

Cova García, P., J. Pulido F., and C. Escalante de Ugueto. 1977. Anopheles (Kerteszia) gonzalezrinconesi n. sp. (Diptera, Culicidae) de Venezuela. Bol. Dir. Malariol. San. Amb. 17: 140-149.

Anopheles (Kerteszia) gonzalezrinconesi n. sp. (Diptera, Culidae) from
Venezuela

p. 140 ADULT

Head: Integument dark; proboscis dark and much longer than forefemur. Palpi dark with apices of segments 3 and 4 bearing white scales; 5th segment with white spot as far as inner side of tip; frontal tuft with long white hairs and also with white, apically truncate scales; **occiput** with white, apically truncate scales.

Thorax: Dark brown; acrostichal and dorsocentral bristles long and pale; mid-scutellar bristles long, light brown; areas anterior to acrostichal and dorsocentral bristles with white hairs; middle of scutellum with some dark scales.

Mesepimeron with group of white hairs and scales in upper part.

Wing (Fig. 1): Costal vein with white basal spot followed by black spot, that one followed by smaller white humeral spot, then 1st, 2nd, and 3rd presectoral white spots and 4th, or preapical, white spot. Sc with white spot at level of 2nd white presectoral costal spot. 1st longitudinal vein with white spot at base followed by very small black spot, then another larger white spot, and finally white spots at level of 1st, 2nd, and 3rd presectoral white spots and the 4th or preapical one. 2nd vein with black basal spot followed by a white spot, then a black spot and a white one at same level as 3rd presectoral spot and reaching beginning of furcation, 1st branch with white spot at level of preapical spot and 2nd branch wholly black. 3rd longitudinal vein with small white basal spot followed by small black one, then another longer central white spot (longer than basal one) and a black apical spot. 4th longitudinal vein with white basal scales followed by a black spot, then a group of white scales at level of posterior crossvein and in the 2nd branch of the apical part with a few

Dr. Cova García, Entomologist, Assessor Emeritus of the Administration of Malariology and Environmental Sanitation.

Sr. Pulido and Ing. Escalante de Ugueto, Laboratory of Insect Morphology, Entomological Research Service, Division of Rural Diseases, Maracay, Aragua, Venezuela.

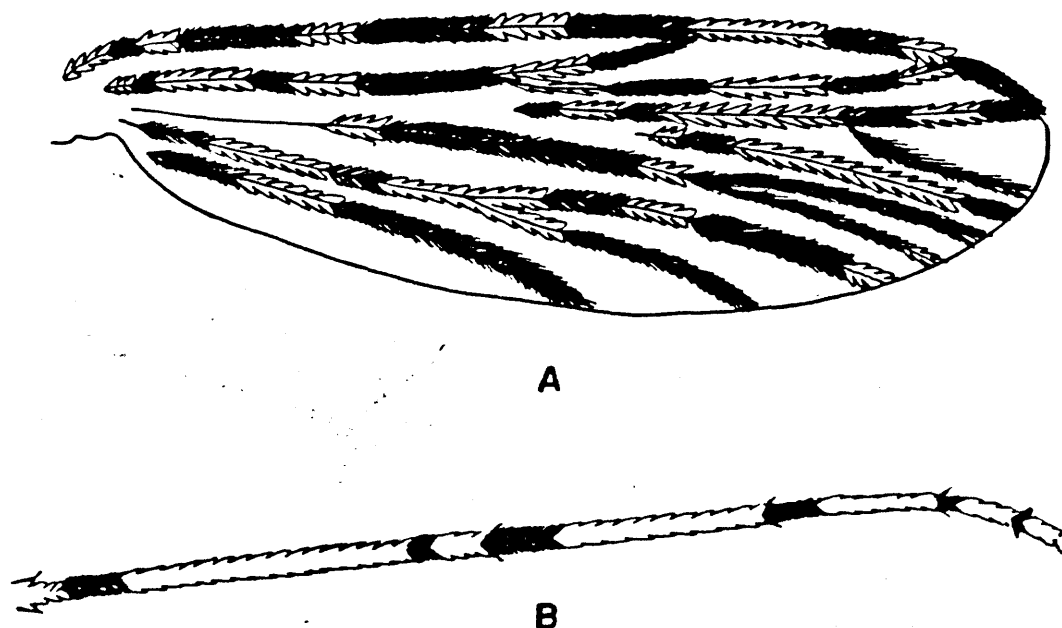


Fig. 1. *Anopheles (Kerteszia) gonzalezrinconesi*. A, Ala. B, Tarsos posteriores. wing hindtarsus

white scales. 5th longitudinal vein with black basal spot followed by a white one, then another black one and ^{or} white one extending beyond start of furcation in the lower branch longer, and in the 1st branch with a white central spot at level of posterior crossvein. 6th longitudinal vein with black basal spot followed by white spot almost to midlength and then a black spot.

