

Abnormal Helminth Egg Development, Strange Morphology, and the Identification of Intestinal Helminth Infections

Technical Appendix

Matuda Classification of Abnormal *Ascaris* spp. Eggs; Adapted from Matuda (1934) (1).

- A. Normal egg: within typically observed size range and shape.
- B. Abnormal egg.
 - I. United eggs: this form consists of some eggs covered with the same albuminous membrane.
 - a. Two eggs united.
 - 1. United shells of normal morphology.
 - 2. United shells of abnormal morphology.
 - 3. Two morulae within single shell.
 - b. Three or more eggs united.
 - II. Deformity in diameter.
 - a. Abnormally large.
 - b. Abnormally small.
 - c. Giant eggs.
 - 1. Giant eggs with normal shape.
 - 2. Giant eggs with abnormal/irregular shape.
 - III. Deformity in shape.
 - a. Budding.
 - b. Indented.
 - 1. Asymmetrical indentation.
 - 2. Symmetrical indentation.
 - c. Angular deformity.
 - d. Abnormally elongate.

Reference

1. Matuda S. Some abnormal eggs of *Ascaris lumbricoides* Linnaeus. Vol Jubil pro Profr Sadao Yoshida. 1939;2:311-4.