

SEVEN NEW SPECIES OF FALSE SPIDER MITES  
(TENUIPALPIDAE — ACARINA)

BY

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The mites studied here were collected from Central America, Pakistan and Indonesia all of which are in the tropical or subtropical regions of the world. Many species of false spider mites are known to cause serious damage to agricultural crops and it is possible some of the species described here may become pests of certain plants. Undoubtedly numerous species still await discovery in many parts of the world. Of the seven species, three are of the genus *Tenuipalpus*, two of the genus *Brevipalpus* and one of each of the genera *Colopalpus* and *Cenopalpus*. PRITCHARD and BAKER (1958) have covered much of the known world fauna of the Tenuipalpids; DE LEON (1956, 1957, 1961) has carried out detailed surveys in Mexico and south eastern United States; SAYED (1942) and ATTIAH (1956) have covered the Egyptian species; MEYER and RIJKE (1959) those of South Africa; WAINSTEIN (1960) those of Russia, and EHARA (1956) has described species from Japan. Where nymphs and males were found associated with females on the same slide it is assumed they are all of the one species and have been described accordingly.

My thanks are due to Dr. E. W. BAKER for drawing my attention to this material and giving me the opportunity of describing it.

***Tenuipalpus santae* n. sp.**

(Figs, 1, 2).

This species most closely resembles *T. celtidis* Pritchard and Baker, and *T. cedrelae* De Leon. It differs from the former species in having no seta on the anterior margin of coxa III and by the pattern on the propodosoma being different and less distinctive. It differs from *T. cedrelae* in that there is no lateral body expansion anterior to coxa III and also by having the caudal dorsolateral setae slightly longer.