Hindleg (Fig. 1): Femur with base white followed by black ringlet. Ventral and lateral faces interrupted in apical 1/3 by black fringe. Dorsal face with row of black scales. Tibia white at femoral joint, ventral face white, dorsal lateral faces dark. Hindbasitarsus with small black basal ring, followed by broader black fringe and then even white section ending in ringlet of black and white remainder; 2nd, 3rd, 4th, and 5th segments with apical white spot larger than black basal one.

Midleg; Femur with intermixed white and black scales. Tibia with intermixed white and black scales. Basitarsus dark with apical white ringlet; 2nd segment black nearly to middle, remainder white; 3rd, 4th, and 5th segments wholly black.

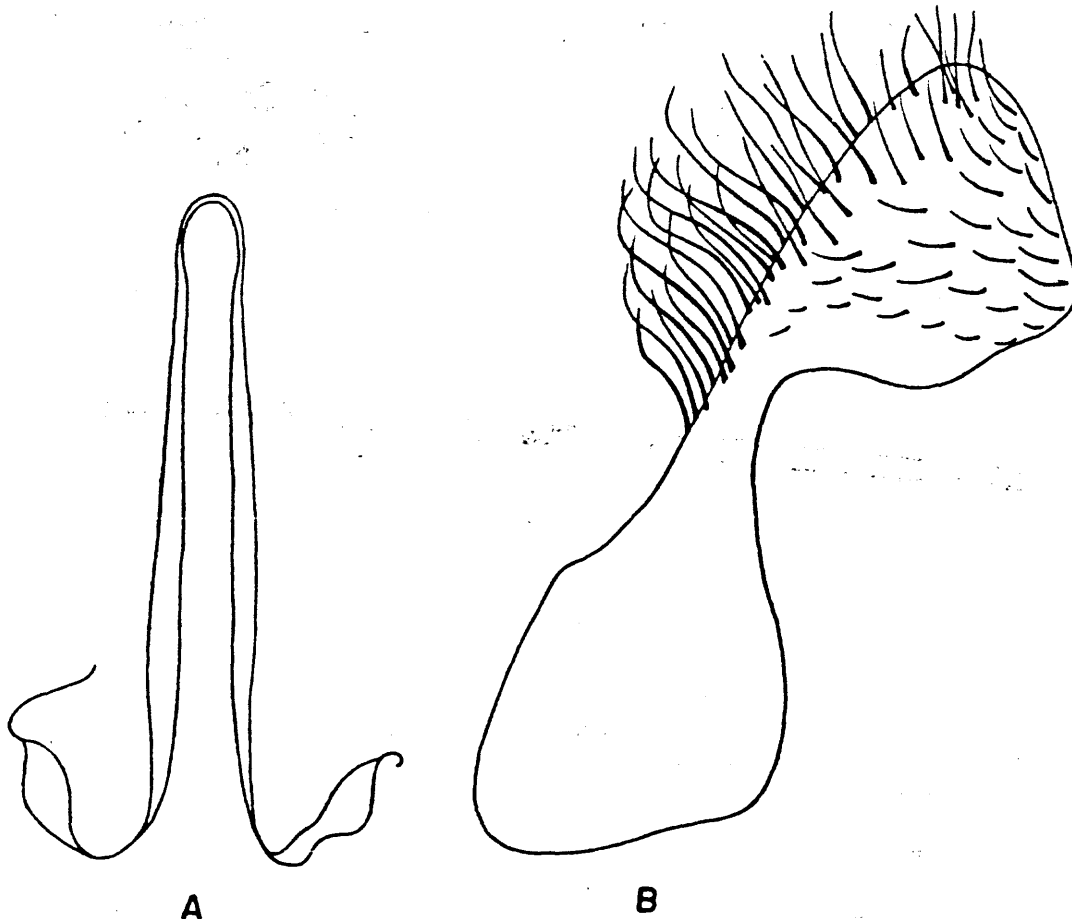
Foreleg: Femur with intermixed white and black scales. Tibia black dorsally, dark ventrally. Basitarsus ^{dorsally dark on the base} basally dark, then white and black at apex; 2nd and 3rd

segments dark dorsally, ventral black at base, remainder white; 4th and 5th segments wholly black.

