

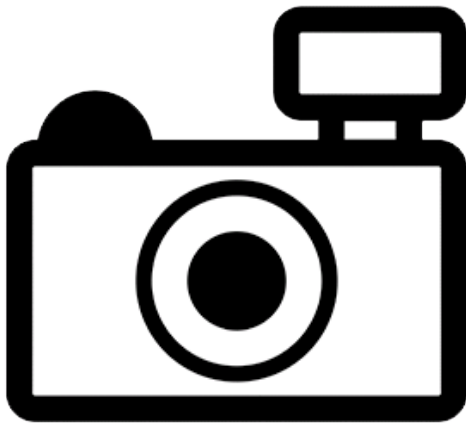
***Malapterurus melanochir* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2012

Revised, June 2018

Web Version, 8/6/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: middle and upper Congo River basin, Democratic Republic of the Congo [Seegers 2008].”

“[In the Democratic Republic of the Congo:] Known from the Kasai system, middle Congo (rivers Ruki, Lobilo, Tsalowe, Ley Yolé, Lubilu, Isalowe and Lilanla), Ubangi system [Norris 2002], rivers Tshuapa [Norris 2002] and Yenge-Salonga confluence [Monsembula Iyaba and Stiassny 2013] (Ruki drainage), Aruwimi, Itimbiri [Decru 2015], Lomami, Wagenia Falls, Lualaba (including the Maiko-Loboya) [Moelants 2015] and upper Lualaba (Kilwezi River) [Norris 2002].”

Status in the United States

No records of *Malapterurus melanochir* in trade or in the wild in the United States were found.

The Florida Fish and Wildlife Conservation Commission has listed the electric catfish *M. melanochir* as a prohibited species. Prohibited nonnative species (FFWCC 2018), “are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities.”

Means of Introductions in the United States

No records of *Malapterurus melanochir* in the wild in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Malapterurus melanochir* (Norris 2002) is the valid name for this species, it is also the original name.

From ITIS (2018):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Malapteruridae
Genus *Malapterurus*
Species *Malapterurus melanochir* Norris, 2002”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 98.0 cm SL male/unsexed; [Norris 2002]”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Africa: middle and upper Congo River basin, Democratic Republic of the Congo [Seegers 2008].”

“[In the Democratic Republic of the Congo:] Known from the Kasai system, middle Congo (rivers Ruki, Lobilo, Tsalowe, Ley Yolé, Lubilu, Isalowe and Lilanla), Ubangi system [Norris 2002], rivers Tshuapa [Norris 2002] and Yenge-Salonga confluence [Monsembula Iyaba and Stiassny 2013] (Ruki drainage), Aruwimi, Itimbiri [Decru 2015], Lomami, Wagenia Falls, Lualaba (including the Maiko-Loboya) [Moelants 2015] and upper Lualaba (Kilwezi River) [Norris 2002].”

Introduced

No records of introduction were found for *Malapterurus melanochir*.

Means of Introduction Outside the United States

No records of introduction were found for *Malapterurus melanochir*.

Short Description

From Froese and Pauly (2018):

“Anal spines: 0; Anal soft rays: 9 - 11; Vertebrae: 42 - 45. Diagnosis: tooth patches broad; obliquely angled pectoral fins positioned low on body; 43-45 vertebrae; 9-11 anal-fin rays; eyes round; body relatively darkly pigmented; larger specimens with dusky pectoral and pelvic fin rays [Norris 2002].”

“Coloration: body and head bicolored; dorsum and flank medium brown; venter pale tan or off-white; throat bears a scattering of dark pigment; dorsum and flanks well-marked with dark spots (some 1-2 eye diameters large); few, if any, spots on venter or anal or caudal fins; caudal fin in adults pigmented in the same shade as the flank ground color, with pale distal margin; caudal fin also with pale basal crescent in smaller specimens; caudal saddle and bar pattern faint and poorly developed; saddle in juveniles only slightly darker than flank ground color, covering dorsal half of caudal peduncle, merging with caudal bar; pale interspace, when present, hardly differentiated from flank ground color, quite narrow, only covering ventral half of caudal peduncle; pectoral fin dusky, particular [*sic*] in larger specimens; pelvic fin of adults dusky [Norris 2002].”

Froese and Pauly (2018) also list 19 caudal-fin rays, 9 pectoral rays, and 6 pelvic rays.