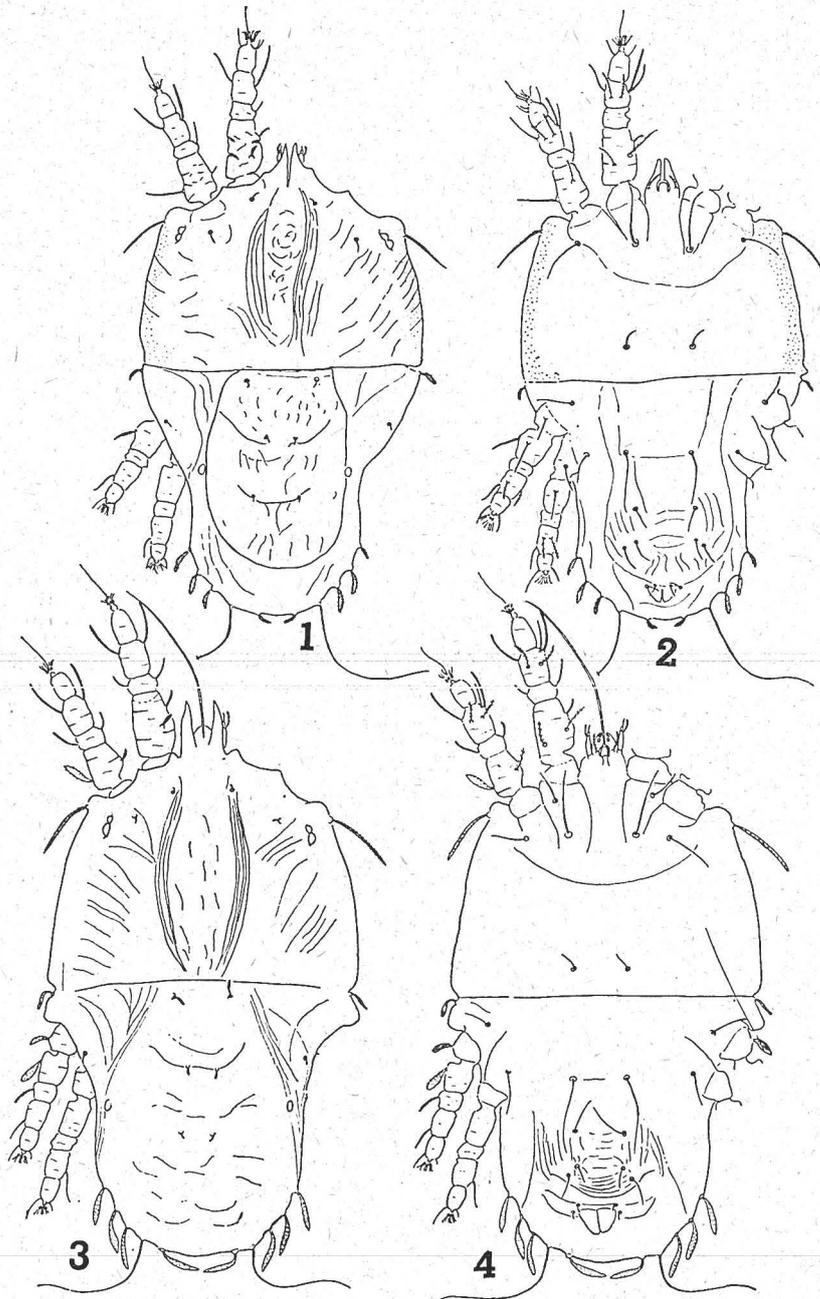


PLATE I. — Fig. 1, Dorsal view of female of *Tenuipalpus santae* ; Fig. 2. Ventral view of female of *T. santae* ; Fig. 3. Dorsal view of female of *Tenuipalpus rillus* ; Fig. 4. Ventral view of female of *T. rillus*.

*Female* : Length of body 254  $\mu$  ; greatest width of body 155  $\mu$ . Gnathosoma with a pair of ventral setae. Palpus two segmented, the second segment with a terminal sensory rod, the first segment with a long plumose seta at apex. Femur I with dorsal seta short, scarcely serrate ; distal inner seta longer, serrate. Genu I and II each with an inner seta. Tibia I and II each with five setae. Femur III with outer seta narrowly lanceolate, serrate ; genu III without setae. Femur and genu IV with no dorsal setae. Rostral shield well developed and strongly cleft. Propodosoma with mediodorsal area tending to be outlined by longitudinal striae ; lateral areas with rather indefinite diagonal striae. First and second dorsal propodosomals short, setiform ; third dorsal propodosomals narrowly lanceolate, serrate. Hysterosoma rather indefinitely, irregularly wrinkled with a tendency for strong transverse markings just posterior to second and third dorsocentrals. Three pairs of short, setiform, dorsocentrals. Humeral seta short, lanceolate, serrate. Six pairs of dorsolaterals ; first dorsolaterals short, minute ; second, third and fourth dorsolaterals lanceolate, serrate ; fifth dorsolateral long, whip-like ; sixth dorsolateral similar to fourth but not as long. In one specimen the second, third, fourth and sixth dorsolaterals are very narrow, almost setiform. Podosoma with a single pair of short anterior, medioventrals and a single pair of longer posterior medioventrals.

*Holotype* : Female, on fence tree leaves, Santa Rosa, Costa Rica, March 31, 1959 ; collected by E. W. BAKER. No. 2885 in the U.S. National Museum.

*Paratypes* : Three females with same data as holotype.

***Tenuipalpus rillus* n. sp.**

(Figs 3, 4, 5).

This species appears to most closely resemble *T. hastaligni* De Leon but differs in that the lateral body lobe anterior to coxa III is not so well developed and certain of the body setae, particularly the third propodosomals and the second, third and fourth dorsolaterals are not as large, although the caudal pair of dorsolaterals is much longer. Also the nymph of *T. rillus* n. sp. is quite distinctive in that the first pair of dorsocentral hysterosomal setae is extremely long reaching past the posterior margin of the body.

*Female* : Length of body 280  $\mu$  ; greatest width of body 160  $\mu$ . Gnathosoma with a pair of ventral setae. Palpus two segmented ; second segment with a terminal sensory rod ; first segment with a long plumose seta at apex. Femur I with dorsal seta short, narrowly lanceolate, slightly serrate ; distal inner seta similar, but somewhat longer ; genu I with two setae, one on inner and one on outer margin ; tibia I with five setae. Femur II dorsally with an inner narrowly lanceolate serrate seta ; basal outer seta broadly lanceolate, serrate ; genu II with two setae ; tibia II with five setae. Outside anterior margin of coxa, femur and genu III each with