Abdomen: Dark; tergites with slender, mostly dark scales up to 2nd segment; sternites with dark scales intermixed with a few white ones, especially on last segments.

p. 141 ♂ Genitalia: Sidepiece with 2 accessory spines, one parabasal, the other mesal; mesal spines flattened and slightly broadened apically (Fig. 2).

p. 142- Claspette with apex of inner lobe rounded, narrowed medially to slender neck by straight emargination of outer margin, inner edge almost / , entire rounded part of inner lobes covered with hairs, especially along outer margin, where they are long, sinuous, and abundant, directed mesally, and apparently meeting on midline. Outer lobes formed by tubercle bearing group of slender leaflets, long, sinuous, acute, and medially wide. Mesosome long, without filaments, apical part longer than wide.



♂ genitalia mesosome

Fig. 2. *Anopheles (Kerteszia) gonzalezrinconesi*. Genitalia del macho: A, Mesosoma.
B, Lóbulo interno.
inner lobe.

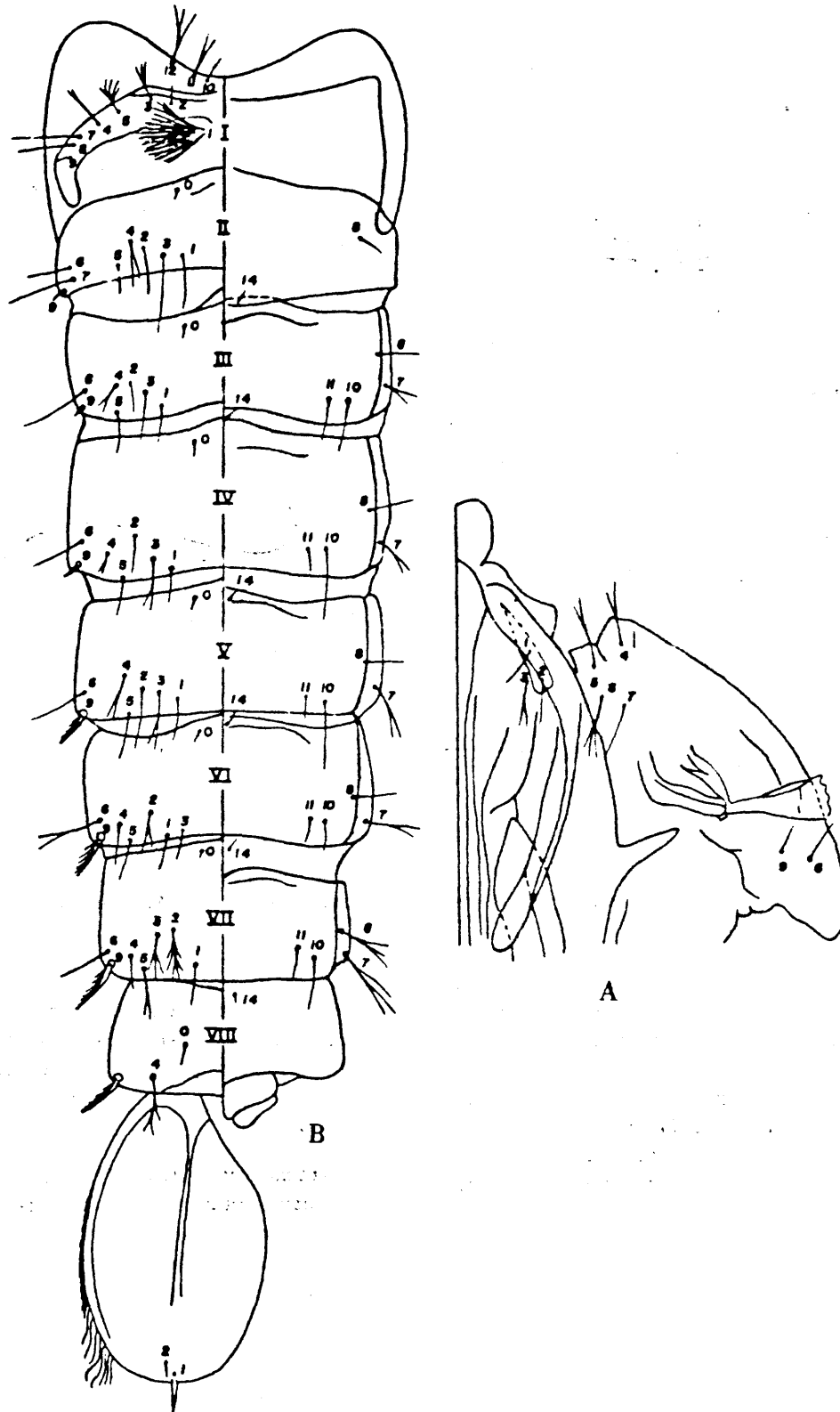


Fig. 3. *Anopheles (Kerteszia) gonzalezrinconesi*. Pupa: A, Cephalotorax. B, Abdomen.

PUPA

Cephalothorax; Epidermis pale yellow (Fig. 3).

Trumpet: ^bAmber yellow, apical margin serrate.

Abdomen: Epidermis amber-colored. Dorsal face of 1st segment with pair of dendritic hairs. Hair 1 of all segments arising in hindborder, all simple. Hair 9 of segments II-V rudimentary, hardly projecting beyond lateral margin, yet from segment V on increasing in thickness and length.

Paddles: More or less oval, weakly pigmented; apical hair (1-P), thick, sharply pointed, spinelike; accessory hair (2-P) simple and fine; outer margin with short spicules, posterior margin with long slender hairs.

