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MEXICAN SPECIES OF MACHILIS AND SEIRA.

EXPLANATION OF PLATE 4.

Fig. 1. *Machilis conjuncta*, n. sp.  $\times 5$ . For convenience, only the basal segment of the left antenna is shown and the left maxillary palpus is turned down.

Fig. 2. *Machilis conjuncta*. Anterior aspect of the eyes,  $\times 25$ .

Fig. 3. *Machilis conjuncta*. Basal portion of antenna,  $\times 25$ .

Figs. 4, 5. *Machilis conjuncta*. Two of the various forms of scale,  $\times 252$ .

Fig. 6. *Machilis conjuncta*. A common but anomalous scale,  $\times 567$ .

Fig. 7. *Seira mexicana*, n. sp.  $\times 25$ .

Fig. 8. *Seira mexicana*. Lateral aspect of right hind-foot,  $\times 567$ .

Fig. 9. *Seira mexicana*. Lateral aspect of right mucro and part of dens,  $\times 567$ .

Fig. 10. *Seira mexicana*. A scale from the dorsal side of the abdomen,  $\times 567$ .

## PSYCHE.

### DESCRIPTIONS OF SPECIES OF *MACHILIS* AND *SEIRA* FROM MEXICO.

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I wish to describe *Machilis conjuncta* and *Seira mexicana*, two new species of Thysanura which were collected for me in Mexico, during the summer of 1897, by my friend, Mr. O. W. Barrett, of Clarendon, Vt.

*Machilis conjuncta* was taken in September at Cuernavaca, Morelos, on the Pacific slope, at an elevation of 5000 ft. and Mr. Barrett believes he has also seen the same species in lower Vera Cruz. The species is unfortunately described from a single specimen but can probably be identified without difficulty. The scales from the same individual are exceedingly variable in form, size, number of longitudinal ribs, etc., and consequently appear to have very little specific value in this case, at least; the forms which I have figured (Figs. 4, 5 and 6) are, perhaps, as common as any. The scale shown in Fig. 6 deserves special mention on account of the obliquity and bifurcation of its principal ribs; in these respects it departs widely from the type of scale which prevails in the genus *Machilis*.

*Seira mexicana* occurred in abundance near the city of Mexico, at 7300

ft. elevation; the species was found July 9 and 13, upon grasses, and numerous examples were also taken upon old cocoons on *Salix Humboldtiana*.

*S. mexicana* is nearest related to *Drepanura californica* Schött.\* In conformity with the wish of this author, however, the genus *Drepanura* had better be merged into *Sira* Lubbock. "I therefore think that the greatest order is attained when (1) to the gen. *Lepidocyrtus* Bourl., all the forms are referred which have the mesonotum more or less projecting and the body clothed with scales, (2) to the gen. *Entomobrya* Rond., forms with the mesonotum not projecting and without scales, and finally (3) to the gen. *Sira* Lbk. forms clothed with scales but with the mesonotum not projecting. In consequence of this, the two temporary genera *Drepanura* and *Pseudosira*, before proposed by me, are to be excluded from the system." †

*S. mexicana* differs from *S. californica* in the plan of coloration and by

\* Schött, Beiträge zur Kenntniss Kalifornischer Collembola. Bihang K. Sven. Vet. Akad. Handlingar. Bd. 17, Afd. iv, 1891. (See pp. 19—21 and Taf. iv, Figs. 2, 3 and 5)

† Schött, H. North American Apterygogenea. Proc. Cal. Acad. Sc., Ser. 2, Vol. vi. 1896. (See pp. 171—172)

having antennae, legs, claws and furcula which are relatively much longer; in addition, the superior claws are tridentate, the mucrones are not nearly as falcate as in *S. californica*, while the general pilosity is much less and the clavate dorsal hairs fewer and differently disposed. Schött makes no mention of barbellate hairs in the description of *S. californica*.

*Machilis conjuncta*, n. sp. General color blackish brown; the rubbed, alcoholic specimen which I have drawn (Fig. 1) is white with dark brown mottlings. The head, legs and subabdominal appendages are almost white. Head small. Eyes black, nearly spherical and united more broadly than usual (Fig. 2), in allusion to which the species is named. Antennae at least twice as long as the body and conspicuously annulated with brown; basal segment (Fig. 3) stout, cylindrical, two-thirds as broad as it is long; second segment subcylindrical but broader than long. Maxillary palpi slender with segments that are nearly cylindrical, simple, and in length as  $1:2:3:3\frac{1}{2}:4:3:2\frac{1}{2}$ . Labial palpi with segments as  $1:2:3$ ; basal segment globose; second, cylindrical; third, stout, and crescentic in lateral aspect. Body rather cylindrical, but slightly tapering; the relative lengths of its segments, as measured along the median dorsal line, are about as  $3:6:3:3:2:2:2\frac{1}{2}:3:3:3:2:1\frac{1}{2}$ . Prothorax with a prominent antero-lateral lobe; mesothorax with an antero-lateral emargination. Legs stout; trochanters obliquely separated from the femora; femora much swollen; the coxal appendages of the mid- and hind-legs are slender and conical. The subabdominal, paired appendages, occurring, as usual, only upon abdominal segments two to nine, inclusive, are conspicuous and slender. Median cercus at least longer than the body and annulated; lateral cerci much smaller, about half as long as the median cercus and simi-

larly annulated. Scales (Figs. 4-6) extremely variable, as already remarked.

Length 13 mm., exclusive of appendages. Described from a single type, which has been deposited in Museum of Comparative Zoölogy at Cambridge, Mass.

*Seira mexicana* n. sp. Usual color blackish purple, with a conspicuous yellowish-white band on the anterior part of the fourth abdominal segment, occasionally obliterated; often every segment is banded, as in the specimen which I have represented (Fig. 7) and will describe with some detail. Head with an irregular, white, dorsal patch surrounded with purple. Eyes present, normal. Antennae slender, over twice as long as the head; antennal segments cylindrical, purple with pale bases, and in length as  $2:3:3:4$ . Body rather cylindrical, sparsely hairy, with three dorsal clusters of clavate hairs. Mesonotum not projecting. Legs slender, the hind pair longest; coxae and trochanters purple, the remaining segments yellowish-white; tibiae furnished with barbellate hairs and also a single tenent hair; superior claw (Fig. 8) straight, slender, tapering and tridentate; inferior claw about half as long, broadly linear, acute and simple. Furcula attaining the ventral tube; manubrium purple, sparsely hairy; dentes white, subequal to manubrium, slender, strongly crenulate (Fig. 9), with stiff, barbellate bristles, except at the apex of each dens, which is slender and bare; mucrones consisting of a simple, slightly falcate segment. Scales varying from elliptical-oval (Fig. 10) to narrow-elliptical, thickly covered with minute, lanceolate markings and having a long, linear pedicel. Fig. 10 represents a scale from the dorsal part of the abdomen; on the ventral side of the abdomen the scales are three times as long and narrowly-elliptical.

Length, 2 mm. Described from fifty-two types, some of which have been given to the Museum of Comparative Zoölogy, at Cambridge, Mass. Mr. Barrett informs me that he has retained duplicates of this species for Museo Nacional, of Mexico City.



