International Journal of Agricultural
Science and Research (IJASR)
ISSN(P): 2250-0057; ISSN(E): 2321-0087
Vol. 5, Issue 3, Jun 2015, 243-258


# DESIGN AND IMPLEMENTATION OF A WEB FRAMEWORK FOR DIGITAL IDENTIFICATION KEYS TO IDENTIFY FISHES

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## ABSTRACT

Identification of biological organisms using digital methods has undoubtedly created interest among biologists. Recent developments in digital technologies, computer architecture and innovations in software design have facilitated techniques to address the challenging task of identification. The present communication discusses about a web framework implemented for identifying and browsing the information on fishes reported from Indian waters. The rationale for developing the digital framework was to automate the routine identification task for identifying specimens of previously described species. For developing the system, a relational database was developed for the morphometric measurement and meristic count characters to digitize and store the information on the characters measuring discreetness and relationships among fish species. These digitized characters were used as taxonomic digital keys for identification. A user friendly and interactive query system using the digital keys was developed to identify the fish specimen. Data on morphometric measurement, meristic counts, maximum size, common name, synonyms and distribution were compiled from the published literatures and web resources. The database presently contains information on morphometric characters taxonomy and distribution of 222 Indian fish species belonging to 12 families. The present system is an alternative method to easily and rapidly identify the specimen crossing the geography and ecosystem boundaries. It is much useful, versatile and scalable system even to identify the fish specimen during filed survey. It is expected that the developed system would be more useful resource for new researchers in fish systematics and for resolving taxonomy ambiguities.

**KEYWORDS:** Web Framework, Fish Identification System, Computer-Aided Fish Species Identification, Fish Species