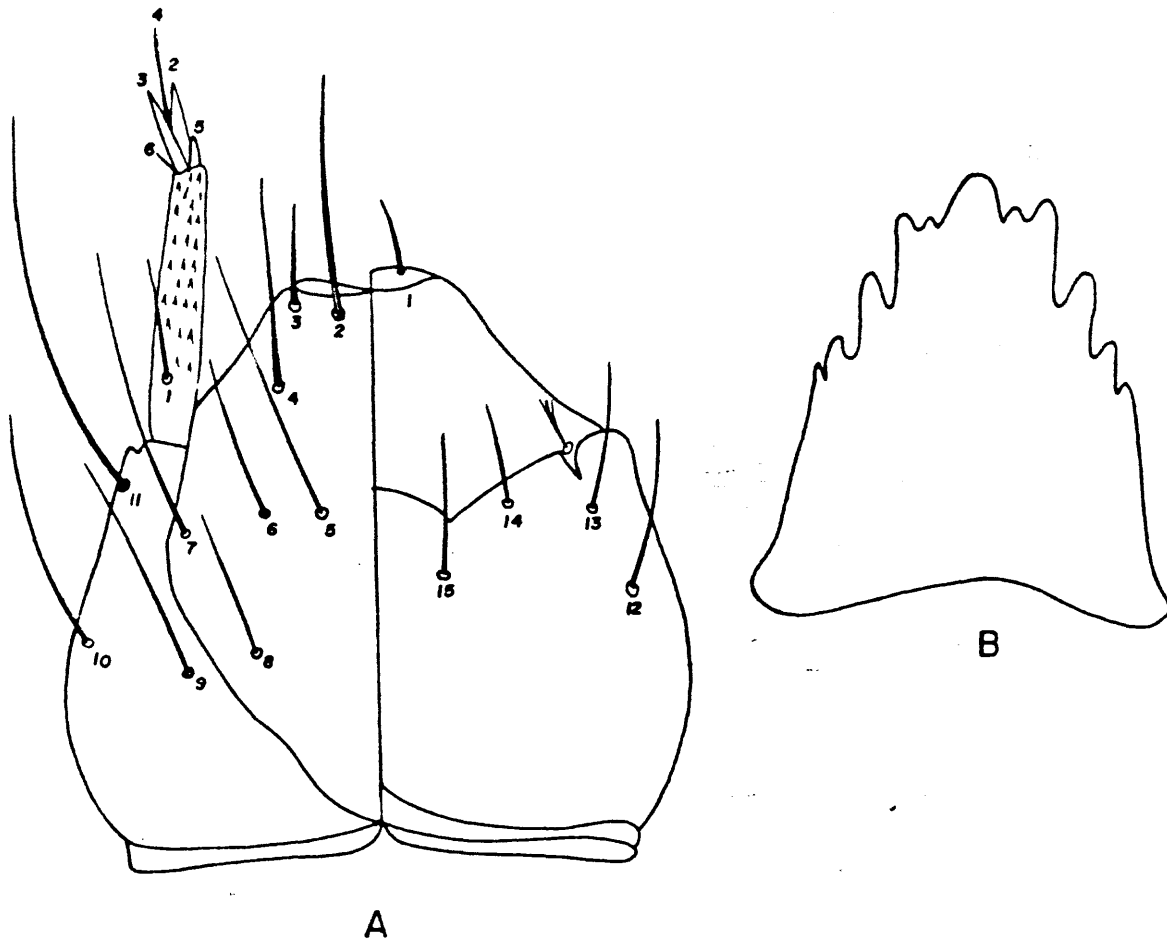


Fig. 4. *Anopheles (Kerteszia) gonzalezrinconesi*. Larva: A, Cabeza. B, Placa mentoniana.

LARVA

Head (Fig. 4): Longer than broad, pale yellow, collar dark brown; hairs of pre-clypeus (1) moderately curved, long; inner clypeal hairs (2) simple, smooth, widely separated; outer clypeal hairs (3) simple, smooth, moderately long, a little more than half as long inner hairs, sharply pointed; posterior clypeal hairs (4) simple, as heavy as anterior clypeals; frontal hairs (5, 6, 7), simple, acute, hair 6 short, half as long as hairs 5 and 7.

Antenna: Base slightly broader than tip, body heavy, a little less than half as long as head, spiculate in apical 3/4. Lancets (2, 3) equally long; apical hair (4) simple, a little longer than lancets.

Thorax (Fig. 5): Pale yellow, with some spicules in anterior part. Hair 11 of prothorax simple of median length.

Abdomen (Fig. 6): Palmate hairs present on segments II to VII, of median length, base of each cup-shaped, filaments moderately long, acute and smooth, hair 5 of segment VI trifid, those of segments II-V and VII 4- to 7-branched. Lateral hairs of segments I and II duplicate and long plumose lateral hairs of segments III-VI simple with a few lateral filaments. Hair 9 of segments III-VIII smooth, trifid on segment I, and bifid on segment II.

