mately affecting the enzymatic actions. Cadmium is known as a potent enzyme inhibitor; it combines with the SH groups of the protein moiety of the enzymes forming markaptides[2,14,15]. The initial declining levels of sugar might be attributed to the high rate of energy production at the onset of various enzymatic blockage. It is known to block mRNA synthesis and thereby the protein synthesis at the level of transcription[8,16]; cadmium is also reported to accelerate the action of the enzyme protease[8], all these effects have been reflected in the steady decline of protein. Inhibition of the protein synthesis by cadmium on cholesterol biosynthesis has been reported in mammals[17] but insects are characterized by the lack of cholesterol biosynthetic mechanism; they can only convert dietary sterols into cholesterol. The diminishing levels of cholesterol in treated insects, thus suggest that cadmium often blocked the enzymatic transformation of phytosterols into cholesterol by inhibiting specific enzymes action, though the actual site and mode of action is yet to be unveiled.

Senior fellowship award to one of the authors (AI) by the authorities of CSIR (New Delhi) is gratefully acknowledged.

1. Perizek, J., *J. Endocr.* 1957, **15**, 56.
2. Perizek, J. and Zahor, Z. *Nature (London)*, 1956, **177**, 1036.
3. Simon, F. P., Potts, A. M. and Gerald, R. W., *Arch. Biochem.* 1947, **12**, 283.
4. Giri, A. K., Bannerjee, R., Talukdar, G. and Sharma, A., *Proc. Indian Acad. Sci.*, 1980, **B89**, 311.
5. Shaikh, Z. A. and Lucis, O. J., *Experientia*, 1971, **27**, 1024.
6. Rorh, G. and Baughinger, M. *Mutat. Res.* 1976, **57**, 359.
7. Foy, C. R., Chaney, R. L. and Write, M. C., *Ann. Rev. Plant Physiol.*, 1978, **29**, 511.
8. Jana, S. Ph.D., Thesis, University of Burdwan, 1981.
9. Singh, O. P. and Sharma, A. *Nucleus*, 1980, **23**, 15.
10. Koehler, L. H., *Anal. Chem.* 1952, **24**, 1577.
11. Lowry, O. H., Rosebrough, N. J., Farr, A. L. and Randall, R. J., *J. Biol. Chem.*, 1951, **193**, 265.
12. Rosen, H., *Arch. Biochem. Biophys.*, 1957, **67**, 10.
13. Roy, A. C., Dutta, S. N. and Sur, R. N., *J. Sci. Indian Res.* 1955, **140**, 124.
14. Baron, E. S. G. and Kalnitsky, G., *Biochem. J.* 1947, **41**, 346.
15. Singh, K. and Mathur, R. S. *J. Repro. Fert.* 1968, **17**, 509.
16. Sutherland, D. J. B., Tsang, B. K., Merali, Z. and Singha, R. L., *Environ. Physiol. Biochem.*, 1974, **4**, 205.
17. Anderson, D. G., Ricl, M. S. and Porter, J. W., *Biochem. Biophys. Res. Commun.* 1960, **3**, 591.

A NEW RECORD OF COMMENSALISM BETWEEN *ARGYRODES PROGILES* TIKADER (ARANEAE: THERIDIIDAE) AND *STEGODYPHUS SARASINORUM* KARSCH

B. L. BRADOO
Department of Zoology, D.A.V. College (Sector 10), Chandigarh 160 010, India.

THE commensalistic association among spiders has received very little attention of the arachnologists. The true commensals are so far recorded from only three families *viz.* Oonopidae, Uloboridae and Theridiidae. Under the family Theridiidae, Simon[1] reported *Theridion nodiferum* in commensalistic association with the tropical psechrids. The best known account of commensalism has been given for the conopisthine spiders that live on the webs of other spiders[2]. Yaginuma[3] reported *Rhompheae sagana* and *R. fictilium* in commensalistic association with the webs of *Linyphia*, *Araneaus* and *Fontinella* in Japan. Lamore[4] found *Conopistha trigona* in association with *Allepeira lemniscata* in Maryland.

Legendre[5] found upto 50 individuals of *Conopistha zonatus* in a single host web. Tembe and Thakur[6] found specimens of *Argyrodes nephilae* in the webs of *Nephila maculata* from India. Spiders belonging to the genus *Argyrodes* are mostly tropical and subtropical in distribution and live as commensals in the webs of larger spiders[7]. Usually they feed on small insects in the host web that are mostly unnoticed by the larger host. They may live in the host web without constructing any web of their own, but often they add fine lines between the host silk threads. These commensals hang upside-down with the front pairs of legs folded and are usually inconspicuous, resembling seeds, pieces of bark or lichens accidentally attached to the web[8,9].

