

TWO NEW SPECIES OF TICKS FROM PANAMA  
(*AMBLYOMMA TAPIRELLUM* AND *A. PECARIUM*).

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(With 4 Figures in the Text.)

ON March 7th, 1931, the writer collected numerous ticks (six species) from an adult tapir, *Tapirella bairdii* (Gill), soon after it had been killed near Summit, Canal Zone, Isthmus of Panama. By far the greater number belonged to a species somewhat resembling *Amblyomma cajennense* in general appearance, but showing characteristics readily separating it from that species. Two young tapirs, of the same species as the foregoing, that were examined more recently were also found to be heavily infested with this species of tick. Since this species is apparently a new one it is herewith described under the name of *Amblyomma tapirellum*.

***Amblyomma tapirellum* n.sp. (Figs. 1 and 2).**

**Male** (Fig. 1). *Body*: length 2.8-4.4 mm., width 2.3-3.3 mm. Broad oval in contour; widest slightly anterior to spiracles. *Scutum*: slightly convex; anterior margins in front of eyes well rounded with the inner scapular angles long and acute; cervical grooves of medium length, deep, and slightly curved; marginal groove deep posteriorly and becoming shallower anteriorly to merge in rows of punctations behind the eyes; festoons large and well defined, longer than broad, with the interspaces wider posteriorly and tending to cause the convex area of each festoon to become slightly narrower at its posterior end. Ornate, with extensive dark brown marking on a pale background; cervical spot small and extending to the light-coloured anterior margin of the scutum; cervical stripe narrow and very irregularly outlined; ocular spot narrow; frontal spot large, irregular in outline, with small pale spots dotting its central area; falciform stripe divided in the middle; first and second lateral spots merged, the third lateral spot separated from the second; postero-median stripe broad and of medium length; postero-accessory stripes short, wide posteriorly and narrow anteriorly (somewhat triangular); second festoons practically all dark; a small light spot on median festoon; other festoons with light areas of variable size; punctations numerous, variable in size and depth, and confined mainly to the light areas, eyes rather small, flat, pale. *Venter*: brownish yellow; central area slightly rugose; many fine punctations in area

posterior to anal region; genital orifice opposite posterior margin of coxa II; festoons with strongly chitinised scutes extending beyond the posterior margin of body as prominent thin-edged plates of sub-equal size; some specimens bear small and rather ill-defined brownish plaques bordering on the anterior margins of the median, second and fourth scutes; median plaque elongate

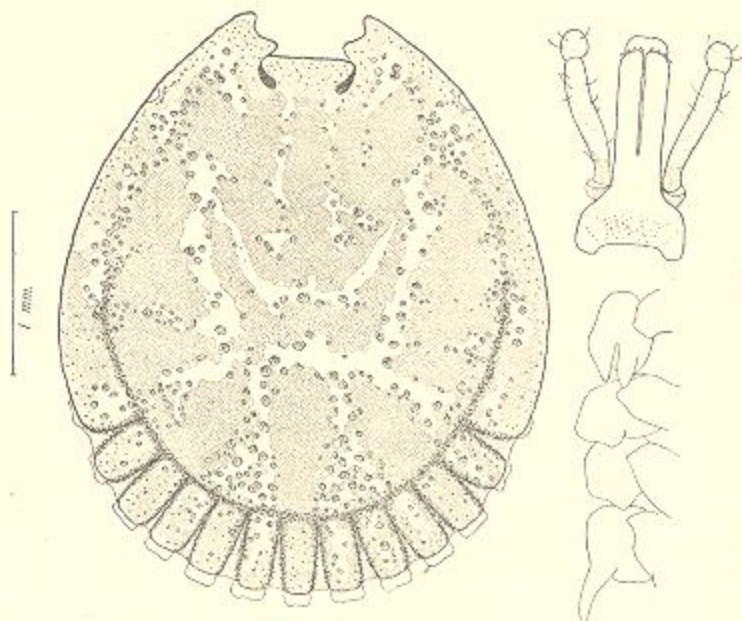


Fig. 1. *Amblyomma tapirellum* n.sp. ♂. Scutum, capitulum in dorsal aspect, coxae I-IV (K.R. del.).



Fig. 2. *Amblyomma tapirellum* n.sp. ♀. Scutum, capitulum in dorsal aspect, coxae I-IV (K.R. del.).

and extends to more than half the distance from the scute to the anal groove; plaques in front of second scutes are rather ovoid in shape while those bordering on the fourth scutes are smaller and more circular. Spiracles comma-shaped and of medium size. *Capitulum*: length 1.1-1.3 mm. Basis sub-rectangular,



about twice as broad as long, with posterior angles moderately salient and rounded, somewhat indistinct pale markings along posterior margin of basis; palps of medium length, slender, with article 2 about twice as long as article 3 and with pale ornamentation on article 2. Hypostome dentition 3 | 3. *Legs*: of medium length, rather stout, brown, with slight pale enamelling on dorsal surface of femora and tibiae; coxa I with two stout spurs of moderate length, the external spur slightly the longer; coxae II and III each with a single, short, broad, plate-like spur; coxa IV bears a single, long, pointed spur.