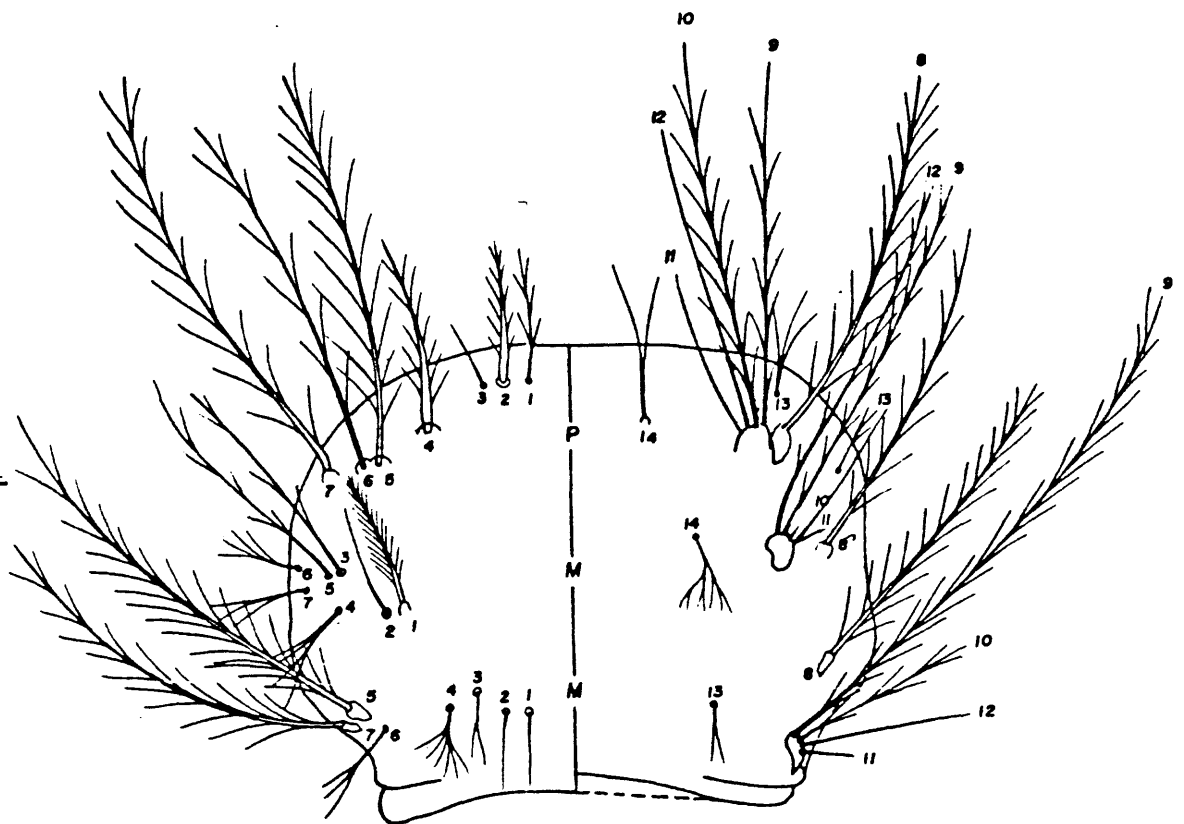


Fig. 5.
Anopheles
(Kerteszia)
gonzalezrinconesi
Larva: Thorax.

