

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 : <input checked="" type="checkbox"/>	Flora	Microorganisms
General Category : Invertebrata (Zooplankton), Chaetognatha		
Scientific name & Authority : <i>Sagitta decipiens</i> Fowler, 1905 Common Name (if available): Arrow worm		
Synonyms	Author(s)	Status
<i>Sagitta philippini</i>	Michael	1905
<i>Sagitta neodecipiens</i>	Tokioka	1959
Classification:		
Phylum: Chaetognatha	Class:	Sub-Phylum:
Super class:	Sub Order:	Sub- Class:
Super Order:	Family:	Sub-Family:
Super Family:	Species: <i>decipiens</i>	
Genus: <i>Sagitta</i>		
Authority: Fowler		
Reference No.:		
Fowler, G.H., 1905. Biscayan plankton of H.M.S. Research. Pt. III. Chaetognatha. <i>Trans. Linn. Soc. Lond.</i> , 10 : 55-87.		
Geographical Location:		
This is a mesoplanktonic, oceanic, cosmopolitan species in temperate and warm oceanic regions. In the Indian Ocean <i>S. decipiens</i> is the dominant mesoplanktonic species with maximum abundance between 1000 – 250m.		
Latitude: Extends to 40°S	Place:	
Longitude:	State:	

Environment

Fresh water: Yes/ No

Habitat : Marine

Salinity :

Brackish : Yes/ No

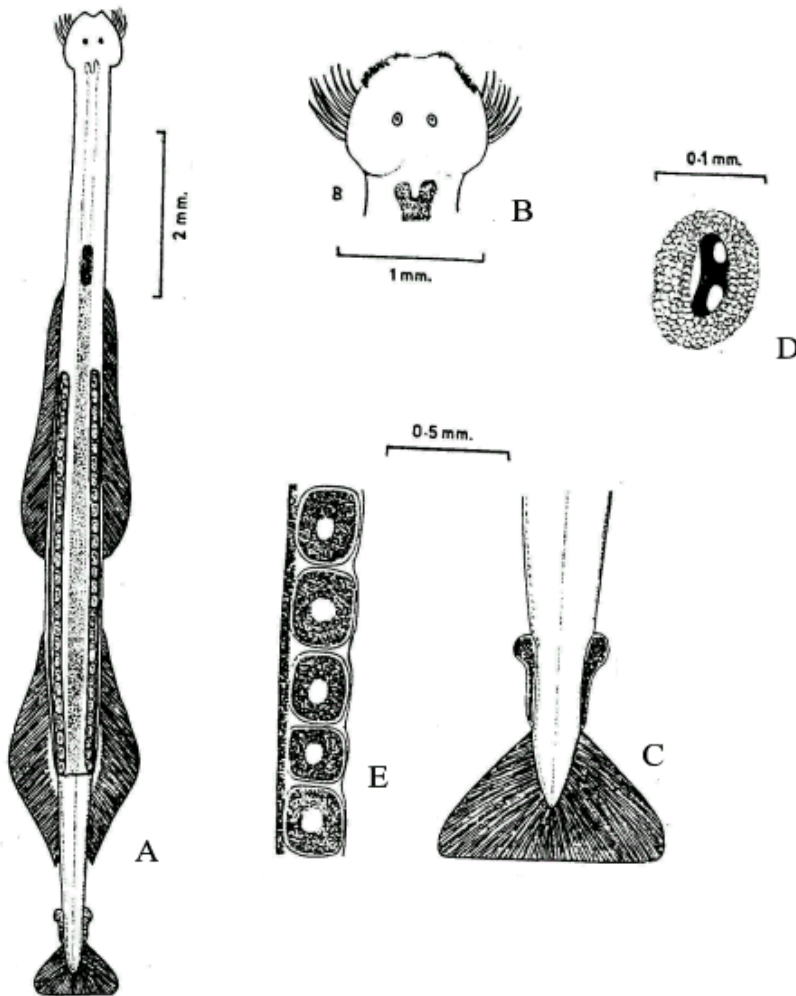
Migrations : Perform Vertical migrations.
This can be diurnal in relation to size/stage of maturity, light intensity or otherwise:

Temperature :

Salt water : Yes ✓/ No

Depth range: Maximum density between 1000-250 m.
Often found below 1000 m in northern and Central Indian Ocean.

