

Figure 1. Cocoon of *Argyrodes progiles* as fixed in the host web.

fixed vertically in the host web and it resembles closely with the cocoon of *Ariamnes simulans* found in Kerala¹¹ and also with *Argyrodes elevatus* sketched by Exline and Levi⁷.

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ACHLYA ORYZAE NAGAI, A NEW RECORD FOR INDIAN AQUATIC FUNGI

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DURING our studies on water molds, *Achlya oryzae* Nagai was isolated from some young rice seedlings

and found to be a new record for Indian aquatic fungi.

Infected rice seedlings were collected and washed with several changes of sterilized water and the fungus was isolated on boiled hempseed halves in sterile water. The species was also isolated in agar medium by direct plating of infected seedlings¹. After growth on sterile hempseeds and agar plate, pure, unifungal and bacteria free culture was prepared³. The fungus was identified as *Achlya oryzae* Nagai with the help of monograph⁴ and confirmed by C.M.I. Kew, England. Characters of the species are given below:

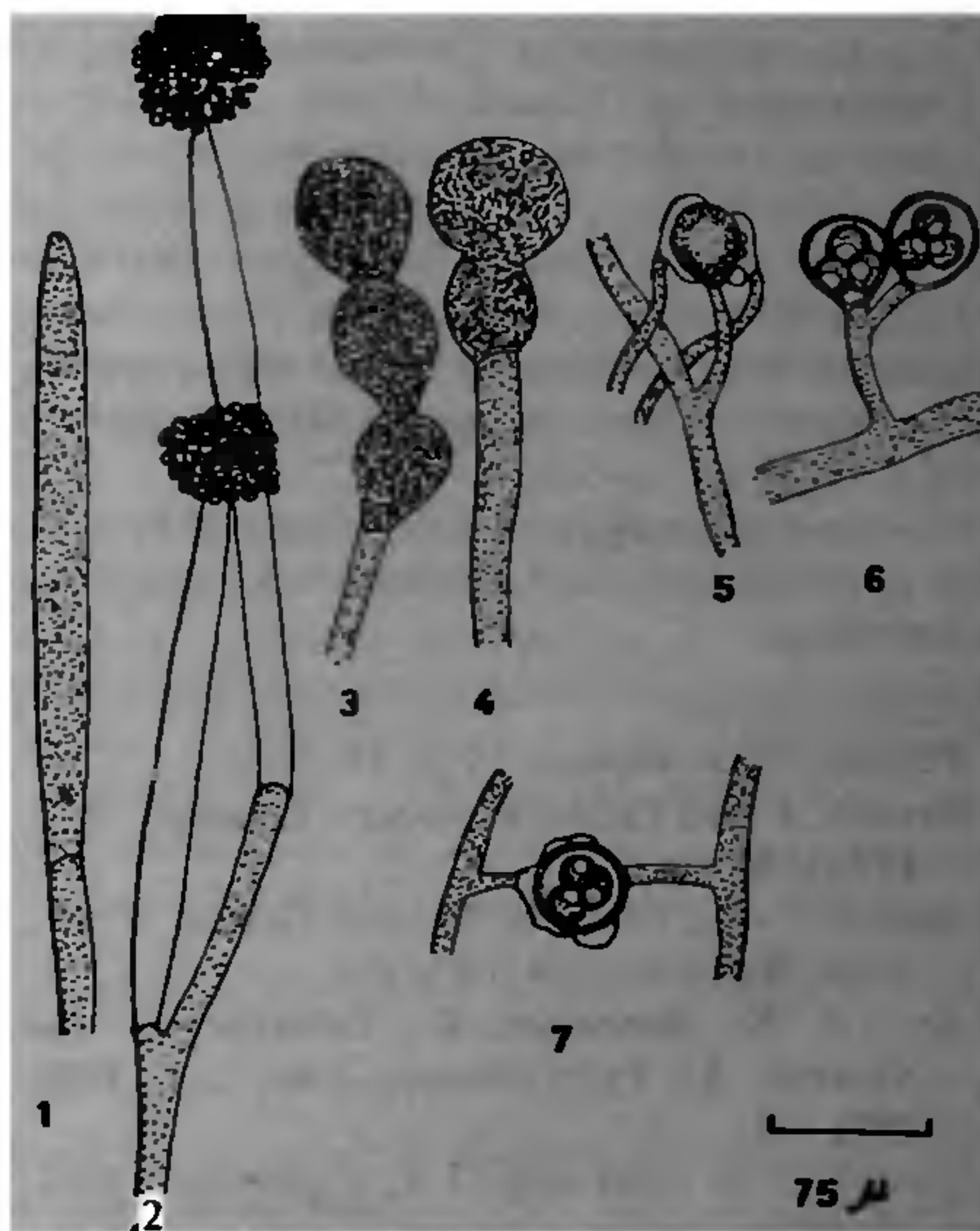


Figure 1-7. *Achlya oryzae* 1. Young sporangium. 2. Liberation and encystment of zoospores. 3 & 4. Arrangement of gemmae. 5. Young oogonium with diclinous antheridia. 6. Mature oogonia with eccentric oospores. 7. Mature oogonium with diclinous antheridial branch.

Achlya oryzae Nagai

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Main hyphae moderately stout, branched, gradually tapering towards the end. 25 to 44 μ in width at the base. Sporangia elongated to fusiform, 135 to 605 μ (mostly 345 to 490 μ) in length and 18 to 37.5 μ (22.5 to 30 μ) in width. Secondary sporangia sympodial. Encysted zoospores rounded, 9.5 to 10.5 μ in diam., liberation achlyoid. Gemmae abundant, clavate, single or in chain of 2 to 5, sometime acts as oogonia. Oogonia spherical to pyriform, on the lateral

stalks of main hyphae, 33.5 to 75 μ (40 to 55 μ) in diam., smooth walled and conspicuously pitted. Oospore globular, eccentric, 1 to 7 per oogonium (mostly 3 to 5), 16.75 to 23 μ in diam. Antheridial branches diclinous, long and branched, touching each oogonium with short tube like projections.

Habitat: Rice seedlings in paddy fields of Tarai, Nainital.