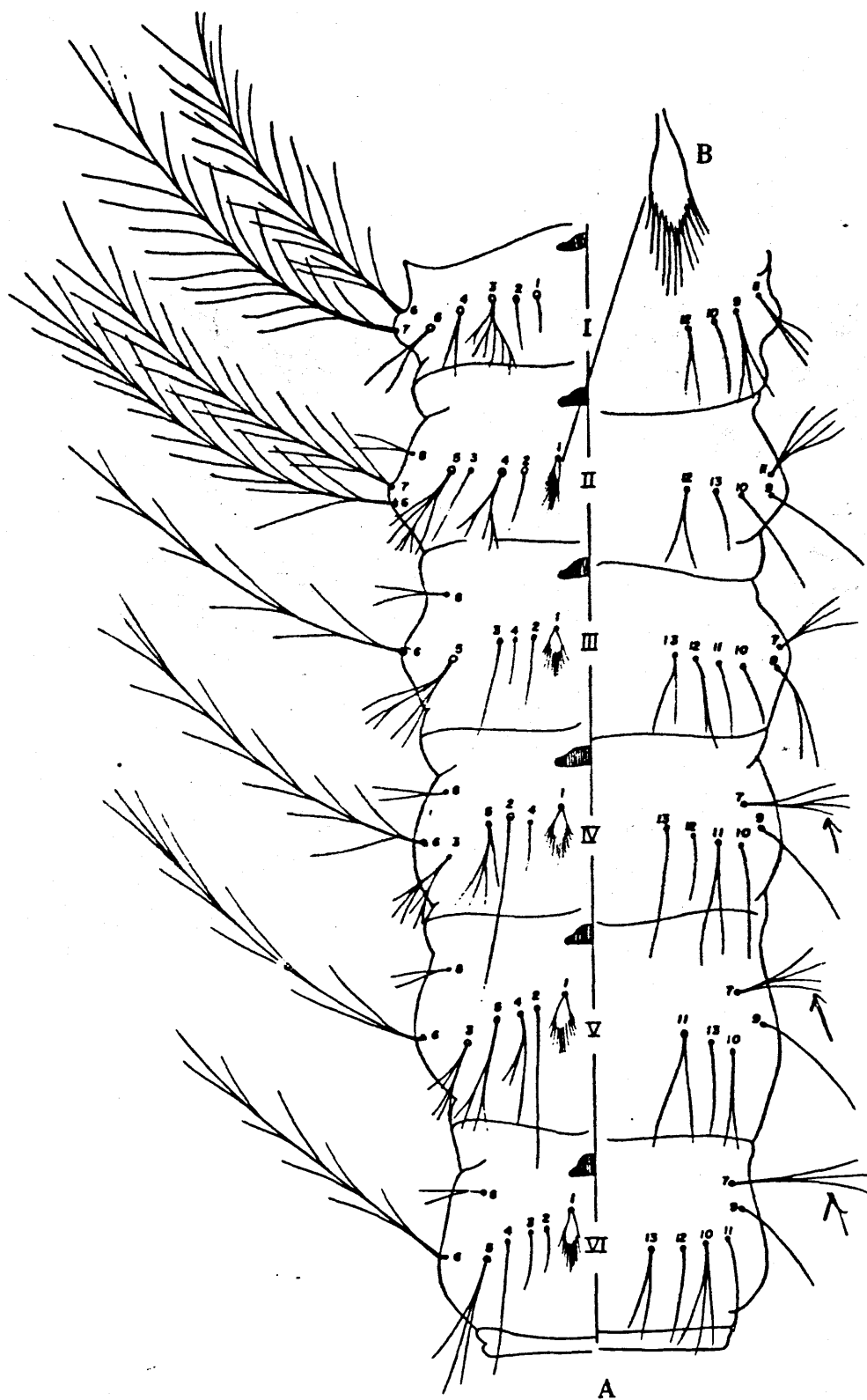


Fig. 6. *Anopheles (Kerteszia) gonzalezrinconesi*. Larva: A, Abdomen. B, Pelo palmeado. palmate hair.

Spiracular Lobe (Fig. 7): Teeth of pecten of equal length; hairs simple, except bifid hair 6.

Anal Segment (Fig. 7): Hair 1x simple, of median length; hair 2x with lateral filaments and apically trifid; hair 3x plumose, shorter than anterior hair; hair 4x of median length.

EGG

Cf. Fig. 8.



anal segment pecten tooth
 Fig. 7. *Anopheles (Kerteszia) gonzalezrinconesi*. Larva: A, Segmento anal. B, Diente del peine.

SYSTEMATICS

p.145
 The new species A. gonzalezrinconesi is closely related to A. pholidotus, A. lepidotus, A. boliviensis, and A. hilli because these species all have scales on the abdomen; but A. pholidotus and A. lepidotus immediately differ from the other 3 in that the mesepimeron (mep) has a ^{long} broad, curved ^{patch} fringe extending along the upper part to beyond the middle, while those 3 lack the fringe, only a small ^{patch} tuft of white scales, erect and intermixed with a group of white setae of median size, being present.

p.147
Anopheles boliviensis Theobald, described from a female from Songo (Zongo, La Paz), Bolivia, in the Hungarian National Museum, and redescribed by Zavortink from a female from Cochabamba, Chimore, Chapare, Bolivia, 29.4.44 (Torres