**Female** (Fig. 2). *Body*: length 3.2-4.8 mm., width 2.6-3.7 mm. Broad oval in contour, widest at middle. Dorsum pale brown with dark reddish brown markings; marginal groove continuous and rather shallow; festoons well defined, the fourth one on either side slightly shorter anteriorly than the others; many coarse punctations present. *Scutum*: somewhat broader than long and ranging from  $2 \times 2.6$  mm. to  $2.1 \times 2.8$  mm.; triangular, with the anterior margins rounded; scapular angles long and acute; postero-lateral margins slightly convex with the posterior angle broad and well rounded; cervical grooves short, deep, slightly curved and becoming more shallow and divergent posteriorly. Ornate, with dark brown markings on a pale yellow ground; anterior margin pale; a dark band extends between the ocular spot and the limiting spot on each postero-lateral margin; limiting spots somewhat large and causing a slight, but noticeable, and constant indentation in each lateral border of the pale median marking a short distance from the posterior border; ocular spots large; cervical stripes extend posteriorly to merge with the limiting spots; cervical spots large; punctations numerous, of varying size, becoming finer near posterior angle; eyes large, flat, pale. *Venter*: light brown; punctations few and small; genital aperture opposite the interspaces between coxae II and III; dividing grooves between festoons shallow but well defined. Spiracles of medium size and comma-shaped. *Capitulum*: length 1.2-1.6 mm.; basis form as in ♂; porose areas of medium size, sub-oval, well separated, slightly divergent; palps of medium length, slender with article 2 about twice as long as article 3, ornate as in ♂. Dentition 3 | 3. *Legs*: of medium length, somewhat stout, brown; coxa I with two stout spurs, the external one the longer and more slender; coxae II and III each with a short, broad, plate-like spur; coxa IV with a short triangular spur.

*Type Host*: Tapir, *Tapirella bairdii* (Gill).

*Type Locality*: Summit, Canal Zone, Isthmus of Panama.

The *holotype* (♂) and *allotype* (♀) will be deposited in the United States National Museum, Washington, D.C. *Paratypes* are deposited in the collection of the Gorgas Memorial Laboratory, Panama, R. de P., and in the author's collection.

On April 11th, 1932, a native hunter killed a collared peccary, *Pecari angulatus bangsi* Goldman, in the Miraflores area of the Canal Zone, Isthmus of Panama. Ticks (24 ♂♂, 1 ♀) that were taken from this peccary and sent to

this laboratory appear to be a previously unknown species which is now described under the name of *Amblyomma pecarium* as follows:

***Amblyomma pecarium* n.sp.** (Figs. 3 and 4).

**Male** (Fig. 3). *Body*: length 2.9 mm., width 2.2 mm. Broad oval in contour, somewhat narrower anteriorly and becoming broadest posterior to the middle. *Scutum* with a markedly depressed area on either side beginning a short distance behind the eyes as narrow depression and extending posteriorly and very gradually deepening and broadening to about the second festoon where it ends rather abruptly; the area of more normal elevation between these depressions narrows posteriorly in the postero-median field and rises to form an elongate, high, narrow, keel-like ridge that extends back to sink and merge in the marginal groove; the cervical grooves short, broad, of medium depth;

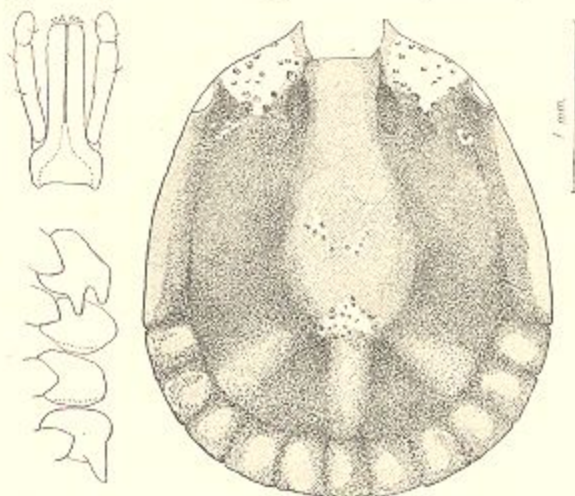


Fig. 3. *Amblyomma pecarium* n.sp. ♂. Scutum, capitulum in dorsal aspect, coxae I-IV (K.R. del.).