The commensalistic association of *Argyrodes progiles* with the social spiders is the new record of commensalism as previously only uloborid spiders have been found to be the most common comensals of social spiders[10]. *A. progiles* was previously found in association with the webs of *Nephila clavata*, at Legship, West Sikkim by Tikader[9]. The present author found several females of this spider in the webs of *S. sarasinorum* in Kerala. The cocoon (Figure 1) is

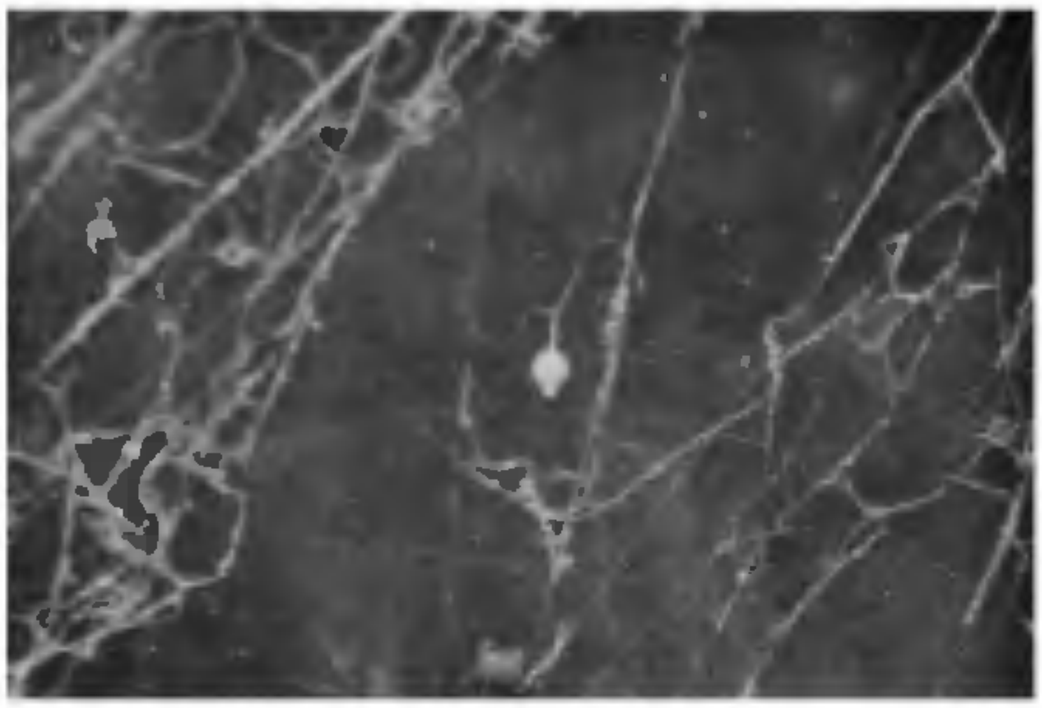

Figure 1. Cocoon of *Argyrodes progiles* as fixed in the host web.

fixed vertically in the host web and it resembles closely with the cocoon of *Ariamnes simulans* found in Kerala[11] and also with *Argyrodes elevatus* sketched by Exline and Levi[7].

I record my gratitude to Dr. U. C. A. Rehman, University of Calicut, Kerala for his company and help during my spider collection in Calicut.

1 October 1982

1. Simon, E., *Histoire Naturelle des Araignees*, Vol. I, Roret, Paris, 1894.
2. Exline, H., *Ann. Ent. Soc. Amer.*, 1945, **38**, 505.
3. Yaginuma, T., *The World of Spiders*, Asahi Photo Book No. 29, Osaka, p. 64.
4. Lamore, D., *Proc. Ent. Soc. Wash.*, 1957, **59**, 79.
5. Legendre, R., *Ann. Sci. Nat. Zool.*, 1960, **12**, 507.
6. Tembe, V. B. and Thakur, M. K., *Nephila maculata*. A Zoological Memoir No. 5, Univ. Bombay, p. 74, 1960.
7. Exline, H. and Levi, H. W., *Bull. Mus. Comp. Zool.*, 1962, **127(2)**, 75.
8. Tikader, B. K., *Proc. Indian Acad. Sci. Bangalore*, 1963, **57(2)**, 99.
9. Tikader, B. K., *Rec. Zool. Sur. India*, 1970, **64**, 1.
10. Bradoo, B. L., *Bull. Br. Arachnol. Soc.*, 1979, **4(8)**, 353.
11. Bradoo, B. L., *Ent. Month. Mag.*, 1972, **107**, 241.

