TEM OF *Bufo longinasus* (ANURA: BUFONIDAE) GONAD.

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*Bufo longinasus* is listed in the IUCN Red List of Threatened Species as Endangered because its area of occupancy is probably less than 500 km², its distribution is severely fragmented, and the extent of its upland forest habitat in Cuba is declining [1]. There is very little knowledge about the Biology of this species, as well as of the possibility of the existence of subspecies (*B. longinasus dunni, B. longinasus cajalbanensis* and *B. longinasus longinasus*) with which the results of this investigation even will contribute to clarify systematic aspects [4]. The objective of this work is to describe the male gonad of *B. longinasus*. Five male samples of *B. longinasus* were used. The specimens were collected in Pinar del Río province between May and September 2006, when they should be in reproductive period. After captured and transported to the laboratory, the individuals were anesthetized with ether and submitted to morphological studies. The gonads were observed *in situ* and were extracted and fixed to 2.5% glutaraldehyde in 0.1 M sodium phosphate buffer, pH 7.6. The results show that the male gonad has one pair of Bidder’s organs just above the testes on each cranialis portion. In the part of the gonad corresponding to the testicle the presence of a tunica albuginea very pigmented is observed. The semifine and ultrafine sections of the testicle demonstrate an organization in seminiferous tubules, with pigment among them who penetrate from the tunica albuginea. The sexual cells in diverse degrees of development are inside the seminiferous tubules in cysts. A rare peculiarity is the presence of numerous pigment-containing cells randomly distributed in the tunica albuginea and testicular interstitium, giving the testis a dark brown coloration. (Figure 1-A) This coloration could be a strategy to protect the testicles of rays UV then *B. longinasus* is exposed to the sun in its daily activity. The Bidder’s organ is covered by a delicate capsule of loose connective tissue with a mesothelium. Surrounding each oocyte in the Bidder’s organ cortex, there is a single epithelial layer of follicular cells [3]. As in other members of Bufonidae Family it was found that ovarian and Bidderian oocytes were morphologically identical. In the testicle germ tissue the spermatocytes I are the biggest spermatogenetic cells (Figure 1-B). With the cellular differentiation and proliferation, cellular types (spermatogonia, spermatocytes II, early, mid and late spermatids, and spermatozoa) have a cystic organization, that is, groups of cells associated with Sertoli cells, forming the spermatogenetic cysts or spermatocysts. Generally, the spermatocytes are observed in different phases of the first meiotic division, presenting different degrees of compactation of the nuclear material. The spermatozoa in development are arranged in bundles very well organized, due to the association with the Sertoli cells. Also, the spermatozoa are characterized by a extraordinary nuclear compactation (Figure 1-C). and the presence of a conical subacrosomal perforatorium was observed.

References:


Figure 1: A: Toluidine blue-stained semithin section of gonad showing seminiferous tubules and Bidder’s organ ovocytes (arrow) (40X). B: Ultrathin section of Bidder’s organ ovocyte. (2K). C: Detail of spermatocytes cysts (1.5K). D: Head of spermatozoa (6K)