



## Supplementary Material

# Diversity and Epidemiological Study of Hard Ticks Infesting Goats and Sheep of Hazara Division Khyber Pakhtunkhwa, Pakistan

Hidayat Ullah<sup>1</sup>, Sadia Tabassum<sup>1</sup>, Sultan Ayaz<sup>2</sup>, Shumaila Noreen<sup>1</sup>, Atta Ur Rehman<sup>1</sup>, Naveed Akhtar<sup>3</sup>, Muhsin Ali<sup>3</sup>, Zaib Ullah<sup>3\*</sup> and Sajid Mahmood<sup>1,4</sup>

<sup>1</sup>Department of Zoology, Hazara University, Mansehra, KP, Pakistan

<sup>2</sup>Department of Zoology, Abdul Wali Khan University, KP, Pakistan

<sup>3</sup>Department of Zoology, Hazara University, Sub-Campus Battagram, KP, Pakistan

<sup>4</sup>Department of Zoology, University of Chakwal, Punjab, Pakistan



Supplementary Fig. 1. A *H. rufipes*, B *R. microplus*, C *H. excavatum* D *H. marginatum*.



Supplementary Fig. 2. *H. bispinosa* (A, dorsal side and B, ventral side) C, D *R. haemaphysaloides*.

\* Corresponding author: [zaibullah\\_zoology@hu.edu.pk](mailto:zaibullah_zoology@hu.edu.pk)  
0030-9923/2023/0003-1031 \$ 9.00/0



Copyright 2023 by the authors. Licensee Zoological Society of Pakistan.

This article is an open access  article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).