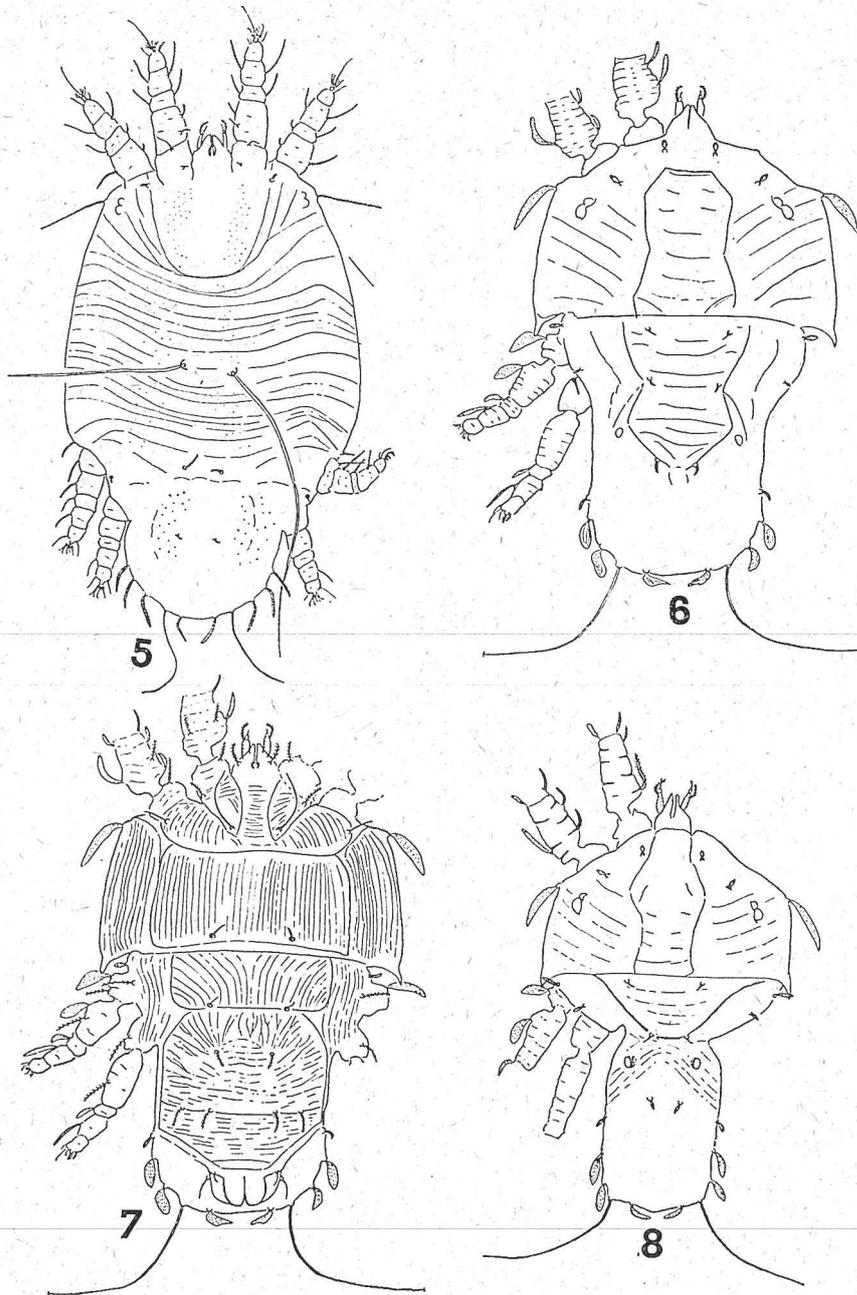


PLATE II. — Fig. 5. Dorsal view of nymph of *T. villus* ; Fig. 6. Dorsal view of female of *Temnopalpus spathiphyllus* ; Fig. 7. Ventral view of female of *T. spathiphyllus* ; Fig. 8. Dorsal view of male of *T. spathiphyllus*.

lanceolate, serrate seta, that of genu III the narrowest. Strong longitudinal striae bordering median area of propodosoma ; irregular, broken longitudinal striae inside these ; lateral areas showing diagonal striae. Three pairs of propodosomal setae ; first and second pairs short, setiform ; third pair elongate, narrowly lanceolate, serrate. Hysterosoma with strong transverse line just posterior to second pair of dorsocentrals ; diagonal type striae in anterior lateral areas. The distinctness of the dorsal markings on the propodosoma and hysterosoma varies somewhat between specimens. Lateral lobe present anterior to coxa III. Humeral seta lanceolate, arising from body immediately anterior to lateral lobe. Three pairs of short narrowly lanceolate dorsocentral hysterosomals ; anterior pair slightly longer and thicker than second and third pairs ; second pair slightly longer and thicker than third pair. Six pairs of dorsolateral setae ; first pair minute, setiform ; second, third, fourth and sixth pairs lanceolate, serrate ; fifth pair long and whip-like. Podosoma with a single pair of anterior medioventral setae and a single pair of longer posterior medioventral setae.

