RESEARCH NOTES

UNIDENTIFIED OBJECTS

During the course of an ongoing study of the comparative morphology of the female internal genitalia of haplogyne spiders I noticed a group of about fifteen spherical objects within the posterior receptaculum of a scutate Oonopid spider (*Gamasomorpha* sp.) from Singapore.

The spheres are relatively large (20 microns) and translucent and each of them contain four somewhat twisted elongate structures about 25 microns in length (Figs. 1 and 2).

Fig. 1.–The female internal genitalia of *Gamasomorpha* sp. (Family Oonopidae) from Singapore. The dark sclerotic plate extending across the anterior portion of the organ is a muscle attachment plate while the narrower T-shaped structure in front is the anterior secretory organ. The transverse muscle plates mark the level of the external gonopore. The darker mass within the posterior sac is the coagulated mass of secretory fluid which encloses the unidentifies spheres. Photographed with transmitted light. Specimen cleared with Lactic Acid.

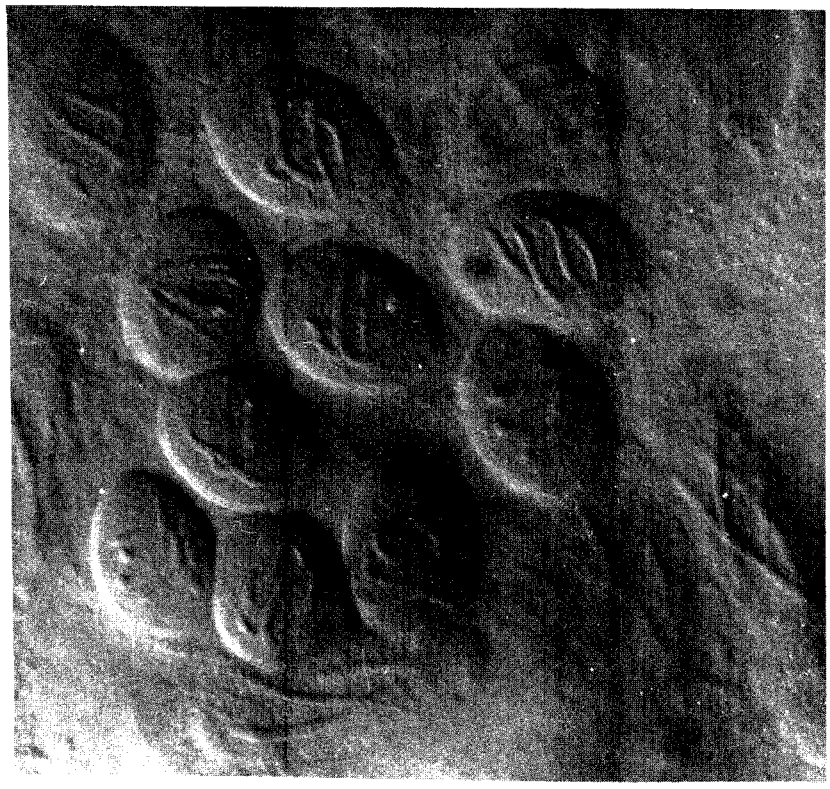

Fig. 2.–Eleven intact spheres with a number of free rodlike structures presumably from ruptured spheres within the receptaculum. Photographed with Nomarski illumination.

The genitalia of this group of spiders consists of two structures each opening into the bursa copulatrix a short distance within the gonopore. The anterior structure (T-shaped in this species) has associated with it a large secretory gland while the capacious thinwalled posterior sac receives this secretion. The sperm mass after deposition in the bursa by the male disperses throughout this secretory fluid and is stored mainly in the posterior receptaculum. When charged the sperm show up as granules under moderately high magnification. In this specimen no typical spermatozoa were present.

After dismissing first thoughts that here was a new form of spermatogenesis involving giant spermatozoa the question remained - just what are these objects?

The genitalia were originally examined and photographed while cleared in Lactic Acid but subsequently were washed in distilled water and the spheres expressed. Staining was attempted but without success - the strong translucent coat seems impermeable to stain. Considerable pressure was needed to rupture the coat but when achieved the structures within were unfortunately destroyed.

