

FOUR NEW CULICIDAE FROM THE PHILIPPINES

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(From the Entomological Section, Biological Laboratory, Bureau of Science, Manila, P. I.)

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FOUR NEW CULICIDÆ FROM THE PHILIPPINES.

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In the course of an investigation of the mosquitoes and other insects of the town of Taytay, Rizal Province, during the present year, I was fortunate in being able to obtain full-grown larvæ and breed out adults of two members of the genus *Culex* which prove to be new to science. These forms are so different from known ones and so distinct in their markings that their identification is comparatively easy. They were both found breeding under similar conditions and I hope in the near future to be able to work out their entire life histories.

During a trip to Benguet in 1907, larvæ were taken from water in the pitcher plant (*Nepenthes alata* Bl.) and from these there were obtained a great many adults of a species which also proves to be new. This species belongs to the genus *Wyeomyia* and is thus the first species of this genus to be reported from the Philippines.

In 1906 Mr. R. C. McGregor, of the Bureau of Science, during a trip to the Island of Basilan south of Mindanao, collected a considerable amount of very interesting Culicid material among which is a new species of the genus *Kertészia*, the first record of this genus in the Islands. The two specimens taken by Mr. McGregor are both males and are in perfect condition.

***Culex taytayensis*, sp. nov.**

♀, length 3.5–4 millimeters, length of wing 2.5 millimeters, length of proboscis 1.5 millimeters. Pale brown, head pale grey, abdomen lighter than thorax; legs pale grey-brown; pleuræ with alternate horizontal areas of brown and white.

Head with pale grey narrow scales on occiput and sides, interspersed on occiput with dark, upright, forked scales; eyes red-brown; antennæ, including cilia, dark brown; proboscis unbanded, pale brown, apex darker; palpi less than one-eighth length of proboscis, dark brown, inconspicuous.

Prothoracic lobes brown, with numerous curved setæ; mesonotum with uniform, pale brown, narrow scales interspersed with grey on anterior and posterior areas; scutellum with white or silver-grey scales on median

and pale brown or golden scales on lateral lobes; scutellar setæ long, brown. Metanotum pale brown with four rows of dark brown setæ, those laterad being dense and long; meso- and metapleuræ pale, with a dark brown, horizontal, interrupted fascia extending from the prothoracic lobes to posterior margin of metapleura, ventrad to which is a horizontal fascia of white scales, followed ventrad by another brown fascia. The brown fasciæ are colorations of the integument, the white one is caused by scales.

Halteres pale, dark-tipped.

Abdomen paler than thorax, uniformly colored and with apical golden cilia on each segment.

Femora very pale grey-brown basally, darker apically, as are tibiæ and tarsi; wings with short oval and long narrow scales on costa, subcosta and first longitudinal vein; the second to sixth longitudinal veins with long, oval, median and long, narrow, lateral scales, all pale brown except those on subcosta which are grey; second posterior cell two-thirds length of first submarginal; its stem one-half longer than that of the latter. Supernumerary and mid cross veins touching at their extremities and forming an obtuse angle (140°). Posterior cross vein double its length from mid cross vein. Fringe scales uniformly pale brown.

♂, length 3.5-4 millimeters, length of wing 2.5 millimeters, length of proboscis 1.5 millimeters; differs from ♀ in having the pleural fasciæ more sharply defined; in having white scales on the occiput with few interspersed, erect, forked scales, and in having the abdominal segments clothed laterally and ventrally with dense, long hairs standing at right angles to the body axis. The extreme apex of the proboscis is pale; palpi $1\frac{1}{2}$ times length of proboscis; two apical segments recurved and clothed with dense lateral hairs of the same color as those on antennæ which are concolorous with mesonotum.

Ungues of fore and mid tarsi long, curved, unequal, the larger being unidentate before the middle.

Wings similar to those of ♀ except that there are practically no lateral scales on the veins save at the extremities of the first and second longitudinal and the forks of veins II and IV. All other veins have median scales only.

