

# Key to Identification of families and genera

## Key to the Families

1. Capitulum (mouthparts) projects anteriorly – visible from above and below (less prominent when fully fed). Dorsal surface smooth, often shiny. In males, dorsum almost completely covered by a plate or shield (the scutum or conscutum); in females and immatures, scutum smaller and restricted to the anterior portion of dorsum. Eyes absent or present near lateral margin of scutum. Spiracular plates large, located behind coxa IV. Coxae often armed with spurs (See Plate 2).  
..... **Family Ixodidae** *hard ticks* (Page 9)
2. Capitulum (mouthparts) ventral, not visible from above (except in larvae) and distant from the margin. Dorsal surface variable in texture but never shiny; resembles leather or reptile skin. In both sexes, dorsum lacks differentiation into a shield (scutum). Eyes absent. Spiracular plates small, located ahead of coxae IV. Coxae always lack spurs (See Plate 1).  
..... **Family Argasidae** *soft ticks* (Page 4)

## Key to the Family Argasidae (soft ticks)

- 1a. Body flat or somewhat domed. Distinct lateral suture separates dorsal from ventral surface. Outline of body, viewed from above, is orange or pear-shaped; surface texture granular or with corrugations (See Plate 3 and Colour plate 1a).  
..... *Argas*

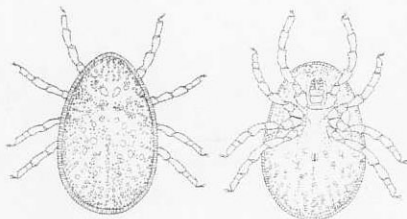


Plate 3: *Argas persicus*. Left: dorsal view, right: ventral view.

- 1b. Body not flattened but with elevations and depressions, especially when unfed. Body lacks clear lateral demarcation between dorsal and ventral surfaces.  
..... 2
- 2a. Hypostome with well developed denticles. Entire surface made up of many discs and mammillae, appears “reptilian” (See Plate 4 and Colour plate 1b).  
..... *Ornithodoros*

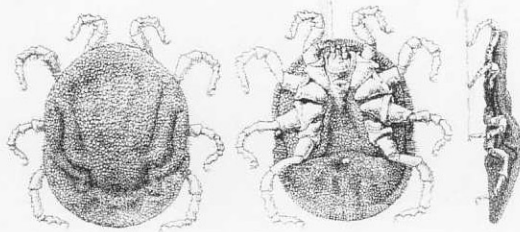


Plate 4: *Ornithodoros moubata*. Left: dorsal view, middle: ventral view, right: side view.

2b. Hypostome atrophied.

..... 3

3a. Cuticle of adult ticks granular, nymphal cuticle spiny (See Plate 5).

..... *Otobius*

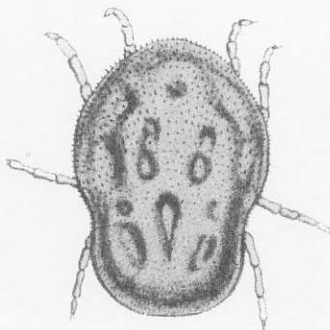






Plate 5. *Otobius megnini* – nymph (After Howell *et al.*, 1978).

3b. Cuticle of the adult and nymphal ticks with tubercles. Feeds on bats.

..... *Antricola*

## Family Ixodidae (hard ticks)

### Key to the stages and sexes of Ixodidae

- 1a. Three pairs of legs, spiracles absent.  
 ..... larva 
- 1b. Four pairs of legs, spiracles present.  
 ..... 2
- 2a. Scutum covers entire dorsum of the body (idiosoma).  
 ..... male 
- 2b. Scutum confined to anterior of dorsum.  
 ..... 3 
- 3a. Genital opening and porose areas absent.  
 ..... nymph
- 3b. Porose areas (arrowed) and genital opening present.  
 ..... female 

### Key to the Genera of Adult Ixodidae

- 1a. Anal groove distinct, extending anteriorly around anus. Scutum without eyes, festoons, or ornamentation. Males have seven plates adhering to and almost entirely covering the ventral surface (See Colour plate 1c and 2a).  
 ..... *Ixodes*
- 1b. Anal groove extends indistinctly around anus; less distinct anteriorly. Palps ornate. Eyes present. Males with one pair of ventral plates. Rare ornate large ticks with long palps and hypostome.  
 ..... *Cosmiomma*
- 1c. Anal groove distinct or indistinct, but never extending anteriorly around anus. Male with fewer (two to six) or no ventral plates, these partially non adherent and only circumanal. Palps usually unornamented.  
 ..... 2

2a. Without eyes. Basis capituli rectangular dorsally.	3
2b. With eyes.	4
3a. Palps narrow, elongate; segment 2 at least twice as long as wide (reptile parasites)(See Colour plate 2b).	<i>Aponomma</i>
3b. Palps conical, short; segment 2 about twice as wide as long (mammal or bird parasites)(See Colour plate 2c).	<i>Haemaphysalis</i>
4a. Palps wider than long, or but slightly longer than wide (See Colour plate 3).	5
4b. Palps much longer than wide (See Colour plate 4).	9
5a. Large ticks with coloured ornamentation. Basis capituli rectangular dorsally. Parasites of elephant or rhinoceros (See Colour plate 3a, b and c).	<i>Dermacentor</i>
5b. Small or moderate-sized ticks, usually unornamented. Basis capituli usually hexagonal dorsally.	6
6a. Festoons absent. Spiracular plates round or oval. Anal grooves faint or obsolete. Males very small.	7
6b. Festoons present. Spiracular plates with a tail-like protrusion. Anal grooves distinct. Males of moderate size.	8
7a. Palps ridged dorsally and laterally. Males with normal legs (See Colour plate 3d).	<i>Boophilus</i>
7b. Palps not ridged and somewhat more elongate. Males with massive, beady leg segments (See Plate 6).	<i>Margaropus</i>

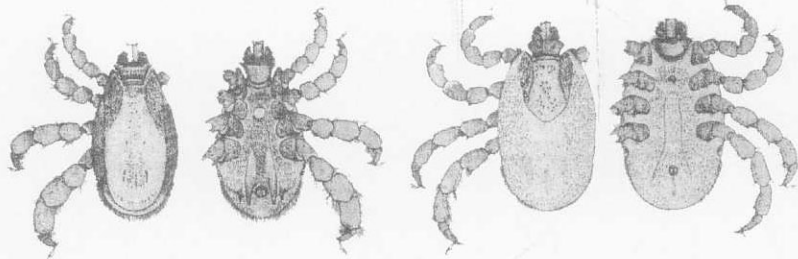


Plate 6: *Margaropus reidi*: left: male dorsal and ventral view, right: female dorsal and ventral view (After Hoogstraal, 1956).

- 8a. No spur on palpal article 1 of male or female. Male with ventral plates. Coxa IV of male of normal size (See Colour plate 3e).  
 ..... *Rhipicephalus*
- 8b. Lateral angles of basis capituli very strong and pointed. Palpal article 1 of female with a dorsal spur. Male without ventral plates. Coxa IV of male much enlarged.  
 ..... *Rhipicentor*
- 9a. Males with adanal and subanal plates. Palpal segment 2 less than twice as long as segment 3. Festoons irregular, partially coalesced. No ornamentation on scutum (See Colour plate 4a, b, c and d).  
 ..... *Hyalomma*
- 9b. Males without adanal or subanal plates. Palpal segment 2 at least twice as long as segment 3. Festoons regular, not coalesced. Scutum of most species ornate (See Colour plate 4e, f, g and h).  
 ..... *Amblyomma*