*Nymph* : First pair of dorsocentrals extremely long and slender, reaching past the posterior body margin. Transverse body striae over much of the dorsal surface. Second, third, fourth and sixth dorsolaterals narrowly lanceolate, serrate. In one nymph the second pair of dorsocentrals were extremely long, reaching as far as three quarters of the distance to the posterior body margin.

*Holotype* : Female, on calabash, Potrerillos, Honduras, Jan. 4, 1959 ; collected by J. G. MATTHYSSE ; No. 2886 in U.S. National Museum.

*Paratypes* : Eight females, seven nymphs, with same data as holotype.

***Tenuipalpus spathiphyllus* n. sp.**

(Figs 6, 7, 8, 9).

The distinctive features of this species are the conical posterior lateral projections of the propodosoma and the strongly defined median areas on the propodosoma and hysterosoma.

*Female* : Length of body 296  $\mu$  ; greatest width of body 187  $\mu$ . Gnathosoma with a pair of ventral setae. Palpus three segmented, the terminal segment with a sensory rod ; second segment with a long plumose seta on distal portion. Femur I with two lanceolate setae on inner margin ; two plumose setae on ventral surface. Femur II with two lanceolate setae on inner margin and broadly lanceolate seta on basal outer margin ; plumose seta on ventral surface. Remainder of the leg segment of I and II not clearly visible on slide mount. Coxa, femur and genu III with well developed ovate seta on lateral anterior margin ; tibia III with narrowly lanceolate seta. Coxa and femur III each with plumose ventral seta. Coxa and femur IV each without seta on anterior lateral margin, but with plumose seta on ventral surface. Three pairs of propodosomal setae ; first and second pairs short, ovate ;

third pair long, broadly lanceolate. Median portion of propodosoma clearly defined to form a shield shaped structure ; lateral areas of propodosoma with rather indistinct diagonal striae. Medial area of hysterosoma as far as third dorsocentrals strongly defined ; transverse striae occurring within this area. Three pairs of minute lanceolate dorsocentral hysterosomal setae ; third pair longer than first and second pairs. Humeral seta present, ovate. Six pairs of dorsolateral hysterosomals ; first pair short, ovate ; second pair short, slightly ovate ; third, fourth and sixth pairs large, lanceolate ovate ; fifth pair long, whip-like.

*Male* : Length of body 238  $\mu$  ; greatest width of body 138  $\mu$ . Similar to female, except shield on hysterosoma not quite as extensive.

*Nymph* : With transverse striae on greater part of dorsum. Number and arrangement of body setae similar to female ; humeral and second dorsolateral seta much larger than in female.

*Holotype* : Female, on *Spathiphyllum* sp. Indonesia ; taken at Washington D.C. in quarantine, Oct. 28, 1959 ; collected by J. E. MABRY Jr. ; No. 2887 in U.S. National Museum.

*Paratypes* : One female, one male, two nymphs, with same data as holotype.

#### ***Brevipalpus bauginiae* n. sp.**

(Figs 10, 11, 12).

In PRITCHARD and BAKER's key (1958) this species traces to couplet 39 where *Brevipalpus punicans* and *B. homalus* are listed. However, it differs from these in a number of details, the most distinctive being the shape of the anterior propodosomal setae which are broadly lanceolate and serrate.

*Female* : Length of body including rostrum 322  $\mu$  ; greatest width of body 170  $\mu$ . Rostrum not quite reaching distal end of femur I. Palpus with two setae and a sensory rod on terminal segment. Legs with dorsal seta on femur I as figured ; lanceolate, strongly serrate ; dorsal seta on femur II somewhat thinner and less serrate. Tarsi II with one sensory rod distally. Rostral shield as figured. Reticulate elements numerous on both propodosoma and hysterosoma ; propodosoma completely covered with reticulate elements which are more clearly defined on mediolateral areas than on medial area and lateral margins. Three pairs of propodosomal setae ; anterior propodosomals large, broadly lanceolate, serrate ; second and third propodosomals narrowly lanceolate, serrate. Medial portion of hysterosoma with reticulate elements anteriorly ; posterior to this transverse striae occur. Dorsolateral furrow with large reticulate elements, longer than wide. Pattern on lateral flanges rather obscure. Dorsocentral hysterosomals minute, setiform. Six pairs of short serrate dorsolateral setae. Ventrally, propodosoma strongly areolate in area inside apodeme behind coxa II ; coarsely areolate in lateral area