Biology

From Moelants (2010):

“*Malapterurus melanoichir* is a demersal species that can produce an electric current that is used both for prey capture and defence [sic]. It occupies horizontal holes or burrows (up to 3 m in length) in the banks of rivers (1-3 m in depth). The holes may be occupied by a pair of sexually mature animals, suggesting that they are the site of reproduction. Mouth brooding has never been observed. Individuals of different species never cohabit the same burrow. (Poll and Gosse 1969, Norris 2002).”

Human Uses

From Moelants (2010):

“This species is harvested for the aquarium trade.”

Diseases

No information on diseases of *Malapterurus melanoichir* was found.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introduction were found for *Malapterurus melanoichir*.

The Florida Fish and Wildlife Conservation Commission has listed the electric catfish *M. melanoichir* as a prohibited species.

4 Global Distribution

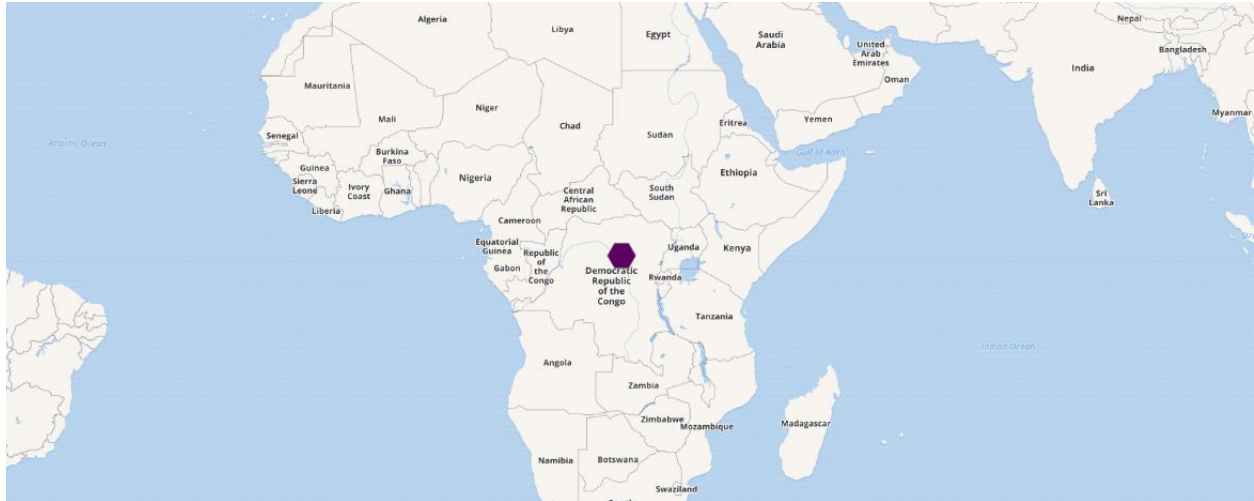


Figure 1. Known global distribution of *Malapterurus melanochir*. Location is in the Democratic Republic of the Congo. Map from GBIF Secretariat (2018).

