

## Information Resource: Database on Indian Earthworm

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### Abstract

Earthworm is also called as Oligochaeta. It was the first database which can provide the information about the earthworm species in India. We identified 68 genus and 515 species of earthworms all over India. The database consists of family, taxonomy, length, segments, diameter, food habit, habitat, casting, description and distribution of the Indian species. The database was developed by MySQL running in Windows operating system. The database interface was developed by PHP, and HTML.

**Availability:** <http://www.mscwbif.org/earthworm/home.html>

**Keywords:** Earthworm; Oligochaeta; Earthworm habitat; Earthworm distribution

Earthworm is a tube-shaped worm that was covered by moist protective cuticle. Earthworms are mainly invertebrates. The body of the earthworm is divided into 150 segments [1]. The one end is the mouth and another end is the anus. The young earthworm is 12mm in length and light pink in colour [1]. It has the life span about 10-15 years. There are mainly 5 types of earthworms. They are Night crawlers, Field worms, Manure worms, red worms and Palouse worms [2]. Night crawlers are great fishing bait. It is a common earthworm found in US and England. Field worms resemble as night crawlers. It is smaller in length and diameter. Red worms are also called as gardener's worm. It is mainly used for digging and composting soil for use in plant and vegetables. Manure worms are commonly farmed worm, because of their breeding habits. Palouse worms are the rarest worm that looks like other worms [3]. A Hungarian based database about earthworm species available online (<http://earthworms.elte.hu/database.htm>) [4]. Which gives the details about family, genus, species, author, year, literature, valid genus, and valid species. But there is no exclusive database on Indian earthworm available and hence, it becomes important that the information resource about the Indian earthworms which can help for the Indian earthworm researchers.

We have gathered the earthworm details from various books [5-8]. and scientific literatures [9]. reported around species of earthworm in Tamil Nadu. In Tripura, [10] reported nearly 50 earthworm species. Earthworm details about Calcutta was described by [11]. 51 species of earthworms belonging to 23 genera and seven families from the western Himalaya [12]. Sharma and Kaul, [13] described about four genera of earthworm which was identified in Jammu & Kashmir. Lateral, Najar & Khan, [14] reported

the earthworm species around the Kashmir valley. These information were collected and the repeated entries were deleted to minimize the data redundancy. The final 515 list of earthworm were used to design the database. The Length, diameter, segments, colour, description are collected [6]. The Fauna of British India, Oligochaeta; Based on the sufficient data collection about the Indian earthworms, we developed Earthworm database, which was designed based on secure web application architecture of client workstation, web server, application server and database server. Earthworm database was implemented in Hypertext Preprocessor (PHP), Hyper Text Markup Language (HTML) 5 and Cascading Style Sheets (CSS). An Apache web server is dedicated to handling the requests from web clients and to interact with the back-end servers to serve the requests. Server-side operations are performed on a Windows 7 for creating complex pipelines of inputs and outputs for the necessary programs. My Structured Query Language (MySQL) server (5.1.17) was used to construct a relational database to store detailed information about the earthworm.

At present, a total of 515 Indian earthworm species information were collected all over from the India (Table S1) and deposited in earthworm database among that 236 species consists of complete information. The rest will be updated as and when the data is been collected. The widely distributed species in India are Perinonyx excavatus and Lampito mauritii. There are about 18 native and 10 exotic species found in forest. Native species include Drawida caenosa, Drawida grandis, Drawida impertusa, Drawida modesta, Drawida pellucid pallidae, Drawida sulcata, Drawida drawida sp, Glyphidrilus annandalei, Lumpito mauritii, Malabarbia biprostata,

Megascolex cochinesis, Megascolex filiciseta, Megascolex insignis, Megascolex sp, Argilophilus variabilis, Perionyx ceylanensis, Perionyx xcaavates, Sansibaricus. Exotic species are Amynthus corticis, Allolobophora parVA, Dendrodrilus rubidus, Eisenia fetida, Dichogaster boloui, Dichogaster modiglianii, Eukerria kukenthalii, Gordiadrilus elegans, Octolasion tyrtaeum and Pontoscolex corethrus. The homepage of the database which gives the information such as Introduction, taxonomy, description, facts, global statistics, Indian statistics, role in environment and significance. The search box was provided in the search page, user can use the genus or species name (e.g. Aporectodea caliginosa) to get the details about the earthworm in additional there will be an alphabetical search is also provided in the search database page. Based on the user query the output page displays the name of the species, taxonomy, type, length, diameter, segments, colour, casting, brief description on the species, distribution in India and the images were shown in (Figure 1). The database is freely available for the public users and it was updated and maintained continuously.

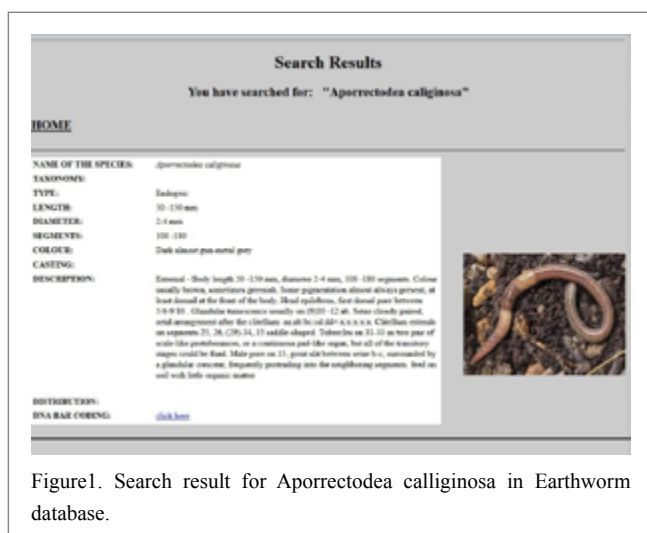


Figure 1. Search result for Aporectodea caliginosa in Earthworm database.

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