

NEW SPECIES OF CHILIAN SIPHONAPTERA

— BY —

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Pulex cocyti. SPEC. NOV.

This is a small and very pale species.

Head.—The head is nearly evenly rounded in the ♀, while in the ♂ the dorsal line of the occiput is nearly horizontal. The occiput is two and a half times as long again as the frons in the ♂. There is a row of three bristles in front of the eye. The occiput bears a regular series of long and short hairs, the most ventral one being the longest. The interspace between this bristle and the next long one is a little wider than the interspace between the second and third. Above the antennal groove there are two or three more hairs, but there are no further hairs on the sides. In the ♂ the dorsal depression of the occiput is covered with numerous very fine hairs. Above the antennal groove there is a regular row of short and fine spine-like hairs which stand close together. This row extends in the ♂ nearly to the groove in which the antenna is inserted, while in the ♀ the row is much shorter, being restricted to the hinder third of the occiput. The second segment of the maxillary palpus is twice as long as the third and one-third shorter than the fourth. The labial palpus consists of five segments, the second and third being the shortest.

Thorax.—The pronotum bears one row of short bristles and some additional ones on the back. Between the row of long bristles of the mesonotum and the hinder edge there is a row of about nine long and very thin hair-like spines. The epimerum of the mesothorax bears four bristles, two in the middle and two behind. The metanotum bears a row of long bristles, and an abbreviated row of shorter ones in front of it, and some additional hairs on the back. The epimerum of the metathorax bears two or three hairs in front and two or three from the stigma downwards, the uppermost anterior bristle being on a level with the stigma.

Abdomen.—The abdominal tergites bear each one row of long bristles, with a rather long thin hair between each two, as on the thoracic tergites. In the ♀ there is on all tergites an

additional row of shorter ones, which extends only halfway down the sides. In the ♂ this additional row is present on the first tergite. The seventh tergite bears a long apical bristle on each side, accompanied by a very short hair. The stigmata of the abdomen are more proximal and more dorsal in the ♀ than in the ♂, standing above the first bristle in the ♂ and on a level with or above the second in the ♀ on segments 3 to 7. The basal sternite bears only one minute ventral hair. The other sternites bear in the ♂ two or three, in the ♀ three or four, seldom five, on each side.

Legs.—The hairs on the forecoxa are not numerous. The mid and hindcoxae have posteriorly at the apex two bristles, the upper one being the longer. There is no comb on the hindcoxa. The hindfemur bear on the outside one subventral bristle near the apex, and one or two lateral ones near the base, and on the inside a series of eight or nine. The tibiae have hairs on the ventral side, and on the outer side one row of bristles. At the dorsal edge the tibiae bear seven pairs of bristles, those of the sixth pair being about the same size as those of the third. The long apical dorsal bristle of the foretibia reaches beyond the second tarsal segment, while the corresponding bristle of the hindtibia reaches to the base of the second segment. The longer bristle of the fifth pair of the hindtibia is about three times as long as the tibia is broad in the middle. The measurement of the tarsal segments are:

		First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Foretarsus,	♂	6	7	6	5	12
"	♀	7	8	7	6	16
Midtarsus,	♂	11	12	10	6	14
"	♀	13	15	11	7	17
Hindtarsus	♂	25	17	12	7	15
"	♀	25	17	13	7	17

The longest apical bristle of the first hindtarsal segment reaches nearly to the middle of the third segment, and that of the second segment almost to the apex of the fourth

Modified Segments.—The clasper of the ♂ is large, and bears numerous hairs along the edge. The finger is very small. The ninth sternite is slightly dilated before the middle, obtuse at the apex, and bears a number of hairs along the ventral edge.

The eighth tergite of the ♀ has a few hairs above the stigma, about eight to ten lateral ones farther down, and a row of

short and rather stout ones at the apex, there being on the innerside of the segment a dense apical patch of hairs.

Length: ♂, 1.5 mm.; ♀ 1.9 mm.

We have thirteen examples of this insect:—

5 ♂ ♂, Coast Hills, Chile. *Spalacopus cyaneus*. Mr. J. A. Wolffsohn.

6 ♀ ♀, Coast Hills, Chile. *Spalacopus cyaneus*. Mr. J. A. Wolffsohn.

2 ♂ ♂, Valparaiso, Chile. *Spalacopus cyaneus*. Mr. J. A. Wolffsohn.

Pulex corfidii, SPEC. NOV.