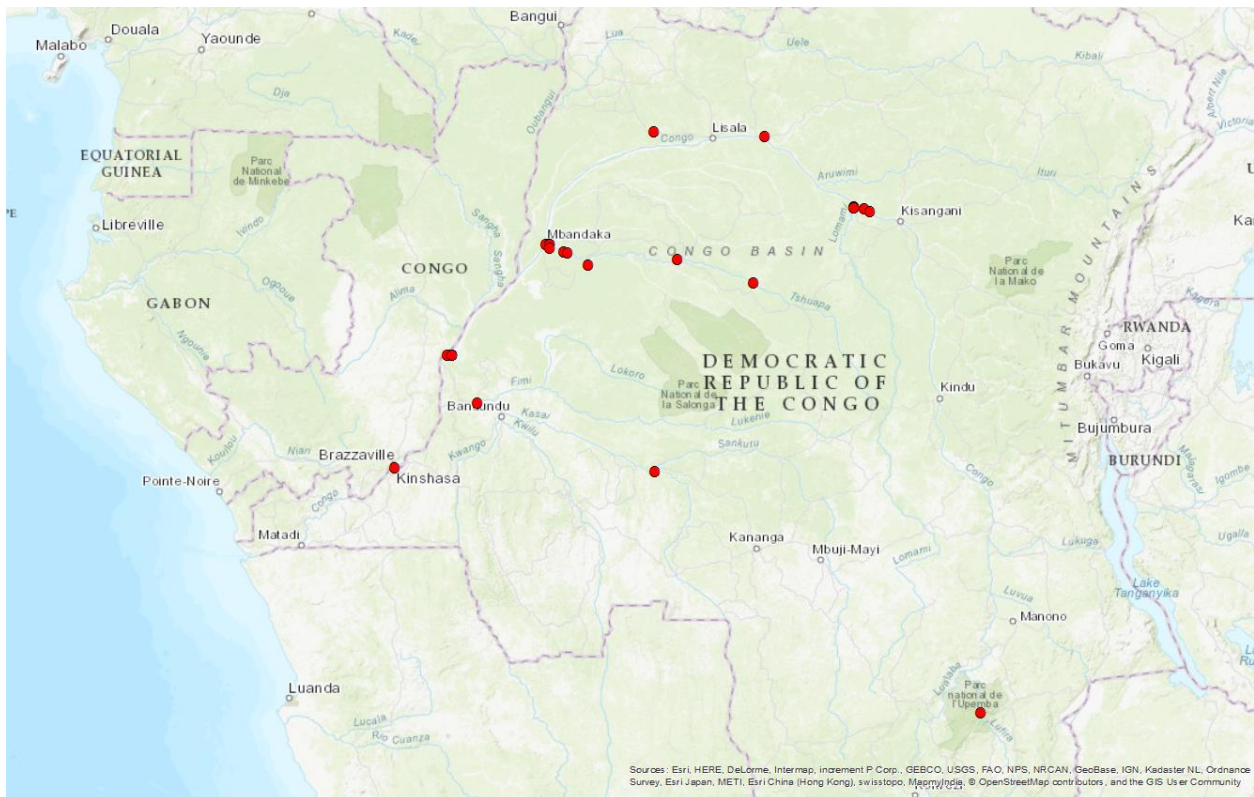


Figure 2. Known global distribution of *Malapterurus melanochir*. Locations are in the Democratic Republic of the Congo. Map created with data from Froese and Pauly (2018), basemap from ArcGIS® by Esri (www.esri.com).

5 Distribution Within the United States

No records of *Malapterurus melanocheir* in the wild in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Malapterurus melanocheir* was medium to high in southern Florida, and medium in far southern Louisiana, southern and west Texas, Arizona, and southern California. The climate match was low everywhere else. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.002, low. The range for a low climate match is from 0.0 to 0.005, inclusive. No states had a high individual climate score, however Florida had a medium individual score.