marginal groove deep and well defined at posterior half of scutum, but nearly obliterated anteriorly by the depressed areas; festoons slightly longer than broad, well defined, with separating intervals of medium width; a few very small, shallow punctations are present on the anterior scapular angles. Nearly inornate; brown, with a dull gloss and considerable transparency; median field lighter brown, darker markings along margins and on festoons; ornamentation confined to a light spot in each scapular field and a spot in the median field at anterior end of the keel-like ridge as shown in Fig. 3. Eyes pale and flat. *Venter*: pale yellow; with some very fine punctations; genital aperture opposite posterior margin of coxa II. Spiracles comma-shaped, of medium size. Festoons well defined and the postero-ventral margin of each terminating in a prominent triangular-shaped scute. *Capitulum*: length 1.2 mm. Basis sub-rectangular with the postero-lateral angles very slightly salient; palps long and slender, with article 2 nearly thrice as long as article 3. Hypostome



dentition 3|3. *Legs*: brown, with considerable transparency; coxa I with two well separated spurs of medium length, the outer spur but slightly longer and more slender than the inner; a broad, curved ridge on each of coxae II and III; a moderately long, pointed spur on coxa IV.

**Female** (Fig. 4). *Body*: length 3.8 mm., width 3.3 mm. Contour sub-circular, being nearly as broad as long with the posterior border broadly rounded. Reddish brown. Dorsum with numerous coarse punctations with fine creases extending between many of them producing a pitted and wrinkled appearance; marginal groove shallow and tending to become indistinct posterior to the first festoon; festoons fairly well defined with the anterior border of each irregular in outline. *Scutum*: relatively large,  $2.1 \times 2.3$  mm., triangular, with antero-lateral margins rounded and scapular angles markedly pointed; posterior angle truncate and the postero-lateral margins rectilinear; cervical grooves short, deep anteriorly and extending posteriorly as shallow depressions that diverge outwards and end beyond the middle of the scutum; the whole

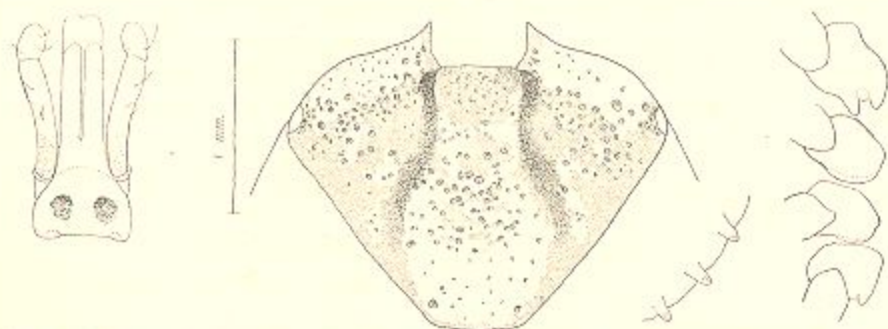


Fig. 4. *Amblyomma pecarium* n.sp. ♀. Scutum, capitulum in dorsal aspect, three festoons in ventral aspect to show tubercles, coxae I-IV (K.R. del.).

median field, between the cervical grooves is elevated above the surface of the lateral fields as a convex ridge. Ornate, with a broad, elongate, pale yellow spot covering the median field except where it approaches the emargination; at each antero-lateral field a prominent pale yellow spot extends from the eye inwards to include the scapular angle; a broken, irregular, yellow stripe extends down each lateral field to end at the postero-lateral margin beyond the middle of the scutum; the ground colour not covered by the yellow markings is almost a seal brown and transparent; an elongate group of small punctations extends across each scapular angle behind the eye and the light antero-lateral spots; numerous fine scattered punctations occur on the median field; eyes moderately large, pale, nearly flat. *Venter*: light yellowish brown; many fairly large punctations on the festoons and in the post-anal area; genital aperture opposite the interspace between coxae II and III; festoons somewhat rugose and ill defined; eight of the festoons each bears a rather long and somewhat conspicuous chitinous tubercle at its postero-internal angle; these tubercles on either side are directed inward. Spiracles comparatively narrow and elongate comma-shaped. *Capitulum*: length 1.6 mm.

Basis sub-rectangular, lateral margins slightly convex and the postero-lateral angles not definitely salient; porose areas large, oval, nearly parallel, with the interval between narrower than the diameter of one of the areas; palps long, slender, and somewhat flattened laterally; article 2 about two and a half times as long as article 3. Hypostome long and narrow, dentition 3 | 3. *Legs*: reddish-brown with slight transparency; moderately long and somewhat stout; coxa I with two well separated, unequal spurs, the external spur being of medium length, slender, and pointed, the internal spur being short and blunt; coxae II and III each with a low, broad, curved ridge; coxa IV bears a short, blunt spur, about one and a half times as long as broad.

*Type Host*: Collared peccary, *Pecari angulatus bangsi* Goldman.

*Type Locality*: Miraflores, Canal Zone, Isthmus of Panama.

The *holotype* (♂) and *allotype* (♀) will be deposited in the United States National Museum, Washington, D.C. *Paratypes* are deposited in the collection of the Gorgas Memorial Laboratory, Panama, R. de P., and the author's collection.

The writer is greatly indebted to Dr L. E. Robinson for his kindness in examining specimens of the two species of ticks described in this paper and for his opinion regarding their validity as new species.