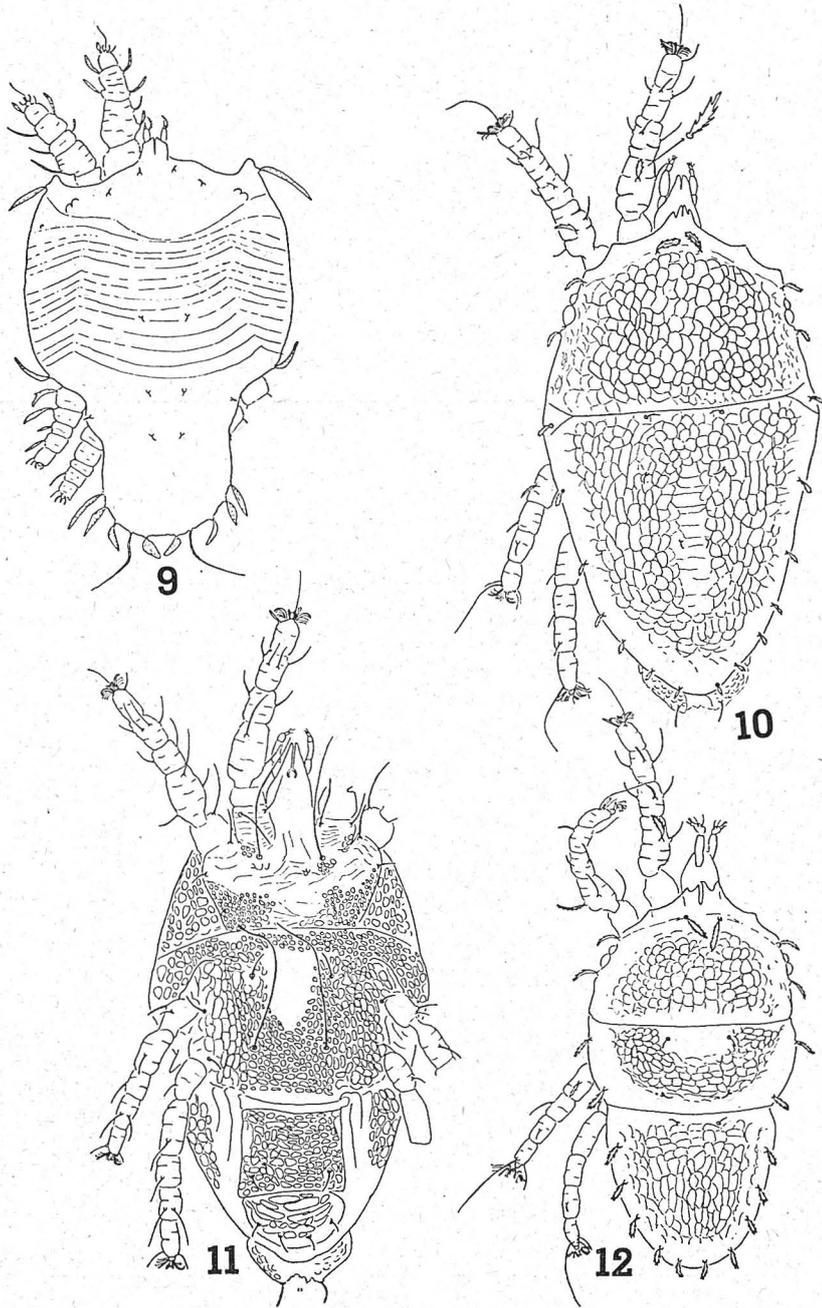


PLATE III. — Fig. 9. Dorsal view of nymph of *T. spathiphyllus* ; Fig. 10. Dorsal view of female of *Brevipalpus bauhiniae* ; Fig. 11. Ventral view of female of *B. bauhiniae* ; Fig. 12. Dorsal view of male of *B. bauhiniae*.

between coxae II and III ; areolate inside coxae III and IV and caudad of posterior medioventrals as well as a short distance anterior to them. If examined with other than an oil immersion lens and a phase contrast microscope the areolate areas appear reticulate ; also when slightly out of focus under oil immersion the pattern appears reticulate. Ventral plate areolate ; genital plate with elongate areolae ; areas posterior and lateral to coxa III areolate. Anterior podosomes much shorter than posterior pair.

*Male* : Length of body including rostrum 264  $\mu$  ; greatest width of body 120  $\mu$ . Dorsal body pattern somewhat similar to female. The figure may not be quite exact in this respect as the only specimen is somewhat compressed, particularly in the mid dorsal area. Lateral body setae longer than in female and more strongly serrate. Anterior propodosomals almost as long as distance between their bases. Dorsal seta on femur I thick, elongate, strongly serrate.

