species during the last 5 years**", 2020, Research Center for Environment and Sustainable Development, Tehran, Iran.

Co- investigator- "**Community Conservation Research Network (CCRN)**", 2013-2019, Saint Mary's University, Halifax, Canada.

Co- investigator- "**Development of species management and protection action plan for: Roe deer, zebra, Gazelles, wild sheep, bustard, falcon, white-headed duck, Brown trout, Persian brook salamander, Latifi's Viper**". 2018, Research Center for Environment and Sustainable Development. Tehran, Iran.

Principal investigator- "**Potential distribution of Mangrove Forests using Maximum Entropy Modeling in Southern Iran**", 2018, Research Center for Environment and Sustainable Development. Tehran, Iran.

Principal investigator - "**Taxonomical Analysis of Earthworms in Mouteh Wild life Refuge**" 2011, Arak Branch, Islamic Azad University, Arak, Iran.

Principal investigator - "**Freshwater amphipods as bioindicators of heavy metal pollution in aquatic systems**" 2010, Arak Branch, Islamic Azad University, Arak, Iran.

Co- investigator- "**Role of barnacles, burrowing shrimps, polychaetes, bivalves, fish and their parasites as bioindicator of heavy metals**". 2010, University of Tehran, Tehran, Iran.

Co- investigator - "**Helminth parasites of Caspian kilka (Genus Clupeonella) as bioindicator of heavy metals**". 2007-2009, University of Tehran, Tehran, Iran.

Co- investigator - "**Study of seasonal habitats location of Ungulates in Mouteh wildlife refuge in order to determine the National Park boundary**". 2001-2003, Department of the Environment of Iran.

Co- investigator- "**Study of Anesthetic Effects of Clove (Essence & Extraction) in Common Carp (*Cyprinus carpio*)**". 1999- 2001, Tarbiat Modares University, Tehran, Iran.

APPENDIX 1

PUBLICATIONS

Book:

- Ghayoumi R. and Charles A. 2021. *Community-led conservation and ecotourism, Qeshm Island*. In: A. Charles (ed.) 2021, *Communities, conservation and livelihoods*. Gland, Switzerland: IUCN and Halifax, Canada: Community Conservation Research Network.

Briefing Document:

- McPherson, Jana; Brichieri-Colombi, Typhenn; Esmail, Nafeesa; Ghayoumi, Razieh and Norshirwani, Meher. 2023. A gendered perspective on the horizon in community conservation. The CEESP newsletter for Women's Day (8 March)
- McPherson, Jana; Esmail, Nafeesa; Abulu, Latoya; Amend, Thora; Amit, Ronit; Bathia, Saloni; Bikaba, Dominique; Brichieri-Colombi, Typhenn; Brockington, Dan; Brown, Jessica ; Buschman, Victoria; Fabinyi, Michael; Farhadinia, Mohammad; Ghayoumi, Razieh; Hay-Edie, Terence; Horigue, Vera; Jungblut, Vainuupo; Jupiter, Stacy; Keane, Aidan; MacDonald, David; Mahajan, Shauna; McVey, Andrew; Moehrenschrager, Axel; Nelson, Fred; Norshirwani, Meher; Ntiamoa-Baidu, Yaa; Parahoe, Minu; Pathak-Broome, Neema; Postigo, Jose; Rakotondrazafy, Vatosoa; Rao, Madhu; Roe, Dilys; Sherpa, Pasang Dolma; Sierra-Huelsz, José Antonio; Stark, Danica; Stolton, Sue; Tawake, Alifereti; Walker Painemilla, Kristen; Wintle, Bonnie. 2022. 2021-2022 Global Horizon Scan for Community Conservation: informing future priorities and decision-making. 10.13140/RG.2.2.10125.41444.

Article:

