study of an atypical microsporidium infection in a feather mite (*Falculifer rostratus).* The infection is restricted to the *colon epithelium where it* leads to hypertrophy of the concerned cells. During sporogony multinucleate plasmodial aggregates are formed within a sporont. The sporonts are in direct contact to the host cell cytoplasm. Merogonial stages were not present. Spores are tiny (3.6 x 2.6 µm), broad ovoid in form and monokaryotic. The spore wall of mature spores has a thickness of about 240 nm and consists of a three-layered endospore and a thin, electron-dense exospore. The polar filament is anisofilar and arranged in 3–4 coils. In cross-sections it has a star-like appearance since the electron-dense core forms rounded compartments for lucent material at its surface. In grazing sections this results in a honeycomb-like pattern. A polaroplast is missing. The life cycle features and atypical spore structures clearly classify the species from the feather mite as a member of the order Chytridiopsida. Its affiliation to one of the known genera is discussed.

Poster / Microsporidia. Wednesday, 16:30. **MI-7**

Infectivity of a *Thelohania* like microsporidian isolated from *Phthonandria atrilineata* to the silkworm, *Bombyx mori*

Liangen Shi
College of Animal Sciences, Zhejiang University, Hangzhou, Zhejiang Province, China
Address for Correspondence: slgsilk@zju.edu.cn

The pebrine of the silkworm, *Bombyx mori*, is a disease caused by infection with the microsporidium *Nosema bombycis*, also can be caused by cross-contamination of microsporidium from wild insects. We have isolated a *Thelohania* like microsporidian (TMPA) from the *phthomndria atrilineata* in the silkworm rearing region of Zhjiang province, China. The mature spores of TMPA were cylindrical or ovocylindrical in shape with a strong diopter and glossy surface. The spore size of TMPA was 3.27±0.14×2.03±0.16 µm with a length/width ratio of 1.61±0.11 µm, similar to those of *N. bombycis*. Therefore, the spores of TMPA were hardly distinguished from the spores of *N. bombycis* under light microscope. In TMPA spores formative stages, sporont produced pansporoblast including 8 nuclears by meiosis, and later 8 spores were formed in pansporoblast. Infection was systemic with mature spores produced in muscular tissue, epithelial cell of trachea, fat body, middle and posterior silkgland, fore and middle intestine, malpighian tubule and germ gland, most extensivest in muscular tissue and epithelial cell of trachea, but not in dermal cells, nerve cells, fore silkgland, posterior intestine and hemocyte cells. The IC_{50} value of TMPA to newly-hatched silkworm larvae was 1.55×10^4 spores/ml, 700-fold higher than that of *N. bombycis*, suggesting a weakly infectiousness. TMPA have transovarian transmissibility in silkworm, the rate of transovarian transmission was 1.74%, which was significant lower than that of *N. bombycis*.

NEMATODES

Poster / Nematodes. Wednesday, 16:30. **NE-1**

First release of the mermithid *Strelkovimermis spiculatus* in *Culex pipiens* mosquito populations in Argentina

Evangelina Muttis[1]; María F. Achinelly[2]; María V. Micieli[3]
[1]Fellowship CONICET Centro de Estudios Parasitológicos y de Vectores, CEPAVE, calle 2 N◦ 584, 1900 La Plata, Argentina; [2,3]Researcher CONICET, Centro de Estudios Parasitológicos y de Vectores, CEPAVE, calle 2 N◦ 584, 1900 La Plata, Argentina
Address for Correspondence: fachinelly@cepave.edu.ar

Mermithids have proved to be effective in parasitizing natural populations of mosquito larvae. However nothing is known about the inoculative introduction of this nematode in natural populations of culicids in our country. We report the results of the first field release of *S. spiculatus* in Argentine. Study area was constituted by house drainage ditches, breeding site of the mosquito *Culex pipiens* where this nematode was not present. The number and stage of mosquitoes were recorded pretreatment. *Strelkovimermis spiculatus* was introduced as second-stage juveniles (J2) obtained from laboratory cultures maintained at CEPAVE laboratory. Release was done in November 2012 (spring). A dose of 10,000 J2 per meter was applied (over a total area of 17 x 0.5 m). The number of J2 was based on previous results. Mosquito larvae were sampled 24 hs post-treatment once a week during a year, to corroborate the presence of nematode by microscopic dissection and emergence from fourth instars larvae. Parasitism by *S. spiculatus* began to be observed at third day post-application (3%). Values ranged between 0.01% and 86.3%. The highest value was recorded at 8 months post-release. This environment remained dry or without larvae during a period of four months. Nevertheless a parasitism of 45.2% was observed after this period during the first larvae collection and reaching levels between 4.8% and 86.3%. Only in three occasions was not observed infected larvae throughout the year of sampling. *Strelkovimermis spiculatus* was able to establish itself in this habitat and cause high levels of infection in *Culex pipiens* larvae.

Poster / Nematodes. Wednesday, 16:30. **NE-2**

Increased infectivity in Steinernema websteri IJ after development in desiccation-stressed hosts

Andrea Binnebose and Susan M. Bornstein-Forst
Marian University, 45 S. National Ave., Fond du Lac, WI 54935 USA
Address for Correspondence: sbornsteinforst@marianuniversity.edu

This study investigates the effect of desiccation during development on entomopathogenic nematode (EPN) infectivity. *Galleria mellonella* hosts infected with *Steinernema websteri* A10 were allowed to air-desiccate in an environmental chamber set at 23^0C for up to 31 days post-infection (DPI) resulting in a host weight loss of approximately 64%. Host carcasses were re-hydrated using reverse-osmosis (RO) water and placed in White traps to collect emergent infective juvenile populations (IJ). IJ were pooled over a three-day time period for time points on days 10, 17, 24, and 31 DPI, respectively. For a randomly chosen sample of 100 IJ for each time point, sine wave movement (number of oscillatory motions completed in one minute) and IJ morphometrics, were measured. To evaluate IJ efficacy, plexiglass “bulls-eye” traps with screens dividing sections into quadrants of specific radii were loaded using sterile soil. Twenty hosts were placed in each quadrant in the outer ring only. A dose of 10,000 IJ from each time point was placed in the center ring. Host mortality was measured over 132 hour time period. Results demonstrated that IJ collected from desiccation-stressed hosts at days 17 and 24 post-infection were significantly smaller while exhibiting greater oscillation compared with controls ($\alpha \leq 0.5$). Furthermore, efficacy experiments using bulls-eye traps demonstrated that the same desiccation-stress IJ populations killed approximately 70% of hosts between 60-72 hours post load as compared 30% mortality between 72-84 hours post load for controls. This study has implications for host delivery systems in field applications.