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 : √ Flora Microorganisms

General Category : Invertebrata (Zooplankton), Chaetognatha

Scientific name &Authority : *Sagitta ferox* Doncaster, 1903
Common Name (if available): Arrow worm

Synonyms	Author(s)	Status
Sagitta ai	Tokioka	1939
Sagitta planctonis	Delsman	1939
Sagitta robusta	Burfied and Harvey	1962
	Schilp	1941
	Hida	1957
	Bieri	1957
	Sund	1961
	Sund and Renner	1959
	Tokioka	1954
	Rao	1958
	Rao and Ganapati	1958

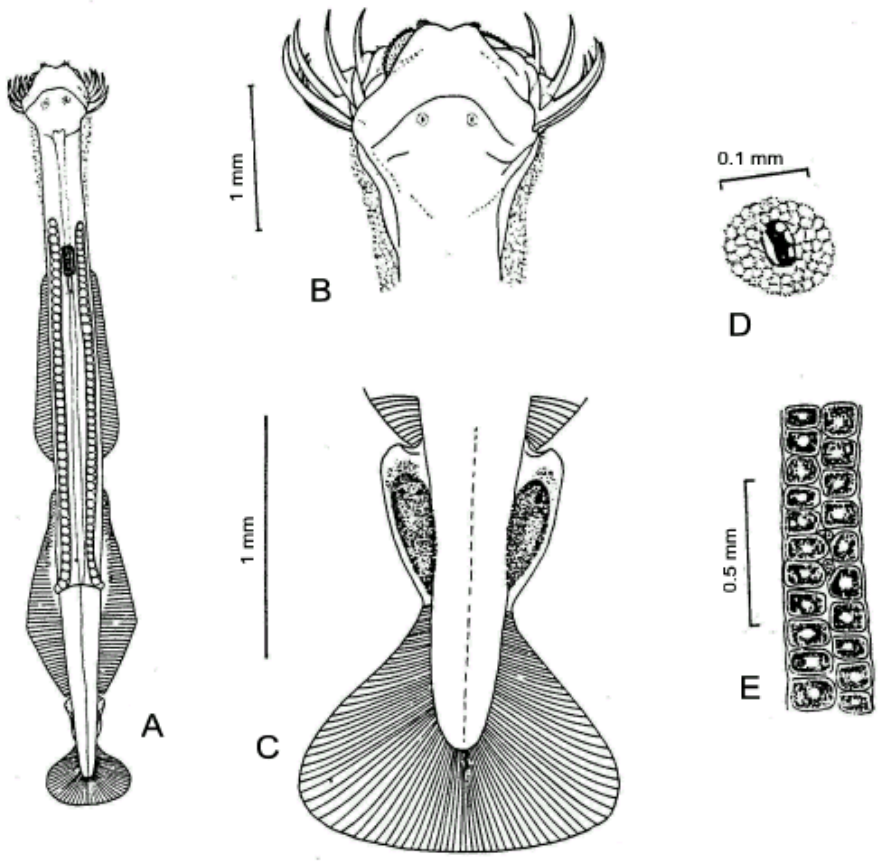
Classification:
Phylum: Chaetognatha Sub-Phylum:
Super class: Class: Sub- Class:
Super Order: Sub Order:
Super Family: Family: Sub-Family:
Genus: *Sagitta* Species: *ferox*
Authority: Doncaster
Reference No.:
Doncaster, L., 1903. Chaetognatha with a note on the variation and distribution of the group. *Fauna and Geography, Maldive-Laccadive, Arch*., **1**: 209-218.

Geographical Location:
This is an Indo – Pacific oceanic species extending along tropico – equatorial waters. In Indian ocean more abundant along the equatorial regions and extends to 40° S.

Latitude: Extends to 40° S Place:
Longitude: 20 – 130° E. State:

Environment			
Fresh water: Yes/ No	Habitat : Marine		Salinity :
Brackish : Yes / No	Migrations : PerformVertical migrations. This can be diurnal in relation to size/stage of maturity, light intensity or otherwise		Temperature :
Salt water : Yes ✓/ No	Depth range: 0- 200 m. Often found below 250 m.		

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



Sagitta ferox

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 firm, opaque and rigid due to strong and thick longitudinal muscles. The body is of uniform size from neck to tail septum. Longitudinal and transverse muscles strong. Lateral are fields are narrow. Intestinal diverticula are present.

Head is bigger than body and clearly differentiated from the trunk by a well marked neck. Tail segment constitutes 26 to 27 per cent of total length and there is a clear constriction at tail septum. Eyes round with pigment distributed in three branches, one shorter and perpendicular to the other two. Thick collarette is seen extending from neck to ventral ganglion and it spreads as a thin layer to tip of tail. Ventral ganglion is situated at the level of the origin of anterior lateral fins. Anterior fins begin at the level of midlength of ventral ganglion and are longer than posterior fins. Fin are fully rayed. Posterior fins are shorter and broader than anterior fins. It is wider at tail segment and extend for about same distance as trunk as in tail and touch the seminal vesicles. They are covered by rays except for a small ray less zone near the tail septum. Both anterior and posterior fins are rather close to each other laterally.

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 long and wide tubes filling the body cavity and reach upto neck region in fully mature specimens. Ova are large and arranged dorsoventrally in two rows. Seminal vesicles touch both posterior fins and tail fin. They are oval with an anterior bulged portion. Posterior section is oval while anterior section covered by a shield. Vesicles open along the anterolateral margin through which the sperms are liberated

.

Meristic characteristics:

Hooks strong, long and occur in rather constant number of 6 though occasionally 5 on each side. Anterior teeth total 7 to 10, at each side. Posterior teeth vary from 12 to 14 at each side.

Feeding habit: Active, well armed, voracious animals.
Main food : Crustaceans, hydromedusae, other chaetognaths, fish lavae.
Feeding type : Carnivore.

Additional remarks:

Size and age: Total length at maturity 16 to 18 mm.

Maximum length (cm) (male / female/ unsexed) Ref. No.:

Average length (cm) (male / female / unsexed) Ref. No.:
Range and average length: 5-18 (11) 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 relationalships:

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.)

Vijayalakshmi Nair, R. 1977. Chaetognaths of the Indian Ocean. *Proc. Symp. Warm Water Zoopl. Spl. Publ. UNESCO/NIO.* 168-195.

Vijayalakshmi Nair, R. 1978. Bathymetric distribution of chaetognaths in the Indian Ocean. *Indian J. Mar. Sci.* **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. *Zool. Surv. India, Tech. Monogr.* No. 3. 1-47.

Pierrot – Bults, A.C and Vijayalakshmi Nair, R. 1991. Distribution patterns in Chaetognaths. *In*: 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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