Terrestrial Invertebrates

Mites (and Ticks)
Order Acari

ORDER INCLUDES:
39 Native Families
79 Native Genera
9 Indigenous Species
107 Endemic Species

GENERAL INFORMATION: Mites are the most diverse and abundant arachnid, and except for ticks, many mites are barely visible to the naked eye. The order is ubiquitous and is one of the oldest terrestrial animal taxa. Feeding habits of mites vary greatly; some species are predators of other mites, some species are parasites of animals, while others feed on plants, fungus, decaying organic matter, excrement, or carrion. Many non-native mites are considered to be pests, while some are considered useful for biocontrol of other pests. All ticks, except one species of *Ixodes* described from sea and shore birds on Laysan Island (Kauō) are non-native to Hawai‘i. Ticks are external parasites of vertebrates, feeding on blood, and can transmit the widest variety of pathogens of any blood-sucking arthropod, including bacteria, rickettsiae, protozoa, and viruses. The order Acari is poorly known in Hawai‘i and the group is in desperate need of taxonomic scrutiny. While approximate native families, genera, and species numbers are listed, the status of some species is questionable. These numbers are not exact and will vary with additional research.

DISTRIBUTION: Mites and ticks are known from all the MHI as well as some of the NWHI.

ABUNDANCE: Unknown. A lack of systematic surveys prevents any population estimate. However, the loss of native habitats likely means that species within the order are declining.

LOCATION AND CONDITION OF KEY HABITAT: Mites and ticks inhabit a wide range of terrestrial and aquatic habitats. Key habitats are unknown but are mostly host-dependent.

THREATS:
- Loss or degradation of habitat.
- Insufficient information for species assessments.

CONSERVATION ACTIONS: The goals of conservation actions are not only to protect current populations and key breeding habitats but also to establish additional populations, thereby reducing the risk of extinction. In addition to common statewide and island conservation actions, specific management directed toward mites should include:
- Conduct surveys to determine the distribution and abundance of known mites and to document and identify new species.
- Preserve, maintain, and restore habitats supporting existing populations.

MONITORING:

- Continue monitoring the status of known populations.

RESEARCH PRIORITIES:

- Conduct studies to document the biology, habitat requirements, and life history of native species.
- Support specialized taxonomic work to identify and describe new species to science.

References:

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