eastern or Antillian trend of diffusion has greatly affected the Sphingid fauna of America north of Mexico. I cannot leave the subject, however, without calling attention to the fact that South American forms make their way into the United States by several lines of diffusion. A species may make its way up through the Windward and Leeward Islands and the larger islands of the West Indies into Florida; it may make its way northward through Panama to Honduras, and thence through Cuba to Florida, or continue northward through Central America and Mexico, sometimes both, but in the latter case we are likely to find it in both Florida and Texas. With the Sphingidæ it would seem that the species had for the most part either followed the Antilles, or crossed over from Honduras, and entered the United States by way of Florida, sometimes holding closely to the Atlantic coast, and in other species spreading westward around the lower extremity of the Appalachian Mountain system. But, excepting those species that we know have been introduced from other countries within the temperate zone, we can trace almost every North American species of Sphingidæ, either directly or by closely-allied species, to their ancient and original home in tropical South America, and of the doubtful remainder there are few indeed that cannot be traced into Mexico, where we lose track of them in the obscurity surrounding the entomological fauna of that country.

CONCERNING SOME PHILIPPINE MOSQUITOES.

BY C. S. LUDLOW, M. SC., EASTON, PA.

In connection with the work on the Philippine mosquitoes carried on by the authority of the Surgeon-General, U. S. Army, and "for and with the co-operation of the Medical Corps, U. S. A.," a lot of mosquitoes recently received from Cottabato, Mindanao, P. I., makes it possible to describe a new *Myzomyia*; to state definitely all the differences between *Stegomyia scutellaris*, Walker, and the variety *Sumarensis*, Ludlow; and to make a small correction in the description of *Myzorhyncus pseudobarbirostris*, Ludlow.

Myzomyia Thorntonii, n. sp.—Female: Head dark brown, with tuft of white scales on the vertex, and white hairs projecting forward between the eyes, a few white scales around the eyes; antennæ brown, verticles and pubescence white, basal joint testaceous, a few white scales on first and second joints; proboscis brown on basal half, apical half dull yellow, with narrow brown band at apex, tip dull yellow; palpi, ultimate joint

white with narrow basal brown band, penultimate also white with narrow basal brown band, followed by a broad white band, and the remainder of the proboscis brown, divided nearly in half by a narrow white band. About the middle of the exterior brown section is a small yellow spot, and there are a few yellow scales near the base of the palpus. Eyes brown; clypeus brown.

Thorax light brown, with white (frosty) tomentum, a dark median line, and sparsely covered with golden-brown hair-like scales and a few flat white ones on the cephalad end; prothoracic lobes with brown flat scales; scutellum light laterally, and broad dark median line, hair-like golden-brown scales and brown bristles; metanotum brown.

Abdomen very dark brown, rather heavily covered with brown (golden brown in some lights) hairs.

Legs: coxæ and trochanters all brown, with a few white scales; femora and tibiæ all dark brown, with distinct white spots (6 or 7) on the sides; metatarsi on fore legs basally and apically white banded, and a few white spots, first three tarsal joints basally and apically white banded so as to make rather broad bands, last joint brown, but giving light reflections; metatarsi and all the tarsal joints on the mid leg have narrow white apical bands, sometimes the metatarsi have white intermediate spots, and sometimes the band on the last joint is lacking; on the hind leg the metatarsi and tarsal joints, except the last, all have narrow white apical bands, and one or two white spots. These metatarsal and tarsal spots vary greatly in individuals, there being sometimes only one small spot, sometimes several, and sometimes the metatarsal spots are very large so as nearly to cover the apical half of the joint. Oddly enough this occurs in one specimen on one leg and not on the other. Ungues simple and equal.