*Holotype* : Female, on leaf (*Bauhinia* sp. pr. *rubelcruziana*), Lake Yojoa, Honduras, March 6, 1959 ; collected by J. G. MATTHYSSE ; No. 2888 in U.S. National Museum.

*Paratypes* : Two females, one male, with same data as holotype.

***Brevipalpus turrialbensis* n. sp.**

(Figs 13, 14).

This species most closely resembles *Brevipalpus aepi*, *B. cochlospermi* and *B. gliricidiae* as described by DE LEON (1961) from Mexico. It differs in that the pattern on the dorsomedial portion of the propodosomal shield consists of longitudinal striae. Also the dorsal seta on femur I is quite distinctive in shape.

*Female* : Length of body including rostrum 273  $\mu$  ; greatest width of body 149  $\mu$ . Rostrum reaching to about middle of femur I. Palpus with two setae and a sensory rod on terminal segment. Legs with dorsal seta on femur I and femur II short, broad, serrate ; dorsal seta on each of genu I and II and tibia I and II almost setiform ; tarsi II each with two sensory rods distally. Rostral shield with median lobes strongly developed. Propodosoma covered with longitudinal striae ; medial striations somewhat weaker than those on dorsolateral and lateral areas. Propodosomal setae narrowly lanceolate, second and third pairs serrate ; anterior propodosomals almost smooth. Medial portion of hysterosoma strongly wrinkled, almost rugose most of its length ; Hysterosomal pores obvious ; mediolateral furrow consisting mainly of longitudinal striae. Lateral flange with a number of transverse wrinkles. Dorsocentral hysterosomals short, setiform. Six pairs of dorsolaterals ; four posterior pairs elliptic, short, smooth ; anterior two pairs somewhat longer. Ventrally, podosoma slightly areolate in area inside apodeme behind coxa II ; obscurely areolate in lateral area between coxae II and III ; with mainly longitudinal striae inside coxae III and IV and with areolae caudad of posterior medioventrals. Anterior