- Ghayoumi, R., A. Charles, and S. M. Mousavi. 2023. A multi-level analysis of links between government institutions and community-based conservation: insights from Iran. *Ecology and Society* 28(2):33. <https://doi.org/10.5751/ES-14217-280233>
- Esmail, N., McPherson, J. M., Abulu, L., Amend, T., Amit, R., Bhatia, S., Bikaba, D., Brichieri-Colombi, T. A., Brown, J., Buschman, V., Fabinyi, M., Farhadinia, M., Ghayoumi, R., Hay-Edie, T., Horigue, V., Jungblut, V., Jupiter, S., Keane, A., Macdonald, D. W., Mahajan, S. L., ... Wintle, B. 2023. What's on the horizon for community-based conservation? Emerging threats and opportunities. *Trends in ecology & evolution*, S0169-5347(23)00037-X. Advance online publication. <https://doi.org/10.1016/j.tree.2023.02.008>
- Ghayoumi, R., Ebrahimi, E. and Mousavi, S. M. 2022. Dynamics of mangrove forest distribution changes in Iran. *Journal of Water and Climate Change*; 13 (6): 2479–2489. doi: <https://doi.org/10.2166/wcc.2022.069>
- Ghayoumi R., Ebrahimi E. 2020. Predicting the potential distribution of *Avicennia marina* across mangrove forest area in Southern Iran using Biochemical dataset. *Journal of Oceanography*. 10 (40) :55-63
- Ghayoumi R., Ebrahimi, E., Hosseini Tayefeh F. and Keshtkar M. 2019. Predicting the effects of climate change on the distribution of mangrove forests in Iran using the maximum entropy model. *RS & GIS for Natural Resources*, 10(2): 34-47.

- Tayefeh, FH. Zakaria, M., Amini, H., Ghayoumi, R. and Khaleghizadeh, A. (2017) Colony site characteristics of sympatric breeding tern species on the Mond Islands, the Persian Gulf. *Tropical Zoology*, 30(4):1-12.
- Tayefeh, FH., Zakaria, M., Ghayoumi, R. and Amini, H. (2017) Breeding Biology of the Bridled Tern *Sterna anaethetus* on Nakhilu Island, Persian Gulf, Iran. *Podoces*, 12(1): 1-12.
- Ghayoumi, R., Latif, R., Bidaghi, Sh., Asadi, A. and Arya, M. (2016) Comparative study for heavy metal concentration (Pb and Cd) in sediments and *Gammarus proiectus* (Order: Amphipoda) in Gharehchai River of Markazi Province. *Environment Journal*, 56:9-15. (in Persian).
- Golestaninasab, M., M. Malek, A. Roohi, A. R. Karbassi, E. Amoozadeh, R. Rashidinejad, R. Ghayoumi and B. Sures (2014) A survey on bioconcentration capacities of some marine parasitic and free-living organisms in the Gulf of Oman. *Ecological Indicators*, 37: 99–104.
- Amoozadeh, E., M. Malek, R. Rashidinejad, S. Nabavi, M. Karbassi, R. Ghayoumi, G. Ghorbanzadeh- Zafarani, H. Salehi and B. Sures (2014) Marine organisms as heavy metal bioindicators in the Persian Gulf and the Gulf of Oman. *Environmental Science and Pollution Research*, 21(3): 2386-95.
- Ghayoumi, R. (2013) Marine and coastal Indigenous and Community Conserved Areas in south Iran and review of related laws. Research Paper, United Nations-Nippon Foundation Fellowship.
- Ghayoumi, R. and Latif, R. (2012) First recorded earthworms from the Mouteh Wild life Refuge, Iran, *Zoology in the Middle East*, Supplementum 4:091–094.
- Ghayoumi, R., Malek, M., Jamili, S., Nabavi, M. and Motallebi, A. (2009) Epizootiology of intestinal helminth parasites of *Clupeonella* spp. (Osteichthyes: Clupeidae) from Caspian Sea, Iran. *Bulletin of the European Association of Fish Pathologists*, 29(4), 109-117.
- Sharifpour, I., Soltani, M., Abdolhai, H. and Ghayoumi, R. (2003) Study of Anesthetic Effects of Clove Oil (*Eugenia caryophyllata*) under Different Water pH and Temperatures in Common Carp (*Cyprinus carpio*). *Iranian Journal of Fisheries Sciences*, 11(4), 59-74. (in Persian)
- Khodabandeh, S., Talaei, R. and Ghayoumi, R. (2000) The process of Heavy Metal Accumulation (Pb, Cd, Zn) in Sediments and Marine life of one food chain in the Caspian Sea, *Journal of Water and Environment*, 39: 38-42. (in Persian)

APPENDIX 2

CONFERENCE PRESENTATIONS

- Ghayoumi R, Ebrahimi E. 2020. The effect of climate change on *Avicenia marina* potential distribution in mangrove forests of Iran. First National Conference on Biodiversity. October 2020, Tehran, Iran.