Wings markedly spotted, costa mostly dark, a light spot at the apex extending on apex of 1st longitudinal, and upper fork of 2nd long. vein, a second spot a little exterior to base of 2nd posterior cell, a third at the junction of the subcosta, a fourth at some distance from the third, and two or three small ones near the base of the wing. The large spots all extend on the 1st longitudinal, and there are additional white spots on the 1st long. vein in the area between the third and fourth costal spots, and sometimes between the second and third costal spots, but so irregularly placed as to be of little value for identification, the two wings of the same insect varying markedly. The wing field is well spotted, about six light spots on the 3rd long., and the other veins spotted in much the same way except the stem of the 2nd posterior cell, which is dark. Fringe is mottled,

the light spots occurring for the most part at the apices of the veins ; on the inner (short) fringe scales the light spots occur as far as the 6th long., on the long scales the spots are distinctly yellow as far as the 5th long., and merely pale at the apices of the more caudad veins ; 1st submarginal cell longer (4:3), and narrower than the 2nd posterior, its base nearly one-sixth of its length interior, stem of 2nd posterior much the longer ; supernumerary cross-vein is nearly equal to mid, which it meets, and posterior cross-vein somewhat longer and a little more than its own length distant. These vein positions vary somewhat ; halteres white.

Length, 3-3.3 mm.

Habitat : Oras Samar, P. I., and Cottabato, Mindanao, P. I.

Taken June 20 (Cottabato), Aug. 20 (Oras).

This is a very beautiful and well marked species near *M. albirostris*, Theob., but the additional broad band on the palpi, and the spotted legs, make it easily distinguishable, while the wing markings resemble those of *M. elegans*, James. It has only been sent in twice, and the two specimens from which the description was written were collected by Dr. James W. Thornton, Cont. Surg. U. S. A., after whom it is named.

The specimens of *Stegomyia scutellaris*, Walker, sent in early in 1903 from Samar, were found to vary from the type, and as these variations occurred in all the specimens from that island, it was decided to create a variety, attention being called to some differences, and the insect was published as *S. scutellaris*, Walker, sub-species *Samarensis*, Ludlow.* Since then a number of very perfect specimens from Samar, Leyte and Mindoro have made the differentiation more perfect, and the complete list of differences is given below.

Stegomyia scutellaris, Walk., var. *Samarensis*, Ludlow.—This variety differs from the type as follows :

- I. Has two white lateral bands on head ; no bands on antennæ of female.
- II. The silvery median line on thorax extends nearly the whole length of the mesonotum, tapering from the cephalic end to just in front of the scutellum, where it divides, forming two short, very fine submedian lines ; there is also a narrow straight white line on each side, exterior to these, extending cephalad from the scutellum about one-third of the length of the mesonotum, dividing its width almost exactly into quarters.

*Journ. N. Y. Ent. Soc., Sept., 1903.

III. Femora of hind legs are white at the base, with a white line reaching almost to the knee; on fore and mid legs this line is not so distinct nor is it so long; the metatarsi of the hind legs have a basal white band, and those of the fore and mid legs a basal white spot.

IV. The first submarginal cell varies in length, but is as long as, usually longer, and sometimes more than twice as long as its stem.

Under *Myzorrhyncus pseudobarbirostris*,† Ludlow, after "antennæ a lighter brown," delete "minute apical bands on the joints," the effect is caused by reflections.

This seems to be a rare mosquito, having been taken once at Hagonoy, Bulacan, Luzon, Oct., 1901, by Dr. Kellogg, and once at Cottabato, Mindanao, June, 1903, by Dr. Thornton.

It is also necessary that *Culex annulifera*,‡ Ludlow, appear as *Culex annuliferus*, Ludlow.

DR. JOHN HERBERT SANGSTER.

We regret to record the death of Dr. J. H. Sangster, which took place in Toronto on the 27th of January. He was one of the original members of the Entomological Society of Ontario, and during its early years took an active part in its proceedings, but for a long time past he had ceased to take any interest in the Society or its pursuits.

He was born in England in 1831, and coming to Canada when a child received his education in this country. The principal part of his life was devoted to scholastic work, his first position being that of an assistant master in the Model School at Toronto. Subsequently he was placed in charge of the Provincial Grammar School; later on he became Head Master of the Ontario Normal School, and finally Professor of Chemistry and Botany in Victoria University. During the earlier portion of his career he published a number of schoolbooks, which were for a long time in general use in the Public Schools of the Province, and made his name familiar throughout the length and breadth of the land. He also wrote extensively on public topics in the newspaper press. Since his retirement from active work he lived in Port Perry, Ont., and was highly respected by all who knew him.

†Journ. N. Y. Ent. Soc., April, 1902.

‡Journ. N. Y. Ent. Soc., Sept., 1903.