First serological survey of selected viruses in 11 free-roaming Bengal Tigers (*Panthera tigris tigris*) in Nepal

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Serum samples of 11 Bengal tigers (*Panthera tigris tigris*) from Chitwan National Park, collected between 2011-2016, were evaluated for the presence of antibodies to eight different diseases commonly investigated in large felids. This initial serological survey establishes a baseline information to understand the exposure of these diseases in Nepal's free-ranging tiger population. Tiger serum samples were collected during encounters such as translocation, conflict and injury. Serum samples were extracted, frozen, and stored at National Trust for Nature Conservation, Biodiversity Conservation Center (NTNC BCC) in Sauraha, Nepal. In June 2017, with US and Nepal CITES permission, frozen serums were transported to the Cornell University Animal Health Diagnostic Center in Ithaca, NY and assessed for: feline coronavirus (FCOV), feline immunodeficiency virus (FIV), feline leukemia virus (FeLV), feline herpesvirus (FVR), canine distemper virus (CDV), canine parvovirus-2 (CPV-2), leptospirosis (7 serovars), and toxoplasmosis (Toxo). The examinations revealed 6 tigers positive for leptospirosis, 8 for parvovirus, 5 for FVR, 1 for FCOV and 10 for toxoplasmosis. Continued surveillance and investigation of disease reservoirs may signal the emergence of a disease problem which could threaten the recovery of this species in Nepal and warrant implementation of policies or action to reduce or prevent further risk.

Keywords: Bengal tigers, Nepal, serological survey, virus

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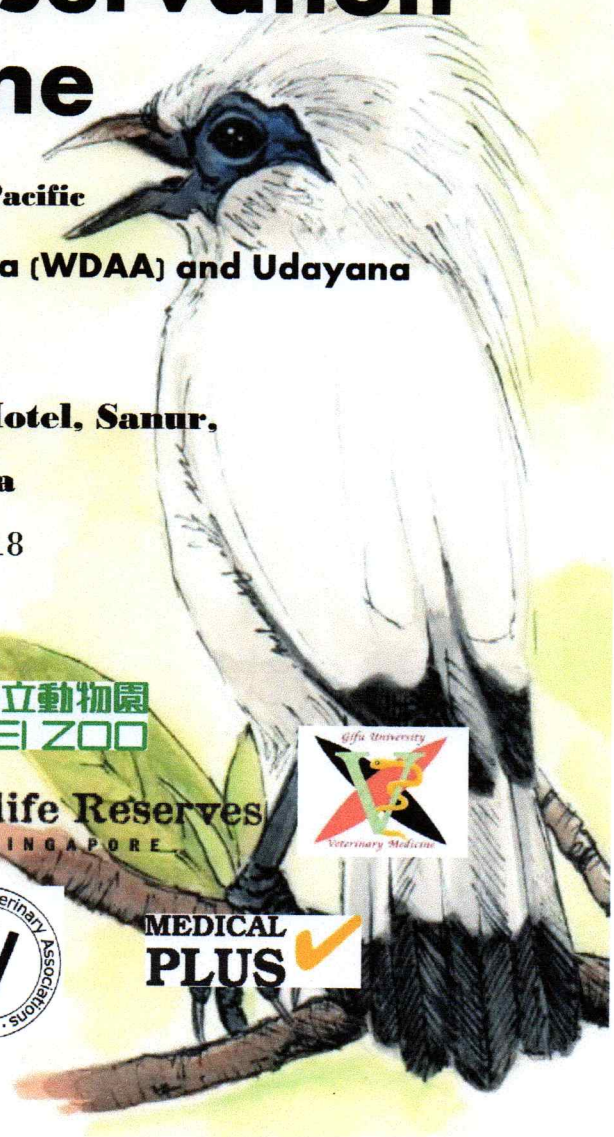

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