Muñoz), in the US National Museum, and A. hilli, in our Laboratory (Maracay, Venezuela) have a tuft of scales on the upper part of the mesepimeron similar to that present in A. gonzalezrinconesi; This character, the spots on the palpi, legs, and wings, as well as the general coloration of the females of both species are so similar that it is almost impossible to distinguish them, were it not for characters of the larvae, pupae, and ♂ genitalia, as cited in the description and figures here presented, characters sufficient for the erection of the species A. gonzalezrinconesi, which we have done.

DIAGNOSTICS of A. gonzalezrinconesi

Larva: Head with inner frontal hairs (5) and outer frontal hairs (7) moderately long, simple, ending in fine point. Abdomen with hair 6 of segment VI simple, with lateral filaments similar to those of hair 6 on segments III-VI; hair 9 of segments III-VIII smooth.

Pupa: Cephalothorax with hairs 3, 5, and 6 with 2 or 3 branches, hair 11 simple.

♂ Genitalia: Mesosoma and inner lobes of claspettes as in Fig. 2.

Material examined: 10 ♂s.

Type and paratypes deposited in the Archives of the Laboratory of Insect Morphology, Applied Research Service, Division of Rural Diseases, Administration of Malariology and Environmental Sanitation, Ministry of Health and Social Assistance, Maracay, Venezuela.

