

**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 pacifica</i> Tokioka, 1940 Common Name ( if available): Arrow worm		
Synonyms	Author( s)	Status
<i>Sagitta serratodentata f. pacifica</i> <i>Sagitta serratodentata</i>	Baldasseroni	1915
	Beraneck	1895
	Michael	1911
	Johnston and Taylor	1919
	Burfied and Harvey	1926
	Serene	1937
	Tokioka	1939
	Schilp	1941
	Ghirardelli	1947
	Burfield	1950
	Furuhashi	1953
	Hida	1957
	Rao	1958
<i>Sagitta serratodentata</i> "pacifica" type	Rao and Ganapati	1958
	Thompson	1947
<i>Sagitta serratodentata</i> (variety "pacifica")	Rao	1958
<i>Sagitta serratodentata</i> "pacifica"	Tokioka	1940
	Hamon	1956
	Murakami	1959
	Furuhashi	1961

Classification:		
Phylum: Chaetognatha	Sub-Phylum:	
Super class:	Class:	Sub- Class:
Super Order:	Sub Order:	
Super Family:	Family:	Sub-Family:
Genus: <i>Sagitta</i>	Species: <i>pacifica</i>	
Authority: Tokioka		
Reference No.:		
Tokioka, T., 1940. A small collection of chaetognaths from the coast of New South Wales. <i>Rec. Aust. Mus.</i> , <b>20</b> : 367-379.		
Geographical Location:		
This is an epiplanktonic, oceanic Indo-Pacific species, also recorded in the Gulf of Aden and Red sea. In the Indian Ocean extends southwards to 43°S. High population density was observed between 20°N and 20°S.		
Latitude: Extends to 43°S		Place:
Longitude:		State:

Environment

Fresh water: Yes/ No

Habitat : Marine

Salinity :

Brackish : Yes/ No

Migrations : Perform vertical migrations.

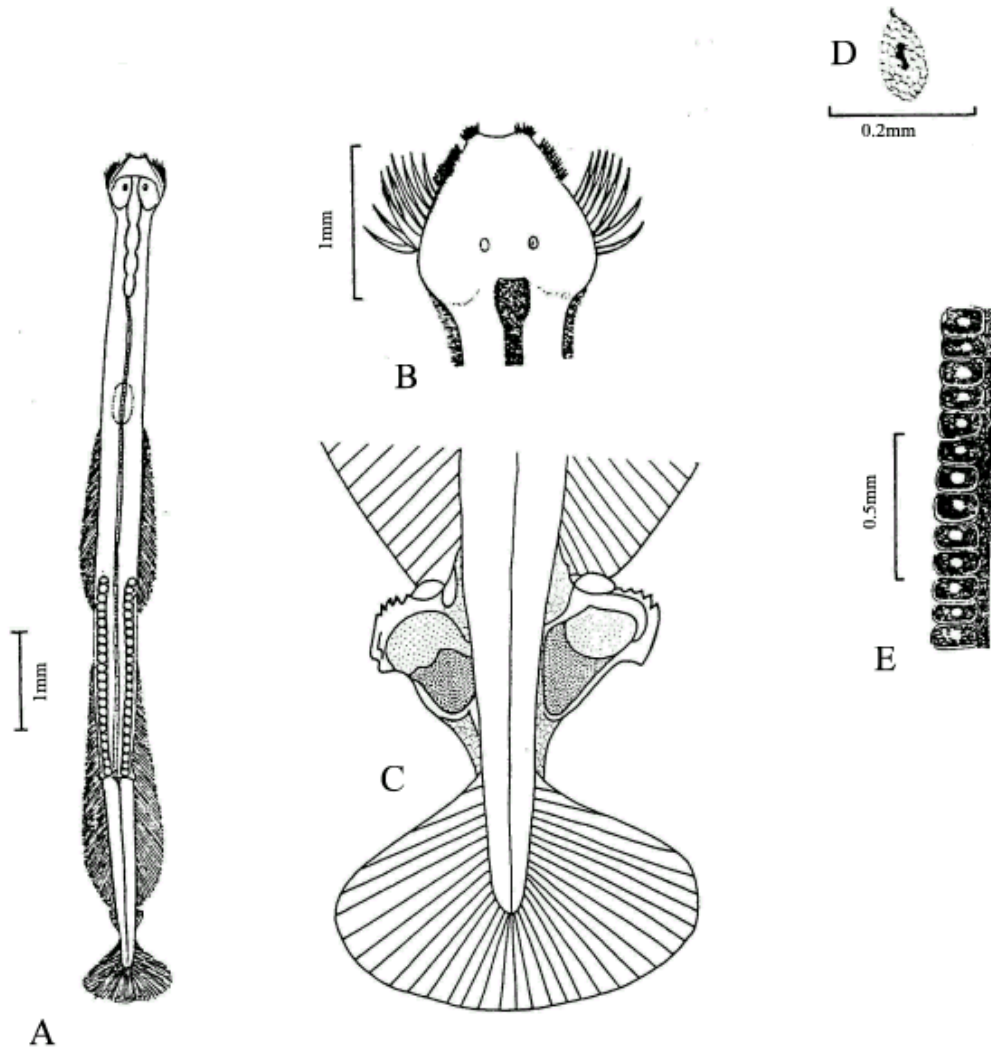
Temperature :

