Blood meal analysis of tabanid fly after it biting the rare Sumatran rhinoceros

Abstract

Objective To demonstrate a noninvasive large mammalian genetic sampling method using blood meal obtained from a tabanid fly. Methods Blood meal was recovered from the abdomen of an engorged tabanid fly (Haematopota sp.) which was captured immediately after biting a Sumatran rhino in captivity. The blood was applied on to a Whatman FTA® blood card. Subsequent laboratory work was conducted to extract, amplify and sequence the DNA from the sample. Validation was done by sampling the hair follicles and blood samples from the rhinoceros and subjecting it to the same laboratory process. Results BLAST search and constructed phylogenetic trees confirmed the blood meal samples were indeed from the rhino. Conclusions This method could be used in the field application to noninvasively collect genetic samples. Collection of tabanids and other haematophagous arthropods (e.g. mosquitoes and ticks) and other blood-sucking parasites (e.g. leeches and worms) could also provide information on vector-borne diseases. and ticks) and other blood-sucking parasites (e.g. leeches and worms) could also provide information on vector-borne diseases. Journal or Publication Title: Asian Pacific Journal of Tropical Biomedicine