NATIONAL BIORESOURCE DEVELOPMENT BOARD

Dept. of Biotechnology Government of India, New Delhi

For office use:

MARINE BIORESOURCES

FORMS DATA ENTRY:Form- 1(general)Ref. No.:(please answer only relevant fields;add additional fields if you require)

Fauna : √ F	lora	Microorganisms				
General Category : Invertebrata (Zooplankton), Chaetognatha						
Scientific name & Authority : Krobnitta subtilis (Grassi) 1881						
Common Name (if available): Arrow worm						
Synonyms	Author(s)	Status				
Eukrohnia subtilis	Michael	1911				
Classification:						
Phylum: Chaetognatha	Su	Sub-Phylum:				
Super class:	Class:	Sub- Class:				
Super Order:	Sub Order:					
Super Family:	Family:	Sub-Family:				
Genus: Krohnitta	Species: subtilis	-				
Authority: Grassi						
Reference No.:						
Grassi, B., 1881. Intorno ai Chaetognati. R.C. Inst. lombardo, Ser. 2. 14: 193-213.						
, ,						
Geographical Location:						
This is an oceanic, epiplanktonic, cosmopolitan species of warm and temperate						
regions. In Indian Ocean populates equatorial, tropical and central waters. Shows						
patchy distribution extending to 38°S. More abundant along western half of the Indian						
Ocean with sparse representation in Bay of Bengal.						
Latitude: Extends to 38°S	Place:					
Longitude: 40-120°E	State:					
-						



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DATA ENTRY FORM: Form- 2(Fish / shellfish / others)					
(please answer only relevant fields; add additional fields if you require)					
Form –1 Ref.No.:					
IMPORTANCE					
Landing statistics (t/y) : from	to	Place :		Ref. No.:	
Main source of landing: Yes/ No		Coast: east/	west		
Importance to fisheries:					
Main catching method :					
Used for aquaculture : yes/ never/ rar	ely				
Used as bait : yes/no/ occasionally					
Aquarium fish : yes/ no/ rarely					
Game fish : yes/ no					
Dangerous fish : poisonous/ har	mful/ harn	nless			
Bioactivity : locally known/ reported/ 1	not known		Details:		
Period of availability : Throughout th	e year – ye	es/ no	If no, moi	nths:	
SALIENT FEATURES :					

Morphological:

Diagnostic characteristics:

Body is long, thin, slender, highly transparent and flaccid. The width is almost uniform from head to caudal septum. Longitudinal muscles are thin and weak. Lateral fields are wide. Intestinal diverticula are absent.

Head regular in shape appearing more elongated when teeth are expanded and wider when they are pleated together. Neck is well defined. Tail segment constitutes 30 to 40 per cent of total length. Constriction of the tail septum is very clear. Ventral ganglion located about midway between head and caudal septum. Eyes oval with longest axis being almost perpendicular to longitudinal axis of head. Eyes have a central pigmented region which has three branches. Collarette absent. Ventral ganglion is situated roughly at the middle region between the head and the tail septum. Lateral fins originated at about a point between two thirds and one half the distance between ventral ganglion and caudal septum. Fins extent to seminal vesicles. More than 60 per cent of fins are found on the tail segment. Fins are very broad, semicircular in shape and fin rays are sparsely found only at the outer margin of the fins. Tail fin spatula shaped and totally covered by rays except for a small part at base of fin close to seminal vesicles.

Sex attributes:

Hermaphrodite. Male gonads being located in the tail segment, the female in the posterior part of the trunck. Though hermaphrodite cross – fertilization by copulation is the rule.

Descriptive characters:

Ovaries are short and stout reaching anterior end of paired fins in mature specimens. Ova round or oval and a few in number. Ova distributed in two rows. Number of ova is almost constant and 12 in number per ovary. Seminal vesicles are elongated and located between the paired fins and tail fin. They are not very conspicuous and break open along the anterolateral margin, through which the sperms are liberated.

Meristic characteristics: Hooks are wide, thin and transparent. Hooks vary from shaped like isosceles triangles with small side as the base. N from 10 to 13.	6 to 9 per side. Teeth Number of teeth ranges			
Feeding habit: Active, well armed, voracious animals.Main food : Crustaceans, hydromedusae, other chaetognaths, fish lavae.Feeding type : Carnivore.				
Additional remarks:				
Size and age:				
Maximum length (cm) (male / female/ unsexed) Body length reaches 12 to 16 mm at maturity	Ref. No.:			
Average length (cm) (male / female / unsexed) Range and average length: 10-16 (av. 12) mm.	Ref. No.:			
Maximum weight : (g) (male / female / unsexed) Average weight :(g) (male / female / unsexed) Longevity (y) (wild) : (captivity) Length / weight relationalships:	Ref. No.: Ref. No.: Ref. No.:			

Eggs and larvae:	Ref. No.:			
Characteristics:				
Abundance:				
Biochemical aspects:				
Proximate analysis: moisture/ fat/ protein/ carbohydrate/ash	Ref. No.			
Electrophoresis:	Ref. No.			
SPAWNING INFORMATION:				
Locality:	Main Ref:			
Season:				
Fecundity:				
Comment:				
MAJOR PUBLICATIONS (INDIAN):				
(include review articles, monographs, books etc.)				
Furnestin, M. L. 1959. Resultats scientifigues des campagnes of Campagne 1956 dans le golfe de Guinee et aux iles Princ Annobon. Chaetognathes. Ann. Inst. Oceanogr. 37(8): 219-22	le la "Calypso". ipe, San Tome et 33.			
Vijayalakshmi Nair, R. 1977. Chaetognaths of the Indian Ocean. <i>P</i> <i>Water Zoopl. Spl. Publ. UNESCO/NIO.</i> 168-195.	Proc. Symp. Warm			
Vijayalakshmi Nair, R. 1978. Bathymetric distribution of chaetogn Ocean. Indian J. Mar. Sci. 7: 276-282.	aths in the Indian			
Pierrot – Bults, A.C and Vijayalakshmi Nair, R. 1991. Distribution patterns in Chaetognaths. <i>In</i> : The Biology of Chaetognaths. Q.Bone, H. Kapp and A. C. Pierrot – Bults (Eds.). Oxford Science Publications, Oxford University Press, Oxford, New York, Tokyo. 86-116.				
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