FISH SPECIES ENCOUNTERED OVER 47 YEARS IN LAKE ROSERIS

Zuheir N. Mahmoud1*, Elsadig A. Hagar2
1Department of Zoology, Faculty of Science, University of Khartoum,
2Department of Fisheries, College of Natural Resources and Environmental Studies, University of Bahri.

*Corresponding Author:-
Email: zuheirm@hotmail.com
INTRODUCTION:
Illustrated guides with identification keys, notes on distribution and habitats of freshwater fish species of Sudan were due to Boulenger, 1907; Sandon, 1950; Abu Gideiri, 1984; Bailey, 1994 and Neumann et al. (2016). With respect to the Blue Nilein Sudan Abu Gideiri (1967) studied the fish species between Khartoum and Roseires. Those of Lake Roseires were recorded by Mishrigi, 1970; Mahmoud et al., 2009; SMEC, 2010 and Elsayed, 2012. In addition, two published lists were made by Omer and Hagar (2014) and Hagar (2017). The list might be a useful monitor for the impact, if any, of fully operating Grand Ethiopian Renaissance Dam (GERD) on Lake Roseires fish diversity.

Material and Methods.
Lake Roseires came into existence in 1966 due to construction of Roseires Dam. The dam was elevated in 2012. Fish specimens were collected from fish markets at Damazin, Ganees and Roseires; landing sites (Elbab Elawal and Bandeees) on the left bank; (Ufud and Kerma) on the right bank in addition to numerous fishing sites (Fig. 1). Experimental fishing using traps, gill nets, trammel nets and hand lines made at Kerma, Ufud and Bandeeese, supplemented the data.


Results
The fish families, genera and species encountered over 47 years in Lake Roseires were given in Table 1. The list covered data prior to Roseires Dam heightening (Mishrigi, 1970; Mahmoud et al., 2009); during heightening (SMEC, 2010; Elsayed, 2012) and after heightening (Omer and Hagar, 2014; Hagar, 2017). The table indicated the presence of 16 families, 19 genera and 53 fish species in the lake.

Table 1. Fishes of Lake Roseires (1=Mishrigi, 1970; 2=Mahmoud et al., 2009; 3=SMEC, 2010; 4=Elsayed, 2012; 5=Omer and Hagar, 2014; and 6=Hagar, 2017). √=present).

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Family: Prototremidae</strong></td>
<td></td>
</tr>
<tr>
<td><em>Protoperus aethiopicus</em></td>
<td></td>
</tr>
<tr>
<td><strong>Family: Polypterusidae</strong></td>
<td></td>
</tr>
<tr>
<td><em>Polypterus bichir</em></td>
<td></td>
</tr>
<tr>
<td><em>Polypterus sp.</em></td>
<td></td>
</tr>
<tr>
<td><strong>Family: Mormyridae</strong></td>
<td></td>
</tr>
<tr>
<td><em>Hypostomus bebe</em></td>
<td></td>
</tr>
<tr>
<td><em>Marceninus cyprinoides</em></td>
<td></td>
</tr>
<tr>
<td><em>Moronyrops angulilobus</em></td>
<td></td>
</tr>
<tr>
<td><em>Mormyrus karnume</em></td>
<td></td>
</tr>
<tr>
<td><em>Mormyrus casiria</em></td>
<td></td>
</tr>
<tr>
<td><em>Mormyrus hagigi</em></td>
<td></td>
</tr>
<tr>
<td><em>Pterocephalus bane</em></td>
<td></td>
</tr>
<tr>
<td><em>Gnathonemus cyprinoides</em></td>
<td></td>
</tr>
<tr>
<td><em>Gnathonemus sp.</em></td>
<td></td>
</tr>
</tbody>
</table>
It is apparent from the table that Alestes baremoze, A. macrolepidotus, H. forskalii, B. bynni, B. bajad, B. docmack, C. gariepinus, L. niloticus, O. niloticus and S. galilaeus occurred throughout. On the other hand, the following species were recorded once: G. cyprinoides by Mishrigi (1970); Polypterus sp., H. bebe, M. hasiquilisti, L. forskalii, Auchenoglanis sp. and a Synodontis sp. by SMEC (2010) and C. anguillaris, H. bidorsalis, C. zilli and C. amuriei by Hagar (2017).

Gnathonemus cyprinoides, P. bane and E. niloticus seemed to have disappeared after the elevation. On the other hand, P. bichir, M. electricus and S. serratus seems to flare up to be detectable in catch after elevation.

**Discussion**

This study indicated the presence of 16 families, 19 genera and 53 fish species in the lake. The discrepancy in the number of families, genera and species listed in Table 1 can be attributed to differences in methods, sites and time of collection. Mahmoud et al. (2009) and SMEC (2010) studied the characteristics of Lake Roseires fisheries and listed the fish species observed before elevation. Kara (1999) in his biological studies on (M. cashive, G. cyprinoides, O. niloticus and S. galilaeus) stated the presence of more than 14 species falling in nine families and their peak of abundance. Elsayed (2012) concentrated on Roseris Dam fisheries and produced a list of the prevailing fish species.
The objective of this study should be looked upon with respect to fish diversity in Abay (Blue Nile in Ethiopia) basin. In Ethiopia studies of fish species of the Blue Nile (Nagelkerke, 1997; Berie, 2007; Oume ret al., 2011; Awoke et al., 2015 and Mengesha, 2015) indicated the existence of at least 36 species (Getahun, 2007). Of those 23 species are endemic (Golubtsov and Mina, 2003 and Getahun, 2007) of which 13 are confined to Lake Tana (Mengesha, 2015). Tisisat Falls is a natural boundary isolating Lake Tana fish species from the rest of the Nile (Thieme and Brown, 2007). In line with this are the findings of Oumer et al. (2011) who recorded 17 fish species from the Blue Nile before the fall and Awoke et al. (2015) who recorded 8 fish species below the fall. These are Labeobarbus intermedius, Labeo nedgia, Labeocrasibarbis, L. forskali, M. Kannume, B. docmak, C. gariepinus and O. niloticus. Labeobarbus intermedius, Labeo from the Blue Nile before the fall and Awoke et al. (2015) who recorded 8 fish species below the fall. These are Labeobarbus intermedius, Labeo nedgia, Labeocrasibarbis, L. forskali, M. Kannume, B. docmak, C. gariepinus and O. niloticus.

The highly diversified fish species of Lake Tana, above and below of Tisisat Falls, and Lake Roseris qualifies them as distinctichthyoofaunal provinces in Africa.

References