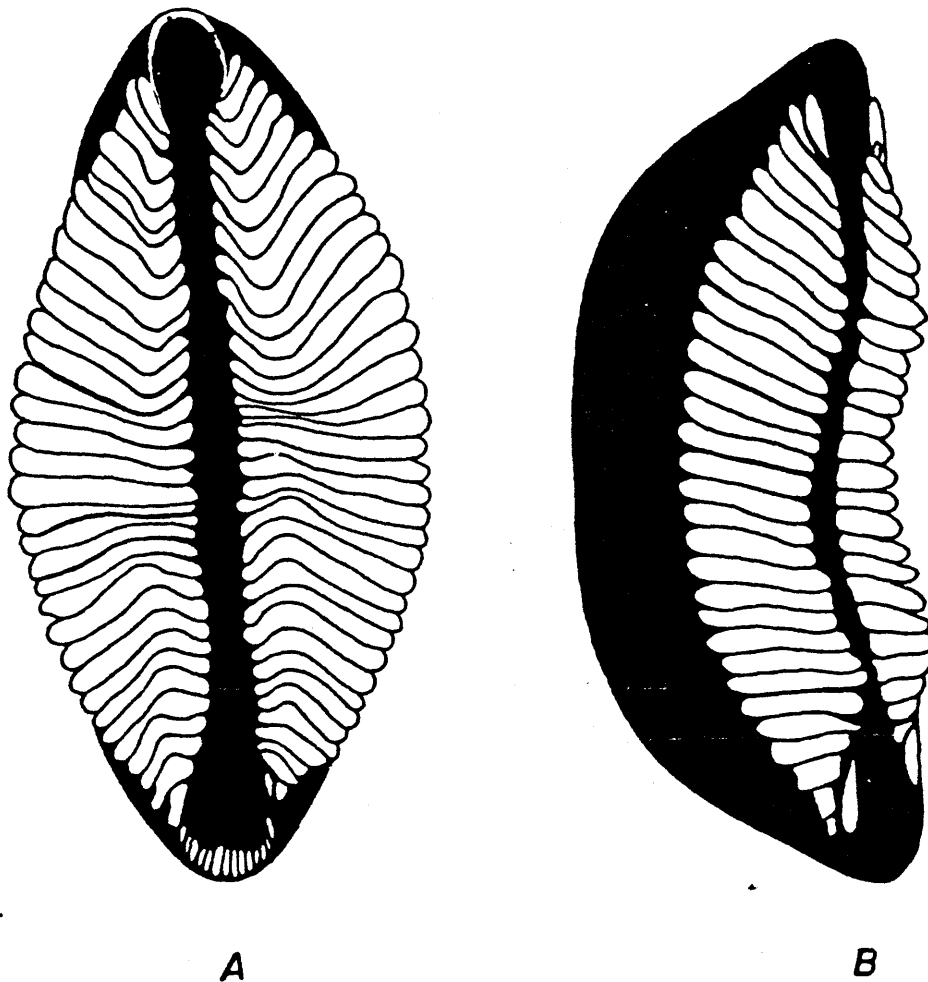


Fig. 8. *Anopheles (Kerteszia) gonzalezrinconesi*. Huevo: A, Vista dorsal. B, Vista lateral.

SUMMARY

Anopheles (Kerteszia) gonzalezrinconesi is described from Mata Mulas, ~~Municipio Delicias~~

and El Delirio, Delicias Municipality, State of Táchira, breeding in bromeliad epiphytes at an average elevation of 1500 m above sea-level.

This species has been named *gonzalezrinconesi* as a modest recognition and in honour of Dr. González Rincones, who is one of the principal insect investigators and who has spent most of his professional time studying mosquito behavior in Venezuela.

REFERENCIAS

- COVA GARCIA, P. Notas sobre los Anofelinos de Venezuela y su Identificación. Caracas. Editora Grafos C.A., 1961, 213 p.
- ; PULIDO F., J. & ESCALANTE DE UGUETO, C. *Anopheles (Kerteszia) hilli* (Diptera: Culicidae) una nueva especie de Venezuela. Bol. Dir. Malaria. y San. Amb. 16 (4): 344-353. 1976.
- KOMP, W. H. W. & OSORIO, M. The male and larva of *Anopheles (Kerteszia) boliviensis* Theobald. Annals of the Entomological Society of America, 29 (3): 415-419. 1936.
- The species of the subgenus *Kerteszia* of *Anopheles*. (Diptera: Culicidae). Annals of the Entomological Society of America, 30 (3): 492-529. 1937.
- LEVI C., R. Los Anofelinos de la República de Ecuador, Tomo I. Gráficas Senefelder C. A. Ltda. 1945. 172 p.
- ZAVORTINK, T. J. A. review of the subgenus *Kerteszia* of *Anopheles*. Contributions of the American Entomological Institute, 9 (3): 1-69. 1973.