- Dilmaghani, M and Ghayoumi, R. 2019. Gauging the Public Awareness of Blue Economy. PREM EXPO Conference (November 8, 2019), Sobey School of Business, Saint Mary's University, Halifax, Canada.
- Presentation: Ghayoumi, R. and Mohammad Pour, O. (2018) Cultural Values as a Potential Tool for Conservation in Makran Region, Iran. Communities, Conservation & Livelihoods
- Conference, 28th - 30th May, Halifax, Nova Scotia, Canada.
- Presentation: Ghayoumi, R. and Ebrahimi, E. (2017). Using Ocean dataset for Mangrove Forests Species Distribution Modeling in Iran. First International Conference on Oceanography for West Asia. Tehran, Iran.
- Presentation: Ghayoumi, R. (2017) Environmental challenges in Gorgan Bay and Miankaleh Wetland and recommendations for conservation and efficient management of resources. The 4th International Conference on Environmental Planning and Management. Faculty of Environment, University of Tehran, Iran.
- Co- Presentation: Mazloomi S., Ghayoumi R., Shadi R., Saber O. and Sadegh saba M. (2013) Determining and introducing new coastal-marine protected areas for conservation and management in the Khouzestan province of Iran. International Conference on Environmental Challenges in the ROPME Sea Area, 3-6 March, Kish Island. Iran,
- Presentation: Ghayoumi, R. and Latif, R. (2011) First recorded earthworms from the Mouteh Wild life Refuge, Iran. The 5th International Oligochaete Taxonomy Meeting. Beatenberg, Switzerland.
- Co- Presentation: Hoseini, M., Ghayoumi, R. and N.Azizi (2010) Identification of Gastropoda in Intertidal zone of Nyband Marine National Park, Persian Gulf, Iran. The First National Conference on the Biological Sciences of Makran Sea, Chabahar, Iran.
- Co- Presentation: Jamili, S., Ghayoumi, R., Malek, M. Motalebi, A. (2010) The study of intestinal helminth parasites of *Clupeonella grimmeri* (Clupeidae) from the Caspian Sea, Iran. The XIIIth International Congress of Parasitology (ICOPA), Melbourne, Australia.
- Co- Presentation: Ghayoumi, R., Eskandarirad, V., Nabavi, M. (2008) Meroplankton Distribution in Off-Shore Hormozgan Province (Qeshm Island-Nayband). First International Congress Documenting, Analyzing and Managing Biodiversity in the Middle East, Aqaba, Jordan.
- Presentation: Ghayoumi, R., Malek, M., Jamili, S., Nabavi, M., Motalebi A. and Aghlmandi, F. (2008) Applicability of parasite, *Corynosoma strumosum* in *Clupeonella grimmeri* as biological indicator of heavy metals. The 15th Iranian & 3rd International Conference on Biology, Tehran University, Tehran, Iran.
- Presentation: Ghayoumi, R., Jamili, S. Malek, M., Nabavi, M., Motalebi, A. and Ramezani, H., (2008) Identification of intestinal helminth Acanthocephalan of *Clupeonella grimmeri* from Caspian Sea. The 2nd National Conference on World Environment Day (WEDI 2008), University of Tehran, Tehran, Iran.

- Presentation: Ghayoumi, R., Jamili, S. Malek, M., Nabavi, M., Motalebi, A. and Ramezani, H., (2008) Identification of helminth Acanthocephalan of *Clupeonella grimmi* from Caspian Sea. The 15th National Congress of veterinary, Tehran, Iran.
- Presentation: Ghayoumi, R., Eskandarirad, V., and Fallahi, M. (2008) Seasonal Variation and Distribution of Mollusca in Off-Shore Hormozgan Province (Qeshm-Nayband). International Conference on Biodiversity Conservation and Management (BIOCAM 2008), Cochin University of Science and Technology, Cochin, India.
- Presentation: Ghayoumi, R., Malek, M., Nabavi, M., Mobedi, I. and Jamili, S. (2007) Applicability of parasite, *Corynosoma strumosum* as biological indicator of heavy metals in *Clupeonella grimmi*. The 8th Asian Fisheries Forum, Kochi, India.
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- Presentation: Ghayoumi, R., Malek, M., Moubedi, I., Jamili, S. and Motalebi, A. (2007) Study of *Clupeonella grimmi* and *Clupeonella engrauliformis* infected with *Corynosoma strumosum* in the Caspian Sea. The 2nd National Conference of Animal Science, Gilan University, Rasht, Iran.
- Presentation: Ghayoumi, R., Eskandarirad, V. (2007) Applicability of Clove oil as a safe Anesthetic for aquatic animals and their consumers. National Congress of Role of Aquatic Organisms in the Community Health, Arak, Iran.
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- Presentation: Ghayoumi, R. (2006) The Study of Anesthetic Effects of Essence and Extraction of Clove under Different Water pHs and Temperatures in Common Carp (*Cyprinus carpio*). The 14th National & 2nd International Conference of Biology, Tarbiat Modares University, Tehran, Iran.