Literature survey revealed that *Achlya oryzae* Nagai, is a new record for the Indian aquatic fungi. The present isolate is slightly different from the original species of Nagai⁵ in having somewhat long sporangia (135 to 605 μ).

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ACID MUCOPOLYSACCHARIDES IN THE LENS-CUTICLE OF THE FRESH-WATER PRAWN, *MACROBRACHIUM BIRMANICUM*

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ACID mucopolysaccharides have been reported in several types of cuticles of certain arthropods and some very interesting roles have been adduced to them^{1,2}. But one of the specialised type of cuticle, *i.e.* the lens-cuticle of the compound eye has not been studied in this regard. The following account reports the occurrence of acid mucopolysaccharides in the lens-cuticle of the fresh-water prawn, *Macrobrachium birmanicum*.

The histological preparation of the lens-cuticle reacted positively when stained with Toluidine blue and paraldehyde fuchsin³. In both the cases the entire width of the pro-cuticle and the endocuticular region *i.e.* crystalline cone gave a strong metachromatic reac-

tion. When the sections were stained with basic fuchsin, the lens and the crystalline cone became red in colour³. Alcian blue test also gave a positive colour reaction in the lens-cuticle³. The acid mucopolysaccharides were extracted from the compound eye following the method of Bera *et al.*⁴. The extract was then hydrolysed, and analysed chromatographically for knowing the sugar components⁵. The sugars identified from their Rf values were glucose, galactose and xylose.

Acid mucopolysaccharides thus detected in the compound eye may play important role in visual excitation due to the fact that they act as selective ion barriers⁶. It may be noted that they are present not only in the corneal lens but also in the crystalline cone, which are in close association with the inner rhabdomeres, the actual site of photochemical reaction, the products of which depolarize the membrane of the retinula cell and initiate impulse formation⁷. Further, mucopolysaccharides may play role in increasing transparency of lens-cuticle. In this context, it is worth mentioning that during corneal development of vertebrates, rise in transparency of stroma was found to be associated with the occurrence of mucopolysaccharides⁸.

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