RIZAL, Taytay, P. I., (*Banks*, collector.)

Bred from water of esteros. Eggs hatched 14 May 1909, adults emerged 24 May 1909.

Type of ♂ and ♀ No. 11459 in Entomological Collection, Bureau of Science, Manila, P. I.

This species resembles *C. fatigans* Wied., only in the color of the mesonotum and the general appearance of the legs. It has not the abdominal banding of *fatigans*, nor does *fatigans* have the pleural fasciæ as in *taytayensis*.

Culex argentinotus, sp. nov.

♀, length 4.5 millimeters, length of wing 3.5 millimeters, length of proboscis 2 millimeters, general color of mesonotum red-brown, of abdomen dark brown, scutellum entirely covered with silver-white scales giving the appearance of a transverse silver line.

Head with dark grey scales above, flat, pale ocher scales beneath; very long, upright, dark, forked scales over entire occiput; three long, incurving bristles on each side of front over eyes which are nearly black. Antennæ pale brown, first segment ocher; segmental bristles dark brown proximad to white distad. Palpi pale brown, one-sixth the length of proboscis which is also pale brown, except apical sixth which is darker brown.

Prothoracic lobes pale brown with narrow, golden scales; mesonotum with fine, red-brown and golden scales; pleuræ pale; dorsal areas of epimera and episterna with small patches of white scales; golden recurved scales ventrad to base of wing. Scutellum clothed with silver-white scales which form a complete transverse band, and numerous very long, brown bristles from posterior margin.

Abdominal segments dark brown apically, paler basally with white hairs on posterior margins of all except first which is clothed with erect, white hairs among flat scales; ventral surface pale ocher.

Halteres very pale, stem and knob concolorous.

Femora externally dark brown, internally nearly white, paler basally than apically, extreme apices with silver scales which overlap the articulation; tibiæ with dark brown scales, as also all tarsi.

Ungues of fore and mid tarsi equal and with large basal teeth; those of posterior tarsi small, equal and simple.

Wings sparsely clad toward apex with short median and very long, narrow lateral scales noticeable especially on veins II, III, IV and V; supernumerary and mid cross veins in nearly same line; posterior cross vein removed by $1\frac{1}{2}$ times its own length. Lateral fringed scales increasing noticeably in length from vein VI to base of wings.

♂, length 4.5 millimeters, length of wing 3 millimeters, length of proboscis 1.75 millimeters; similar to ♀ in color and markings, including the scutellar silver band. Palpi slightly longer than proboscis, seal brown, recurved as in *C. microannulatus* Theob.; articulations not pale. The occiput clothed with flat, pale ocher scales, dark grey at the nape. Upright, forked scales as in ♀. The seventh abdominal segment in the type specimen is apparently strongly lobed caudolaterally, and the genitalia are different from those of any of the Culicidæ heretofore observed by me. The harpes are unlike those of any species that I have examined previously. The eighth segment is truncately obconical.

The wing veins are almost destitute of long, narrow lateral scales, these

being present only near apex of vein III and anterior fork of IV. The distal half of vein VI is nude.

Ungues of fore tarsi unequal, the larger having a long, acute, curved tooth, the smaller a very short, obtuse dentation; mid unguis unequal, the larger nearly as long as last tarsal segment and having a long curved tooth, the smaller similar to that of fore tarsi.

RIZAL, Taytay, P. I., (*Banks*, collector.) Taken at Pinagsalaan well, 13-16 May 1909.

Type of ♂ and ♀ No. 11460 in Entomological Collection, Bureau of Science, Manila, P. I.

This peculiar mosquito merits anatomical study. Its general characters are those of *Culex*. The silver marking and wing squamation suggest *Uranotania*, while the genitalia appear to be unique. I am at present working on the anatomy of Culicid genitalia and shall leave further discussion of this species until more careful study has been made.

Kertészia, mcgregori, sp. nov.

