



Demographic parameters and exploitation rate of *Sardinella maderensis* (Pisces: Lowe 1838) in the nearshore waters of Benin (West Africa) and their implication for management and conservation

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Abstract:

Most fisheries in Africa are overexploited or are at the peak of exploitation. A key contributor to this overfishing is poor data on fisheries, inefficient management strategies and unenforced policies. This paper deals with growth, mortality parameters and the exploitation rate of *Sardinella maderensis* collected between August 2018 and July 2019 from the nearshore waters off Benin to contribute to sustainable management of this fishery. Growth parameters and performance index P' estimated based on the von Bertalanffy model using routine ELEFAN1 FiSAT gave the asymptotic length L_{∞} , the growth coefficient K , the theoretical age at length zero and the performance index P' 33.6 cm, 0.65 per year, 0.24 per year, and 2.86 per year respectively. *S. maderensis* grew isometrically with an abundance of medium size specimens. This species recruits twice a year indicating probably two spawning periods.

The estimated average value of instantaneous rate of total mortality was 3.92 per year, natural mortality was 1.30 per year, giving fishing mortality of 2.62 and the rate of exploitation ($E = 0.67$) showing an overexploitation of the stock of this species. Several immediate management actions, such as size-limit regulation by gradually increasing fishing gears mesh size and time-limit regulation by restricting fishing during the spawning seasons and in nursery areas, are considered necessary for sustainable exploitation and conservation of this species.

Biography:

Gildas DJIDOHOKPIN has completed his PhD at the age of 31 years from Benin University and Postdoctoral Studies on the ecology and systematic of African fish are



currently underway in the Biology department of Royal Museum for Central Africa-Tervuren, Belgium. He is a research assistant at department of Zoology, Faculty of Sciences and Technics, University of Abomey-Calavi (UAC), Benin. He has published more than 08 papers in reputed journals and has been serving as an editorial board member of repute.

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