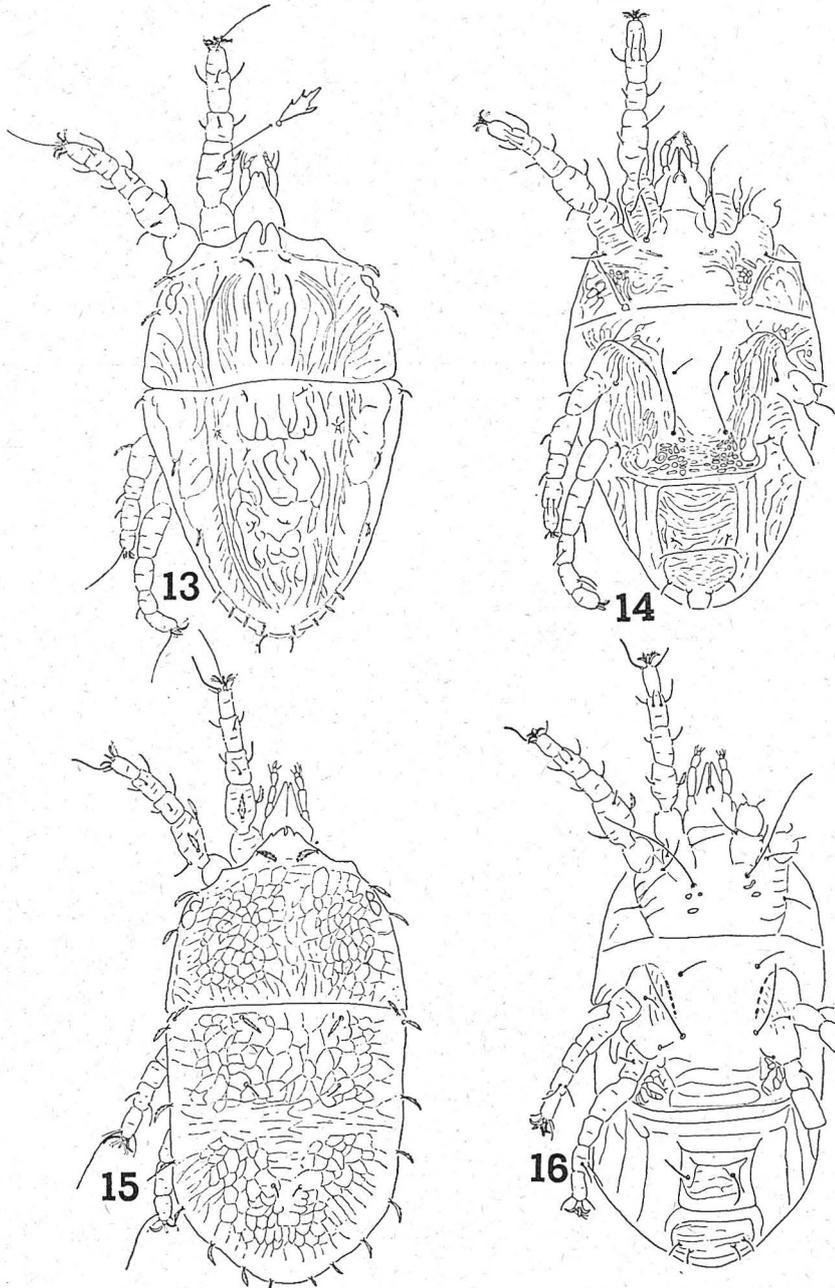


PLATE IV. — Fig. 13. Dorsal view of female of *Brevipalpus turrialbensis*; Fig. 14. Ventral view of female of *B. turrialbensis*; Fig. 15. Dorsal view of female of *Cenopalpus ramus*; Fig. 16. Ventral view of female of *C. ramus*.

medioventrals much shorter than posterior pair. Ventral plate with irregular transverse striae. Genital plate with irregular transverse striae.

*Holotype* : Female, on ventral surface of unknown leaf, Santa Cruz, above Turrialba, Costa Rica, April 2, 1959; collected by E. W. BAKER. No. 2889 in U.S. National Museum.

***Cenopalpus ramus* n. sp.**

(Figs 15, 16).

This species bears some resemblance to *Cenopalpus lanceolatisetae* (Attiah), but can be distinguished by the larger reticulate elements on the dorsal body surface, the almost transverse striate band on the mid dorsal portion of the hysterosoma, and almost complete absence of any striate, reticulate, or areolate elements on the ventral surface.

*Female* : Length of body including rostrum 343  $\mu$ ; greatest width of body 172  $\mu$ . Rostrum reaching to about distal portion of femur I. Palpus four segmented; terminal segment of palpus with three blunt rod-like setae. Legs with dorsal seta on femur I and femur II lanceolate, serrate; dorsal seta on tibia and genu of I and II almost setiform; tarsi I and II distally with a long, wavy, sensory rod. Shape of rostral shield as figured; anterior portion rather short and blunt. Propodosoma almost entirely reticulate; reticulate elements in medial area larger but not as well defined as on rest of propodosoma; propodosomal setae broadly lanceolate, serrate; anterior propodosomals larger than posterior two pairs. Anterior portion of hysterosoma with large reticulate elements; just posterior to second pair of dorsocentral hysterosomals transverse striae commence, forming a rather broad band; posterior to this band transverse striae occur for only a short distance and are confined to the medial area, the remaining portion of the shield consisting of reticulations. Three pairs of dorsocentral hysterosomals, one pair of humerals and one pair of dorso sublaterals; dorsolaterals lanceolate, serrate, posterior pair the smallest. Ventrally, anterior pair of medioventrals much shorter than posterior pair. Pattern on ventral surface almost completely lacking. Ventral plate faintly reticulate. Genital plate with obscure transverse striae.

*Holotype* : Female, on fir, Murree hills, Pakistan, Feb. 17, 1958; collected by M. A. GHANI. No. 2890 in U.S. National Museum.

*Paratypes* : Six females, with same data as holotype.

***Colopalpus pedrus* n. sp.**

(Figs. 17, 18, 19).

*Female* : Length of body including rostrum 244  $\mu$ ; greatest width of body 132  $\mu$ . Rostrum rather short and blunt reaching to about half the length of femur I. Dorsal seta on femur I and genu I setiform; dorsal seta on tibia I long and setiform; no

