Discussion

After fertilization, the point of sperm entry marked the posterior pole of the egg. Cytoplasmic streaming was also observed in *Myctolaimus oreodoxus* sp. n leading to pseudocleavage after sperm entry. Tahseen & Nisa (2006) reported similar occurance in *O. shamimi*. During pronuclei fusion, it has been observed that the egg pronucleus moves towards sperm pronuclei and their fusion occurs at the posterior pole of the egg. However, in *Teratorhabditis andrassyi* (Tahseen & Jairajpuri, 1988) sperm pronucleus moves towards egg pronucleus and then both the pronuclei shows migration towards the centre which is followed by their fusion but in *Chiloplacus symmetricus* (Ahmad & Jairajpuri, 1977) both the nuclei move towards the centre where they fuse with other.
*M. oreodoxus* sp. n. has a short life cycle as that of other diplogastrid nematodes. Eggs of *M. oreodoxus* sp. n. were elongated, smooth-shelled like that of *Mononchoides changi* (Hechler, 1970), *Mononchoides fortidens* (Tahseen et al., 1990) and *Oscheius shamimi* (Tahseen & Nisa, 2006). The first polar body was observed outside the vitelline membrane and second polar body was observed inside the vitelline membrane which was also observed in *Radopholus similis* (Van Weerdt, 1960). *Rhabditis teres* (Chuang, 1962) and *C. longistoma* (Chin, 1977). However, in *Acrebeles complexus* (Thomas, 1965) both the polar bodies were observed outside vitelline membrane.

The intra-uterine development was not observed in *M. Oreodoxus* sp. n. which has been reported in *Mononchoides changi* (Hechler, 1970). The presence of only two eggs in the reproductive tract of gravid females of *M. oreodoxus* sp. n. suggested late oogenesis as in *Mononchoides fortidens* (Tahseen et al., 1990) which is in contrast to *Oscheius shamimi* (Tahseen & Nisa, 2006) where uterine tract was observed to accommodate as many as fifty eggs. The movement in the embryo for the first time was observed in tadpole stage which is similar to *Teratorhabditis synpapillata* (Tahseen and Jairajpuri, 1988), *Oscheius shamimi* (Tahseen & Nisa, 2006) and *Mononchoides fortidens* (Tahseen et al., 1990). In a few eggs, development of anterior half was arrested due to some unknown reasons which resulted in an embryo with a well developed posterior half and an undifferentiated mass of cells in the anterior half. The posterior half showed vigorous movements for less than 24 hours and then the embryo died before 24 hours.

Hatching occurred as a result of pressure on the egg shell due to growth of the embryo and also due to labial probing against egg shell. These probings were not specifically localized and no blister formation occurred as in case of *C. longistoma* (Chin, 1977). Thus hatching resembles *Chiloplacus symmetricus* (Ahmad & jairajpuri,
1977) and Oscheius shamimi (Tahseen & Nisa, 2006). The head of the juveniles usually emerged first during eclosion as in case of Paroigolaimella bernensis & Fictor anchicoprophaga (Pillai & Taylor, 1968). However, Silverman & Campbell (1959) observed that the juvenile of Haemonchus contortus pierced the egg shell with its pointed tail and emerged tail first while in A. complexus (Thomas, 1965) the larva emerged head or tail first depending on its position inside the egg when the membrane ruptured.

The reproductive system in M. oreodoxus sp. n. was found to develop from a single obliquely oriented primordium which has also been reported for Mononchoides fortidens (Tahseen et al., 1990), Diploscapter coronata (Hechler, 1968), D. orientalis (Tahseen et al., 1990) and Oscheius shamimi (Tahseen & Nisa, 2006). The sexes in M. oreodoxus sp. n. could be differentiated from the second moult onwards, by the appearance of specialized ventral chord nuclei opposite to the genital primordium in females and by differentiated development of the genital primordium in both sexes. Similar observations were found by Chin (1977) and Tahseen & Nisa (2006) in Cylindrocorpus longistoma and Oscheius shamimi respectively.

The juveniles could not be differentiated exclusively on morphometric values due to overlap in ranges. But growth patterns of the genital primordium were found to be good markers to differentiate different juvenile stages which has also been reported in Oscheius shamimi (Tahseen & Nisa, 2006). However, it is in contrast to Cylindrocorpus longistoma (Chin, 1977) where the body length and primordium length of different stages did not overlap. In the first stage juvenile two germinal nuclei were found as in other didelphic species e.g., Helicotylenchus dihystera (Hirschmann & Triantaphyllou, 1967), Radopholus similis (Van Weerdt, 1960), C. elegans (Von Ehrenstein & Schienerberg, 1980), Mononchoides fortidens (Tahseen et al., 1990), C. longistoma (Chin, 1977) and O. shamimi (Tahseen & Nisa, 2006). In M.
oreodoxus sp. n. it was observed that the number of germinal nuclei remains unchanged in second stage which has also been reported for *Ditylenchus dipsaci* (Yüksel, 1960), *D. triformis* (Hirschmann, 1962), *Helicotylenchus dihystera* (Hirschmann & Triantaphyllou, 1967) and *H. vulgaris* (Yuen, 1965), *C. longistoma* (Chin, 1977) and *Chiloplacus symmetricus* (Ahmad & Jairajpuri, 1988). However, it is in contrast to *T. andrassyi* (Tahseen & jairajpuri, 1988) which showed a multiplication of germinal nuclei during the first molting.

The ontogeny of reproductive system revealed that a continuous and gradual multiplication of the nuclei in genital primordium occurred throughout the mouls and stages as in case of *Ditylenchus triformis* (Hirschmann, 1962), *Pratylenchus* sp. (Roman & Hirschmann, 1969), *C. longistoma* (Chin, 1977), *O. shamimi* (Tahseen & Nisa, 2006) and *Mononchoides fortidens* (Tahseen et al., 1990). Therefore, the number of nuclei in the genital primordium at any given stage of development would be subject to variation. However, this is in contrast to reports on *H. dihystera* (Hirschmann & Triantaphyllou, 1967) and *H. vulgaris* (Yuen, 1965) where cell multiplication in the genital primordium takes place only during molting, hence, the number of cells in genital primordium of each developmental stage remains constant.

The primordium of male juveniles exhibited typical secernentean characters which involved elongation of primordium anteriorly. Later, the development of a flexure which grew posteriorly to form a gonoduct was exclusively reported in rhabditids. In females, the flexures of the primordium developed during late fourth stage and contained the germinal nuclei. The special ventral chord nuclei became arranged in a circle which marked the boundary of the vagina. Similar occurrence has been observed in *Helicotylenchus dihystera* (Hirschmann & Triantaphyllou, 1967), *C. longistoma* (Chin, 1977), *M. fortidens* (Tahseen et al., 1990) and *O. shamimi* (Tahseen & Nisa, 2006). The formation of spicules from spicular primordium was
morphologically similar to that observed in *M. fortdens* (Tahseen *et al.*, 1990) and *O. shamimi* (Tahseen & Nisa, 2006).