

Studies on Morphometric Variability of *Meloidogyne Graminicola* Golden & Birchfield Infesting Rice (*Oryza Sativa* L.)

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Abstract—To study the intra-specific morphological and morphometric variations of *Meloidogyne graminicola*, rice roots having galls were collected from 3 different places of southern part of West Bengal in 2014-2015. All the root gall inducing nematodes of rice from Chakdah, Habra-II and Egra-II areas of W.B. were identified as *M. graminicola* Golden and Birchfield, 1965.

The median body length and width of *M. graminicola* females among 3 isolates of W.B. varied from 545.4-567.9 μ m and 348.7-385.5 μ m respectively. Stylet length of adult females was ranged from 11.2-12.7 μ m. DEGO was located at 3.9-4.7 μ m away from spear base. Perineal pattern of *M. graminicola* were either dorso-ventrally oval or circular in shape, dorsal arch low with smooth striae; tail tip marked with prominent, coarse, fairly well separated, forming an irregular tail whorl. Lateral fields obscure or absent. A few well-marked, irregular, short, zig-zag or wavy striae and interrupting the general pattern, distinguish it from other species. Distance between the phasmids was about two-thirds the length of the vulva for Chakdah isolate, while approximately half the length of the vulva for Habra-II and Egra-II isolates. 45

Adult males were 1220.5 μ m long and tail end twisted. Cuticle annulated, lateral field with 6-8 incisures. Stylet robust, 17.2 μ m long with 2.4 μ m wide round knobs set off from shaft. Spicules are 16-23.6 μ m long, gubernaculum 6.7 μ m long. Testis single, tail rounded. Bursa absent.

All the population of *M. graminicola* collected from rice field of W.B. revealed that 2nd stage infective juveniles from Gayeshpur, Nadia district exhibited high level of variability with regard to body length, tail length, tail terminus and 'a' value; while J2 from those of Egra-II and Habra-II areas had close morphometric similarity. Morphometric features of all the isolates of the IJ2 of *M. graminicola* associated with rice in W.B. revealed close adherence with all the key diagnostic features of *M. graminicola*.