Abstract No : 251

Coastal and marine ecosystems, biology and ecology

Stock Assessment And Management Of Squid Loligo Vulgaris (cephalopoda,

ezzeddine Soufia [(1)]

(1) INSTM, 2025 Salammbô, Tunisia
Telephone: 00 216 71 735 848 Email: soufia.ezzeddine@instm.rnrt.tn

D: Living resources, fisheries, mariculture Poster Presentation STOCK ASSESSMENT AND MANAGEMENT OF squid Loligo vulgaris (Cephalopoda, Decapoda) FROM TUNISIAN SOUTH-EASTERN COASTS (CENTRAL MEDITERRANEAN) Soufia EZZEDDINE(1) and Bachra CHEMMAM(1,2) (1) INSTM, 2025 Salammbô (Tunisie) *soufia.ezzeddine@instm.rnrt.tn bachra.chemmam@instm.rnrt.tn Abstract The Squid Loligo vulgaris is one of four main species of cephalopods exploited along the Tunisian coasts among Octopus vulgaris, Sepia officinalis and Eledone moschata. Although it represents less than 5% of the all landed cephalopods, this squid is coveted because of its nutritional value and fine flesh and the production is destinated to the domestical as than as in foreign markets. Few studies have been undertaken on the biology and no study was published on the Tunisian stock assessment. The present work is the first contribution to estimate the squid stock in the Tunisian northern coasts (western Mediterranean) where this squid average production between 2004 and 2009 years represented 37% of the total landings (381 tons). The Virtual Population Analysis method (V.P.A) was applied to assess the population stock from the Tunisian northern waters (western Mediterranean) in the period 2006-2010. The length frequencies were collected from samplings achieved on the industrial trawling landings and during the experimental surveys for five years. The biological parameters used in this study were already obtained (Ezzeddine, 2005). The results showed that the profits provided to the stocks came from the recruitment events with a contribution estimated at 1.9%, but the main benefits were supplied from growth processus (98.1%). This result corroborates with the biological specifications of this species related to the fast growth and short life-span. These characteristics would attribute to the stock a rapid potential of regeneration. Indeed, the rate corresponding to the turnover rate of stock was estimated to 198.6%. Nevertheless, the losses of the stock were due to the natural mortality and equally to mortality by fishing respectively evaluated at 18.6% and 81.4%. The high losses rate engendered by fishing were justified from the trawling samplings by the excessive captures of juveniles individuals. These data reflected the overfishing stock of the squid in the Tunisian northern waters. Indeed, the variation of Yield by recruitment in relationship with fish effort factor showed that the actual stock was over-exploited. In order to attain optimum situation, the actual fishing effort would be decreased by 60%. This state of exhaustion in stock was persisting since the previous assessment from 2005. Key-words: Loligo vulgaris;

Tunisian Northern coasts; stock assessment, virtual population analysis.