

ERRATUM

An extended proof of migration routes of immature parasites inside hosts: pathways of *Nippostrongylus brasiliensis* and *Strongyloides ratti* in the rat are mutually exclusive

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The summary for this paper contained errors and the corrected version is reprinted below.

SUMMARY

Rigorous proofs applicable to the routes of migration of *Strongyloides ratti* and *Nippostrongylus brasiliensis* skin-penetrating juveniles inside the rat are extended. By applying the inequality principle (Tindall & Wilson, 1988) it was confirmed with a probability of error of 1 in 10^{10} that *N. brasiliensis* larvae applied to the skin passed through the lungs on their way to the intestine. Taking the analysis further, migrating larvae of *S. ratti* or *N. brasiliensis* were extracted from the nose or lungs, respectively, of donor rats and transferred to recipients by stomach tube to assay their ability to colonize the intestine. Results showed that (a) changes undergone by each parasite in its proven, specific transit site were essential before larvae could establish in the intestines of recipients, (b) these changes could be monitored by morphological criteria, and (c) the changes were not completed until larvae had been in the nose or lung for a significant period. It follows from (c) that anywhere in the body of the host, termed a 'nursery', that supports a substantial amount of this mandatory development must be detectable by the conventional procedure of sampling at autopsy. Conversely, absence of parasites judged by sampling at autopsy is positive proof that a site is *not* a nursery when sampling is timed in relation to reliable estimates of overall kinetics (Tindall & Wilson, 1990), and with control information on the efficiency of sampling. Comparative data from sampling at autopsy using the same extraction techniques for both species met these criteria: they demonstrated that no part of the head of the rat was a nursery for *N. brasiliensis*, and that the lung did not serve in this capacity for *S. ratti*. The inability to extract parasites from the liver indicated that it was not a nursery for either species. It follows from these results that migratory routes of *S. ratti* and *N. brasiliensis* are fundamentally different and that the Looss-Fulleborn 'blood-lung route' must be rejected as a universal model to describe the behaviour of skin-penetrating nematode juveniles inside the host.