Picture (scanned images or photographs of adult / larval stages)



Sagitta decipiens (After Srinivasan, 1979)

A – Dorsal view; B – Head;

C – Details of posterior part of tail and seminal vesicles (dorsal view);

D – Eye; E – Arrangement of ova in the ovary.

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/ rarely
Used as bait : yes/no/ occasionally
Aquarium fish : yes/ no/ rarely
Game fish : yes/ no
Dangerous fish : poisonous/ harmful/ harmless
Bioactivity : locally known/ reported/ not known Details:
Period of availability : Throughout the year – yes/ no If no, months:

SALIENT FEATURES :

Morphological:

Diagnostic characteristics:

Body is long, slender, translucent, flexible and widest at level of ovaries. Longitudinal muscles are weak. Constriction at tail septum is not well defined. Lateral fields are wide. Intestinal diverticula well developed.

Head small with conspicuous neck. Tail comprises about 25 to 29 per cent of total length. Eyes oval with longitudinal axis parallel to longitudinal axis of animal. Pigmented region at the centre is arranged in three branches, two longitudinal and a smaller transversal one. Collarette is absent. Ventral ganglion is seen about one fourth distance from the anterior end. Anterior fins reach to posterior part of ventral ganglion and slightly longer than posterior fins. It is fully rayed. Posterior fins triangular in shape and are wider at caudal septum. This is more on trunk and only about one third of their length is on tail segment. Fins are fully rayed except for a small area at opening of oviducts. Posterior fins do not reach up to the seminal vesicles.

Sex attributes:

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

Descriptive characters:

Ovaries are long, slender and extend to one third of anterior fins in mature specimens. Ova are oval in shape and arranged in one row. Seminal vesicles is away from posterior fins, but closer to tail fin. They are pear shaped with widest part at anterior part and breaks open along anterolateral margin by a transverse incision to liberate sperms.

Meristic characteristics:

Hooks are long, strong and number varies from 5 to 8. Anterior teeth are short and wide ranging from 8 to 10 at each side, while posterior teeth total 19 to 22 at each side.

Feeding habit: Active, well armed, voracious animals.

Main food : Crustaceans, hydromedusae, other chaetognaths, fish larvae.

Feeding type : Carnivore.

Additional remarks:

Size and age:

Maximum length (cm) (male / female / unsexed)

Ref. No.:

Total length reaches 14 or 16 mm at maturity.

Average length (cm) (male / female / unsexed)

Ref. No.:

Range and average length: 10 - 16 (13) mm

Maximum weight : (g) (male / female / unsexed)

Ref. No.:

Average weight : (g) (male / female / unsexed)

Ref. No.:

Longevity (y) (wild) : (captivity)

Ref. No.:

Length / weight relationships:

Eggs and larvae: Characteristics: Abundance:	Ref. No.:
Biochemical aspects: Proximate analysis: moisture/ fat/ protein/ carbohydrate/ash Electrophoresis:	Ref. No. Ref. No.
SPAWNING INFORMATION:	
Locality: Season: Fecundity: Comment:	Main Ref:
MAJOR PUBLICATIONS (INDIAN): (include review articles, monographs, books etc.)	
Vijayalakshmi Nair, R. 1977. Chaetognaths of the Indian Ocean. <i>Proc. Symp. Warm Water Zoopl. Spl. Publ. UNESCO/NIO</i> . 168-195.	
Vijayalakshmi Nair, R. 1978. Bathymetric distribution of chaetognaths in the Indian Ocean. <i>Indian J. Mar. Sci.</i> 7: 276-282.	
Srinivasan, M. 1979. Taxonomy and ecology of Chaetognatha of the west coast of India in relation to their role as indicator organisms of watermasses. <i>Zool. Surv. India, Tech. Monogr.</i> No. 3. 1-47.	
Pierrot – Bults, A.C and Vijayalakshmi Nair, R. 1991. Distribution patterns in Chaetognaths. <i>In: The Biology of Chaetognaths</i> . Q.Bone, H. Kapp and A. C. Pierrot – Bults (Eds.). Oxford Science Publications, Oxford University Press, Oxford, New York, Tokyo. 86-116.	
LIST OF INDIAN EXPERTS (Name, address, phone, fax, e-mail etc.)	
Dr. Vijayalakshmi R. Nair HB/50, “Vijaya” South Bridge Avenue, Panampilly Nagar, Kochi - 682036 Tel: 0484 - 2316999 Fax: 0484 - 2324972 e – mail: vijayalakshmi40@hotmail.com	
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