This can be diurnal in relation to size/stage of maturity, light intensity or otherwise

Salt water : Yes ✓/ No

Depth range: Normally 0-200 m. Rarely found between 200-500 m.

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



*Sagitta pacifica*

A – Dorsal view; B – Head; C – Details of posterior part of tail and seminal vesicles; D – Eye; E – Arrangement of ova in the ovary.

<p>DATA ENTRY FORM: Form- 2(Fish / shellfish / others )          (please answer only relevant fields ; add additional fields if you require)          Form –1 Ref.No.:</p>			
<p><b>IMPORTANCE</b></p> <p>Landing statistics (t/y) : from                      to                      Place :                      Ref . No.:</p> <p>Main source of landing: Yes/ No                      Coast: east/ west</p> <p>Importance to fisheries:</p> <p>Main catching method :</p> <p>Used for aquaculture : yes/ never/ rarely</p> <p>Used as bait : yes/no/ occasionally</p> <p>Aquarium fish : yes/ no/ rarely</p> <p>Game fish : yes/ no</p> <p>Dangerous fish : poisonous/ harmful/ harmless</p> <p>Bioactivity : locally known/ reported/ not known                      Details:</p> <p>Period of availability : Throughout the year – yes/ no                      If no, months:</p>			
<p><b>SALIENT FEATURES :</b></p> <p>Morphological:</p> <p>Diagnostic characteristics:</p> <p>Body is translucent, slender, firm and rigid having same width from neck to caudal septum. Longitudinal muscles thin and strong. Lateral fields are narrow. Intestinal diverticula are absent.</p> <p>Head is of medium size small with conspicuous neck. Tail segment forms 23 to 26 per cent of total length and clearly differentiated from the trunk by a tail septum. Tail segment is narrow and conical in shape. Eyes are oval with longest axis parallel to longitudinal axis of the animal. Pigments distributed in three branches Collarette fills the neck extending to body as a thin coat, but thickens in front of seminal vesicles and in the space between tail fin and seminal vesicles. Ventral ganglion is situated at ¼ distance from the anterior end of the animal. Anterior fins begin at level of posterior end of ventral ganglion, with a small area on the outer anterior part rayless (not clear in the figure) and the remaining totally rayed. Posterior fins roundish extending about an equal distance on trunk and tail. They start close behind anterior fins and reach seminal vesicles. They are widest at tail segment and are fully rayed.</p>			
<p>Sex attributes:</p> <p>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.</p> <p>Descriptive characters:</p> <p>Ovarian tubes are long, slender and extend to the level of ventral ganglion when fully mature. Ova arranged in one row and are spherical in shape. Seminal vesicles are conspicuous and separated from the caudal fin by a thin layer of collarette. More than five chitinous teeth (serrations) are seen on the inner margin of the seminal vesicles.</p>			

Meristic characteristics:

Hooks total 4 to 7 at each side with their concave internal edge serrated. Anterior teeth number from 7 to 13 on each side while posterior teeth from 16 to 24 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 at maturity varies from 12 to 14 mm.

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

Ref. No.:

Range and average length: 7-14 (av.10) 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.
<b>SPAWNING INFORMATION:</b>	
Locality: Season: Fecundity: Comment:	Main Ref:
<b>MAJOR PUBLICATIONS (INDIAN):</b> (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.	
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<b>ACKNOWLEDGEMENT:</b> (List of persons who contributed , modified or checked information)	