ACHLYA ORYZAE NAGAI, A NEW RECORD FOR INDIAN AQUATIC FUNGI

B. L. VERMA AND R. D. KHULBE
Department of Botany, Kumaun University, Nainital 263 002, India.

DURING our studies on watermolds, *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 seedlings[1]. After growth on sterile hempseeds and agar plate, pure, unifungal and bacteria free culture was prepared[3]. The fungus was identified as *Achlya oryzae* Nagai with the help of monograph[4] and confirmed by C.M.I. Kew, England. Characters of the species are given below:

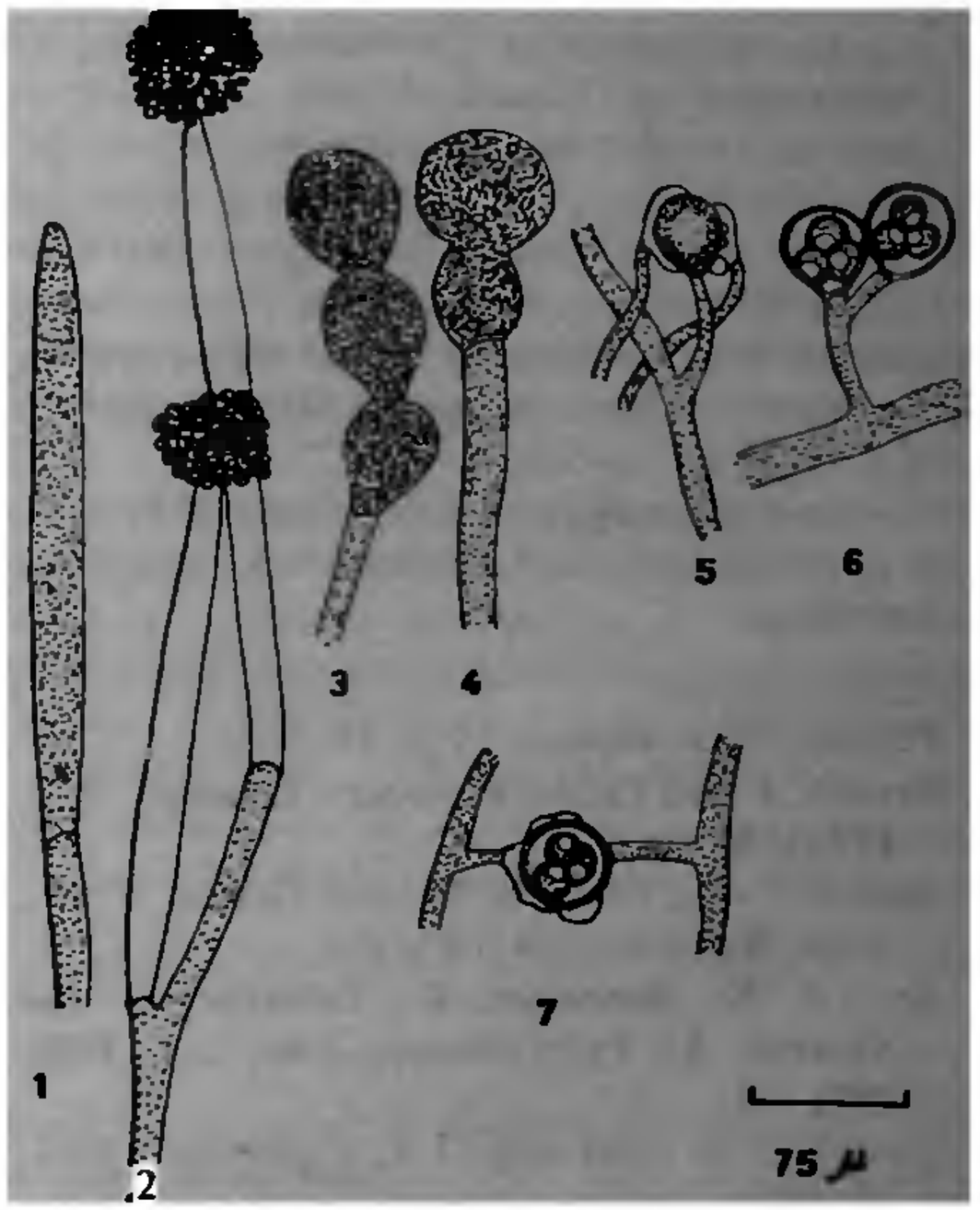

Figure 1-7. *Achlya oryzae* **1.** Young sporangium. **2.** Liberation and encystement of zoospores. **3 & 4.** Arrangement of gemmae. **5.** Young oogonium with diclinous antheridia. **6.** Mature oogonia with eccentric oospores. **7.** Mature oogonium with diclinous antheridial branch.

Achlya orzae Nagai

J. Fac. Agric. Hokkaido Imper. Univ., 32, 17: 1931

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