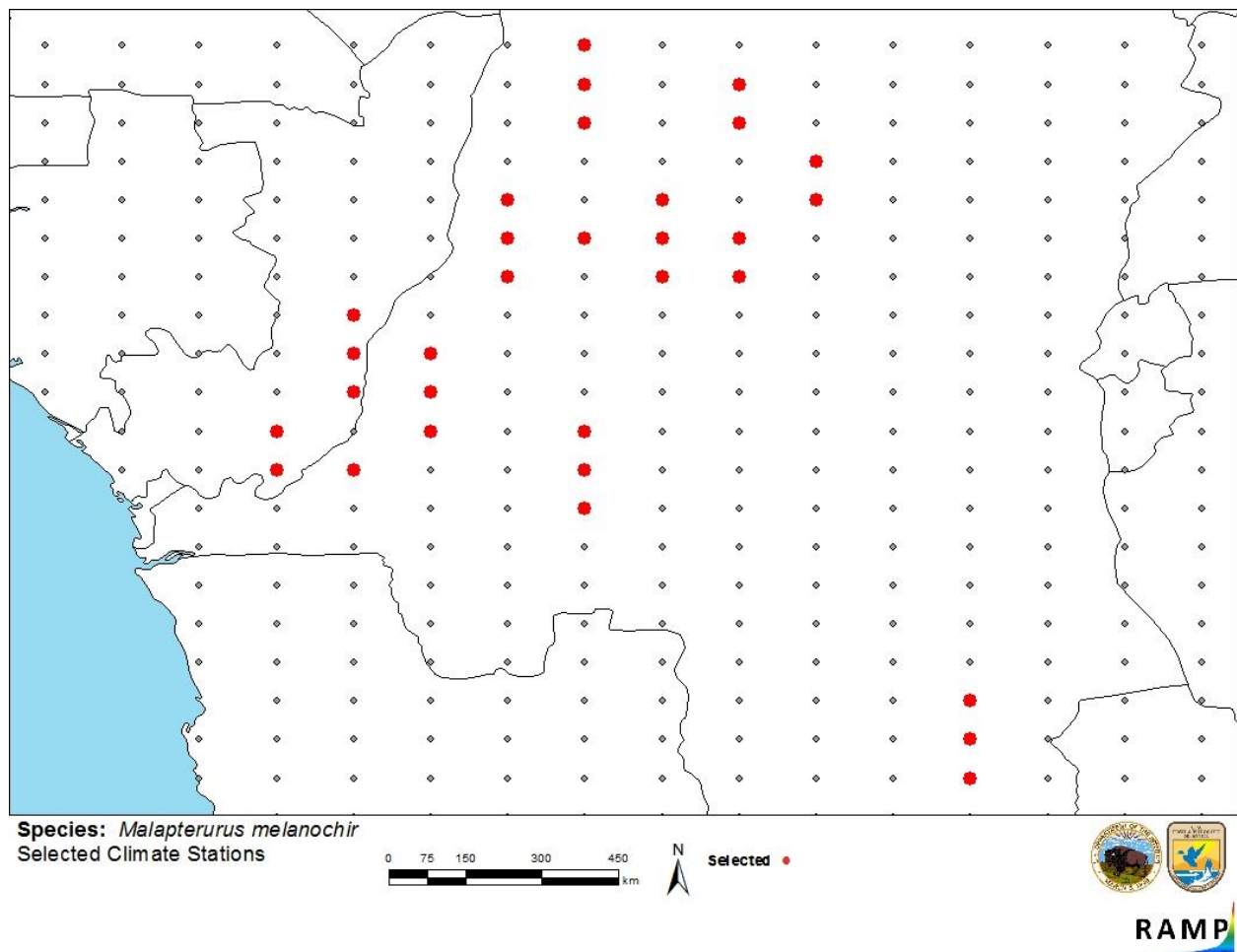


Figure 3. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Republic of the Congo, Democratic Republic of the Congo) and non-source locations (gray) for *Malapterurus melanocheir* climate matching. Source locations from Froese and Pauly (2018) and GBIF Secretariat (2018). Weather stations within 100 km of a known observation are chosen as source locations for the climate match.