♂, length 6 millimeters; length of wing 3.75 millimeters; length of proboscis 2.5 millimeters; general color ocher and grey; antennæ golden at tips, brown at bases, legs mottled yellow and brown; wings with brown scales and six white spots on costal vein; cilia all white, except at apex of wing where there is a tinge of yellow. Hind legs with last three joints of tarsi and apex of preceding, pure white.

Head clothed with narrow, cream-colored, appressed scales interspersed with erect, cream-colored forked scales over the entire occiput and front, except a narrow line around and between the eyes; two dark brown bristles project cephalad between eyes and a pair curves over each eye dorsolaterally. Eyes bronze. Antennæ longer than palpi by length of last antennal segment; clothed with brown hairs basally and golden ones apically. First to sixth antennal segments with white scales on their inner sides; apical and penultimate segments with fine golden hairs and a small whorl of bristles at the bases of the former. Clypeus bare, brown; palpi five-sevenths length of proboscis; clothed with brown scales except: base and apex of each segment narrowly, and apical half of apical segment somewhat broadly, white-scaled; a tuft of three brown bristle springs from the points on the apical segment where the white apical scaling ends. Proboscis darkly brown-scaled with a broad band of white near the apex and another narrow one at the middle. Apical segment of proboscis light brown.

Squamation of prothoracic lobes similar in form and color to that of occiput.

Mesonotum clothed with narrow, curved, cream-colored scales dorso-laterally, irregularly placed and sparse. The disc with three distinct longitudinal areas of brown and golden scales, the spaces between being

completely bare and brown. The brown and golden scales form a pattern as follows: a brown patch on the median longitudinal area at the middle of the disc, two brown patches on each of the submedian areas, one before and the other behind the middle, thus forming the corners of a rectangle with a brown spot in its center.

These longitudinal areas have in addition many very long, brown bristles. The submedian areas terminate posteriorly in a tuft of white, curved, spindle-shaped scales, which extend over upon the scutellum; the latter is clothed with three palmate tufts of cream-colored scales from which spring brown bristles which are nearly $1\frac{1}{3}$ the length of the mesonotum; metanotum bare, brown. The bases of the wings are ochraceous and there appear to be well-developed tegulæ. The anterior three veins including costa all darkly brown-scaled, the remainder of the wing very much lighter. The following white spots appear: on the costa six, the first two approximate and sub-basal, the third at first third of costa, the fourth just beyond middle, the fifth halfway from fourth to apex and the sixth just before apex. Spots 3, 4, 5, and 6 appear also on the subcosta and the first longitudinal. A spot appears on subcosta and first longitudinal between spots 3 and 4 of the costa while another smaller spot appears near the bases of veins I and V. The upper fork of vein V has a white spot after the juncture of the posterior cross vein. First submarginal only a little more than half as wide as second posterior, but is slightly longer and its base is more remote from base of wing. There are white scales at the bases of the petioles of the first submarginal and second posterior cells as also at the bases of these cells and the point on vein III where it joins the supernumerary and mid cross veins. The apices of the forks of the first submarginal cell are white, these spots being continuous with the sixth costal spot. The cilia are white except apically where they are tinged with yellow.

Halteres pale.

Basal abdominal segments light brown dorsally, middle and apical dark brown or nearly black, all having apical margins of cream-colored scales, which broaden laterally. There are two submedian discal white spots dorsally on segments 6 and 7, and faint remains of similar spots on 5. The apical half of the abdomen is more or less golden pubescent. Legs generally mottled; all femora and tibiae brown and gold mottled; all tibiae apically tipped with cream-colored scales; fore first tarsi¹ dark, cream tipped; mid first tarsi, pale ochraceous, pale tipped at base and apex as are their other tarsi and those of fore feet. Apex of posterior second tarsal segment and all of remaining tarsi nearly pure white. Ungues of fore and mid tarsi unequal and having upon the larger a single tooth which is one-fourth of its length. The smaller unguis is

¹ Formerly improperly called metatarsi.

two-thirds the length of the larger on fore and mid tarsi; the unguis of the posterior tarsi simple and of about the length of the tooth on the unguis of the fore tarsi.