After consultation with workers representing a wide range of biological disciplines it is clear that the consensus of opinion favours a sporozoan infection.

Has anyone else observed this phenomenon in association with the reproductive organs of spiders or other arthropods?

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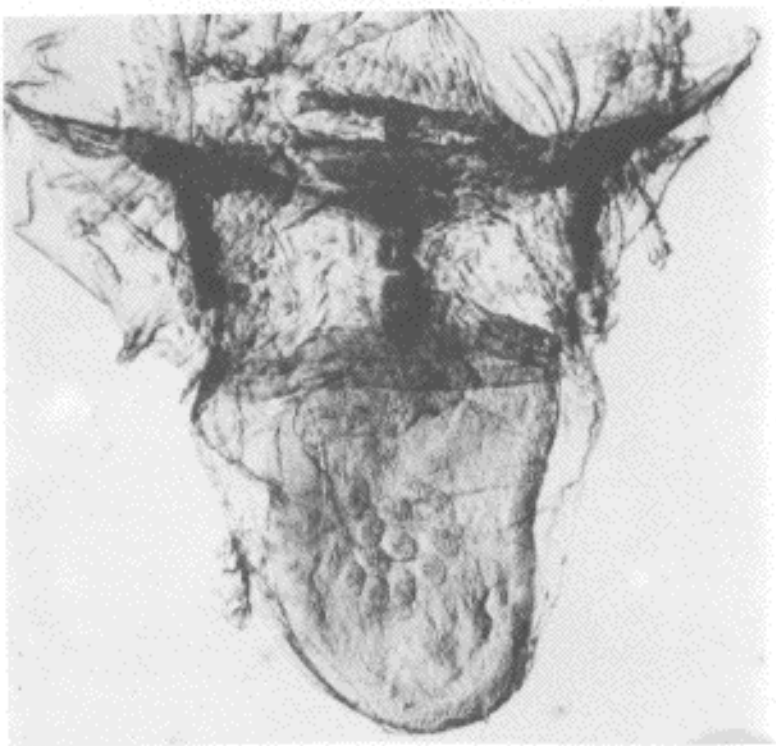

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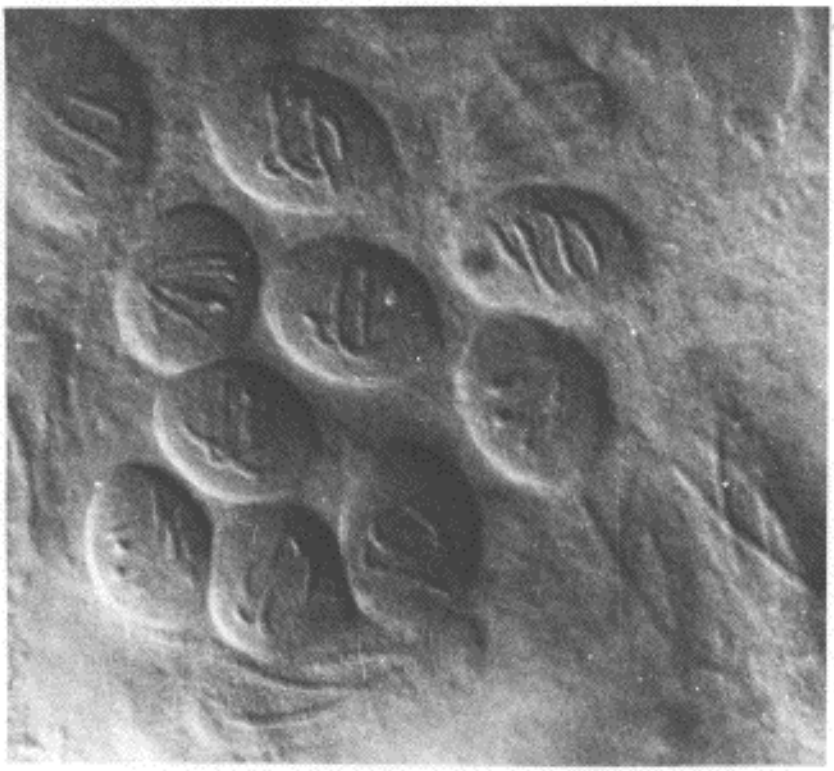

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