

Letter to the Editor

The Tick of the Museum: New Record of *Amblyomma helvolum* on *Naja sumatrana*

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Dear Editor

We report a historical record of the reptile-associated tick *Amblyomma helvolum* Koch, 1844 parasitizing the equatorial spitting cobra *Naja sumatrana* Laurenti, 1768, based on a preserved specimen housed in the herpetological collection of the Naturhistorisches Museum Wien (Natural History Museum Vienna, NMW), Austria.

The tick *A. helvolum* is an Asiatic species typically inhabiting tropical and subtropical forest ecosystems throughout Southeast Asia (1, 2). It is primarily a reptile-associated tick, commonly parasitizing snakes and lizards (3–6). However, a few exceptional records indicate that this species may occasionally feed on birds and mammals, including humans (7, 8). Although parasitism of *N. sumatrana* by this tick has been reported previously (6, 9–11), available records are rare and fragmentary, likely reflecting the nocturnal habits and high venom toxicity of the host, which limit opportunities for direct observation and examination. In this context, the present record contributes to the existing knowledge by providing a museum-vouchered historical occurrence of *A. helvolum* on *N. sumatrana* from Sumatra, together with information on the precise attachment site.

Re-examination of zoological museum specimens can provide valuable insights into his

torical host-parasite relationships, revealing parasitic associations and distribution patterns that are often inaccessible through contemporary field studies, including those involving reptile-associated ticks (12–14). Museum-vouchered parasite records are especially valuable because they provide independently verifiable evidence of host association, locality and collection date, thereby strengthening historical datasets used to reconstruct parasite distribution and host use.

The observation was made incidentally during a morphological examination of preserved snake specimens conducted for purposes unrelated to parasitological research. Among 33 examined specimens of *N. sumatrana* (all available specimens in the NMW collection), two ticks were found on a single male specimen (catalogue no. NMW 27809-5), collected in Padang (Sumatra) in July 1896. The ticks were attached to the ventral surface of the tail. They were identified as adult females of *A. helvolum* (Fig. 1) based on visible external diagnostic characters and published species descriptions (8, 15). As the ticks were not removed from the host specimen, their identification was based on photographic documentation and non-invasive assessment of externally visible morphological characters. The characters considered included an ovoid idiosoma, the presence of

festoons, a pair of very subtle dorsal foveae below the scutum, and an ornate scutum that is wider than long, with three distinct pale ornamented patches: one anterolateral to each eye and one at the posteromedial margin of the scutum. Because the ticks remain attached to the historical host specimen, no microscopic examination, measurements, or destructive sampling were performed. The ticks are retained in situ on the host specimen *N. sumatrana* NMW 27809-5 in the herpetological collection of the Natural History Museum Vienna and have not been assigned a separate catalogue number. This record thus adds a precisely documented nineteenth-century museum-based occurrence to the limited historical evidence for the association between *A. helvolum* and *N. sumatrana*.

Ticks were detected on only one of 33 examined *N. sumatrana* specimens, suggesting that this species may represent an occasional host for *A. helvolum*. Although limited, such observations provide valuable context for understanding host–parasite interactions and aspects of the natural history of both the snake and the tick.

A review of published host records by Oda et al. (6) documented 113 records of *A. helvolum*, of which only five originated from Sumatra, including a single record from *N. sumatrana*. All known records from this island are historical and exceed 75 years in age, including the present specimen collected in 1896. The lack of more recent records may reflect limited knowledge of tick distribution in the region, low abundance of the species in natural habitats, or changes in its distribution and abundance.

Ticks parasitizing snakes are most commonly found on the head and neck region, whereas attachment to the body is considered uncommon (4, 5). The observation of ticks on the snake's tail is therefore unusual. The host specimen exhibited tail damage, although its timing and origin cannot be determined from the preserved material. Therefore, any asso-

ciation between this damage and tick attachment should be interpreted with caution. A similar observation was reported by Lazell et al. (16), who documented *A. helvolum* attaching to sites around an old wound on the posterior part of the body of the Sulawesi black racer *Ptyas dipsas*. The unusual tail attachment observed here therefore represents an additional biological detail that was not evident from previous host lists or broader reviews and may contribute to future assessments of attachment-site selection in reptile hosts.

This record, based on a single historical specimen, adds to the limited knowledge of host associations of *A. helvolum* and underscores the value of museum collections as archives of past host-parasite interactions, particularly for rare or hazardous host species that are difficult to study under field conditions. More specifically, it complements previous syntheses by providing a dated, museum-vouchered Sumatran record from *N. sumatrana*, together with information on an unusual attachment site.



Fig. 1. *Amblyomma helvolum* ticks attached to the ventral surface of the tail of *Naja sumatrana*, preserved specimen (catalogue no. NMW 27809-5), collected in Padang (Sumatra) in July 1896, housed in the herpetological collection of the Naturhistorisches Museum Wien (Natural History Museum Vienna, NMW), Austria

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Conflict of interest statement

The authors declare that there are no conflicts of interest.

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