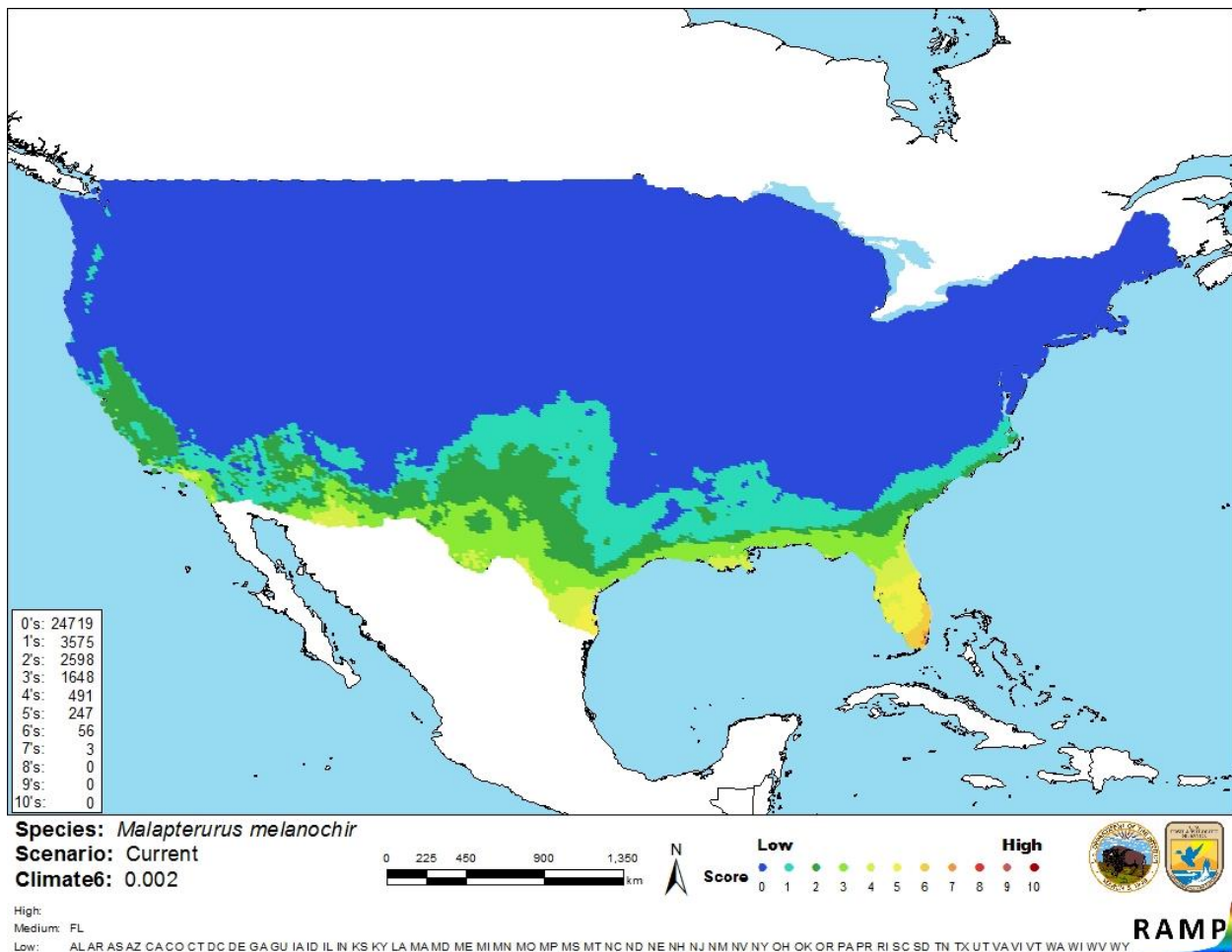


Figure 4. Map of RAMP (Sanders et al. 2018) climate matches for *Malapterurus melanochir* in the contiguous United States based on source locations reported by Froese and Pauly (2018) and GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

The certainty of assessment for *Malapterurus melanochir* is low. There is a general lack of information about this species. No records of introductions were found so impacts of introduction are unknown.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Malapterurus melanoichir is an electric catfish native to the Congo River basin in western Africa. It is harvested for use in the aquarium trade, but is not known to be in trade in the United States. The history of invasiveness is uncertain; no records of introductions were found. The Florida Fish and Wildlife Conservation Commission has listed the electric catfish *M. melanoichir* as a prohibited species. The climate match was low but there were areas of medium match along southern portions of the contiguous United States and a small area of high match in southern Florida. The certainty of assessment is low, and the overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** No additional information.
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (June 2018).

FFWCC (Florida Fish and Wildlife Conservation Commission). 2018. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/>. (June 2018).

Froese, R., and D. Pauly, editors. 2018. *Malapterurus melanoichir* Norris, 2002. FishBase. Available: <http://www.fishbase.org/summary/Malapterurus-melanoichir.html>. (June 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Malapterurus melanoichir* Norris, 2002. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2342043>. (June 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Malapterurus melanoichir* Norris, 2002. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=681502. (June 2018).

Moelants, T. 2010. *Malapterurus melanochir*. The IUCN Red List of Threatened Species 2010: e.T181924A7765560. Available: <http://www.iucnredlist.org/details/full/181924/0>. (June 2018).

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

10 References Quoted But Not Accessed

Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.

Decru, E. 2015. The ichthyofauna in the Central Congo basin: diversity and distribution in the north-eastern tributaries. KULeuven, Faculty of Science, Leuven, Belgium.

Moelants, T. 2015. Diversity and ecology of the ichthyofauna of the Middle and Upper Congo basin: a case-study in the region of the Wagenia falls (Democratic Republic of the Congo). KULeuven, Faculty of Science, Leuven, Belgium.

Monsembula Iyaba, R. J. C., and M. L. J. Stiassny. 2013. Fishes of the Salonga National Park (Congo basin, central Africa): a list of species collected in the Luilaka, Salonga, and Yenge Rivers (Equateur Province, Democratic Republic of Congo). Check List 9:246–256.

Norris, S. M. 2002. A revision of the African electric catfishes, family Malapteruridae (Teleostei, Siluriformes), with erection of a new genus and descriptions of fourteen new species, and an annotated bibliography. Annales du Musée Royal de l'Afrique Centrale: Sciences Zoologiques 289:1–155.

Poll and Gosse. 1969. [Source material did not give full citation for this reference.]

Seegers, L. 2008. The catfishes of Africa: A handbook for identification and maintenance. Aqualog Verlag A.C.S. GmbH, Germany.