♀, unknown.

Basilan Island, P. I. (*R. C. McGregor*, collector.)

Time of capture, 28 December 1906.

Type of ♂ No. 6666 in Entomological Collection, Bureau of Science, Manila, P. I.

This species is dedicated to the collector.

***Wyeomyia nepenthicola*, sp. nov.**

♂, length 4.5 millimeters, length of wing 3.25 millimeters, length of proboscis 2.5 millimeters. Very dark grey dorsally, silvery white ventrally, legs, antennæ and proboscis black or nearly so.

Head clothed with blue-black, appressed scales; underside and cheeks white-scaled; vertex somewhat lighter, a few erect forked scales on occipital margin. Eyes black, margined with a row of white scales; a white line on vertex between eyes. Antennal segments black, with black whorls and whitish bases; first segment subglobose, pale above; last two segments fuscous; base of proboscis pale, especially beneath nearly white; remainder blue-black; tip curved slightly downward. Palpi black, very short, one-ninth length of proboscis; three-jointed, the first joint very small, subglobular, the second joint $4\frac{1}{2}$ times as long, the third joint one-half the length of the first, small, conical. Clypeus bare, brown with very slight dark line around margin. A small tuft of bristles projects beneath base of proboscis.

Prothoracic lobes black, shining, with slight grey pruinescence and a few hairs. Mesonotum with blue-black, narrow scales and a slight pruinescence; anterior angles with an area of bluish-white scales sharply defined. A few fuscous hairs at base of wings, together with a row of bristles laterad, extending halfway to anterior margin. Pleuræ with irregular patches of bluish-white scales defined by limits of sclerites. Scutellum clad with flat scales and numerous bristles on each lobe. Metanotum brown, a tuft of four bristles near posterior margin.

Halteres cream-colored with white knobs.

First abdominal segment brown-scaled dorsally, with golden bristles laterally; second to seventh segments uniformly black-scaled with pale brown apical hairs, eighth segment and genitalia brown. A dorsal view shows at either side a very narrow strip of white which represents the white scales on the lateral margins of each tergite. Ventrums of abdomen pure white, except eighth segment which is brown as on dorsum.

Wings hyaline; costa, subcosta and vein I heavily black-scaled; supernumerary, mid cross vein and posterior cross vein are all in the same line; forks of veins II and IV of nearly the same length, the first submarginal being very slightly longer and narrower than the second poste-

rior; vein VI strongly curved outward at apex; forks clothed with long, slender hair-like scales as on veins III and V apically; stems of forked veins with no diverging scales; all fringe scales light seal-brown.

Legs black; femora pale ochraceous at bases, black at apices; mid and posterior femora white beneath; tibiæ and tarsi of all legs black, or dark seal-brown according to reflections. Ungues of fore legs unequal, the longer twice the length of the shorter and with a single tooth. Mid unguis unequal, the longer simple; posterior unguis equal, small and simple.

♀, length 4.5 millimeters, length of wing 3.25 millimeters, length of proboscis 2.5 millimeters, seal-brown, blue-black in certain lights; thorax blue-grey.

Legs dark brown or black according to angle of reflection. All markings exactly as in ♂, except that the tip of the proboscis is brown. The abdomen is widest at the 5th segment and tapers to posterior end while in the ♂ the sides are parallel. Palpi similar to those of the ♂. Antennæ sparsely clad with long hairs and rather thickly with very short ones. The posterior cross vein is removed by its own length from mid cross vein.

BENGUET, Trinidad, P. I. (*Banks*. collector).

Collected as larva in pitchers of *Nepenthes alata* Bl., 30 December 1907.

Type of ♂ and ♀ No. 8159 in Entomological Collection, Bureau of Science, Manila, P. I.