

SUMMARY

A total number of 10987 cyprinid fish from Abo- saleh fish hatchery visually examined in situ for parasitic copepod. The specimens represented 99 brooders and 3056 fingerlings of *C. carpio*, 92 brooders and 4246 fingerlings of *C. idella* and 77 brooders and 3417 fingerlings of *H. Molitrix*. Random sampling was made monthly from brood and fingerlings stocks of Abo- saleh fish hatchery from the first week of April 2007 till the end week of October 2007.

The results showed that the prevalence among brooders and fingerlings stocks of examined cyprinids varied according to the species and fish size, the prevalence among brood stocks of *C. carpio*, *C. idella* and *H. molitrix* was 16.2 %, 14.1 % and 11.7 % respectively and it was 26.5 %, 32 % and 33.1 % among *C. Carpio*, *C. idella* and *H. molitrix* fingerlings respectively. The highest lernaea infestation rates in *C. carpio* and *H. molitrix* brooders were detected in June while in their fingerlings were detected in October, in *C. idella* brooders and fingerlings it was detected in May.

The infested fingerlings showed the attachment of worm-like grey to greenish colored copepods with or without paired appendages. *L. cyprinacea* was distributed along the both sides of the body and peduncle region especially at the base of caudal fin in *C. carpio*, the parasite attached mostly to the base of the dorsal fin in *C. idella* and along both sides of the body and the buccal region in *H. molitrix*. The sites of attachment were characterized by macroscopic reddening and swollen margins (hemorrhagic nodules or tumor-like masses) and these lesions were very clear and healed slowly in the infested *C. carpio* fingerlings. On the other hands, the sites of lernaea attachment in *C. idella* and *H. molitrix* fingerlings were associated with reddening without swollen margins and some times no visible inflammatory signs were detected at these sites especially in *C. idella* . In additional several lernaea free lesions that were similar to copepod attachment sites were detected. The postmortem examination revealed embedding of the anchors and part of the trunk in the skin and underlying muscles and no changes could be detected by the naked eye in the internal organs of the infested fish.

The lernaea infestation significantly decreased the body weight of diseased *C. carpio* fingerlings where the infested fish were 4.3% up to 71.7% lighter than lernaea free fingerlings and the decrease in the fish's body weight was directly correlated with the intensity of lernaea infestation

The histopathological study of skin of *C. carpio* showed that the epidermis, dermis and hypodermis were infiltrated with massive number of inflammatory cells associated with edema and congested blood vessels, while the *C. idella* tissue reactions against lernaea infestation were reported as infiltration of massive number of the inflammatory cells in the dermis and hypodermis, acidophilic granular cells in the skeletal muscles as well as subcutaneous tissue and formation of fibrous connective tissue capsule around the embedded part of the parasite.

Dipterex did not completely eliminate lernaea infestation from the infested *C. carpio* fingerlings and the best result obtained was 76.6% reduction in the infestation rate after the 1st treatment, the lowest lernaea infestation rates among the treated *C. carpio* fingerlings were 10.6% post the 1st treatment and 19.4% post the 2nd treatment

The use of colophony either steamed oil or crude resin as drug for control of Lernaeosis in *C. carpio* fingerlings gave promising results where 5ppm steamed oil of colophony (24 and 48hrs. water bath) was more effective than the crude resin, since the infested fish became lernaea free at 96hrs post bath treatment (24 and 48hrs) comparing with 15.3% of lernaea parasite dropped from the control fish at the same time, while in case of crude colophony the infested fish became lernaea free at 120hrs post 24 and 48hrs direct bath comparing with 14.4% of the parasite dropped from the control fish at the same time.

Other advantages of steamed oil included that it was safe than the crude colophony as 100ppm of steamed oil did not cause death for any fish in 24 hrs LC50, while 60ppm crude resin of colophony killed all tested fish and the median lethal concentration (LC50) of crude resin colophony was 46.7ppm for 24 hrs.