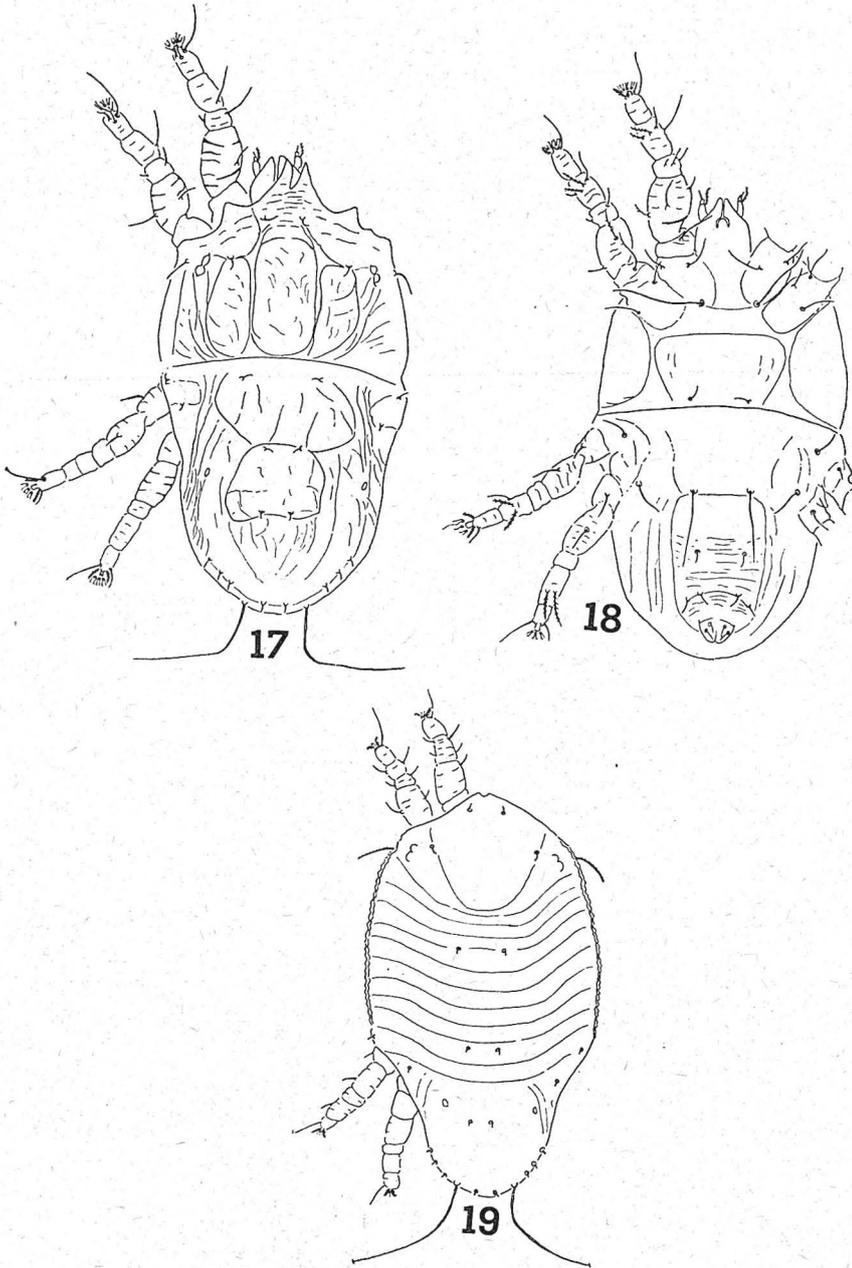


PLATE V. — Fig. 17. Dorsal view of female of *Colopalpus pedrus* ;  
Fig. 18. Ventral view of female of *C. pedrus* ; Fig. 19. Dorsal view of nymph of *C. pedrus*.

dorsal seta on tibia, genu, femur and coxa of IV. Rostral shield prominent and covering much of rostrum; distinct transverse wrinkling in medial area. Propodosoma with three distinct shield type structures, each with faint irregular wrinkling. Three pairs of propodosomal setae, all setiform; lateral pair somewhat longer than other two pairs. Hysterosoma with irregular longitudinal striae on anterior and anterior lateral areas; posterior medial area with rather irregular striae. Six pairs of dorsolateral setae, one humeral and three pairs of dorsocentrals; all setae except the penultimate dorsolateral which is long and whip-like, short and setiform. Ventral surface as figured. Podosoma with anterior medioventrals much shorter than posterior pair. Transverse striae on posterior two thirds of genitoventral plate.

*Male* : Not observed.

*Nymph* : Number and arrangement of dorsal body setae same as in female; all setae very short except third pair of propodosomals which are long and serrate and penultimate pair of dorsolaterals which are long and whip-like. Body margins between legs II and III markedly serrate. Transverse striae over much of dorsal body surface.

*Holotype* : Female, on tree, Manacai (San Pedro), Honduras, Feb. 7, 1959; collected by J. G. MATTHYSSE; No. 2891 in U.S. National Museum.

*Paratypes* : Twenty six females, one nymph, with same data as holotype.

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