♀. *Head*.—The front of the head bears a pointed tubercle directed backwards and projecting from a groove. There is a row of three bristles in front of the eye, the upper one standing at the antennal groove and the lower one behind the maxillary palpus. In between these bristles there are two shorter ones. Above the eye there is a number of short hairs. The genal edge bears a series of eight or nine bristles (which are nearly all broken off in my single specimen.) On the hinder part of the head there are a number of bristles along the antennal groove, and a complete subapical series of eight. The short hairs above the antennal stand in an almost regular row, but are not numerous. The head is punctured from the eye-bristles upwards. The rostrum is much shorter than the forecoxa. The labial palpus consists of four segments only, the fourth segment being as long as the two preceding ones together.

Thorax.—The prothorax bears two rows of bristles, and one or two bristles in front of them on the back. There is also a hair-like subapical dorsal spine on each side. The mesonotum bears three rows of bristles and a subapical series of five hair-like spines. On the metanotum there are two rows of bristles. The epimerum of the mesonotum bears four bristles. The meta-thoracical epimerum bears twelve bristles in two vertical slightly curved rows (7.5) and three short hairs behind the second row; the third bristle of the first row is nearer the base than the others.

Abdomen.—The abdominal tergites have two rows of bristles the first tergite bearing two or three additional bristles on the back. The bristles in each row are very numerous, there being as many as thirteen or fourteen in the second row on each side on the middle segments. The first tergite bears an apical comb of fifteen spines on the two sides together. On the second tergite there are five spines, and on the third two. There is one long apical bristle on the seventh tergite. The stigma is small, and stands just in front of the anterior row of bristles and above the

third bristle of the second row on the middle segments. The first abdominal sternite bears several hairs at the ventral edge, and a curved row on the sides with a number of additional hairs in front of this row. The sternites of segments 4 to 7 bear a row of seven or eight bristles, and five to seven hairs in front, the numbers being rather larger on the sternite of the third segment.

Legs.—The mid- and hindcoxae bear two bristles posteriorly at the apex. The anterior femur bears about fifteen hairs on the outer surface and three bristles ventrally before the apex, there being on the innerside a row of four or five from the apex forward. The mid- and hindfemora are also hairy on the outer surface, and bear a subventral row of hairs on the innerside. The last four or five ventral bristles on the outerside of the hindfemur are long and stand in a regular row. The bristles at and near the ventral edge of the mid- and hindtibiae are numerous, and there are two rows of bristles on the outer surface, besides some additional lateral bristles from the fifth dorsal pair to the apex. The third dorsal pair is represented by a fine hair. The longest apical bristle of the midtibia reaches beyond the apex of the first tarsal segment. The longest bristle of the second hindtarsal segment reaches beyond the apex of the fourth segment. The hairs on the back of the third tarsal segment are numerous. The fifth tarsal segment bears on each side three rather slender bristles, the third pair being somewhat approximate, and there is a fourth short bristle halfway towards the apex. The measurement of the tarsi are as follows.

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus.....	22	18	11	8	18
Hindtarsus.....	39	21	14	9	18

Modified Segments.—The eighth tergite bears a number of bristles above the stigma, and a regular series from the stigma downwards, there being in front of this series an irregular row of shorter ones. Near the apical edge there is a row of about fourteen bristles, while on the inner surface near the apex there are two rows of short ones. The stylet is subcylindrical, being about three times as long as broad.

Length: ♀, 202 mm.

This species comes near to *bohlsi* and *lutzi*, but can easily be distinguished by the short rostrum, the frontal tubercle, and the row of bristles along the genal edge of the head.

We have of this species one ♀, Valparaiso (Chile), from *Octodon degus*, collected by Mr. J. A. Wolffsohn.

Ceratophyllus endymionis, SPEC. NOV.

This species is closely allied to *C. alladinis*, but differs in the following details:—

Head.—The frontal tooth of the head is less distinct. The small hairs in front of the eye are much less numerous, and there are two or three small bristles situated near the antennal groove in a transverse row in front of the three eyebristles.

Thorax.—The mesonotum is much more hairy on the back than in *C. alladinis*. The metanotum bears several bristles in front of the anterior row. There are one or two short apical spines. The short hairs on the mesothoracical episternum are rather more numerous.

Abdomen.—The first abdominal tergite bears three rows of bristles and some additional hairs on the back in front of them. The other tergites, except the seventh, have also a few bristles in front of the anterior row. The anterior row of hairs on the seventh tergite is restricted to the back, consisting of five hairs on the two sides together. There are three bristles at the apex of the seventh tergite. The basal sternite of the abdomen bears one ventral bristle on each side and a small lateral hair. The seventh sternite is much less obviously sinuate.

Legs.—The first hindtarsal segment bears six pairs of bristles on each side and a ventral row of three or four smaller bristles on the posterior (outer) side. The second and third segments bear such a ventral row on each side. The measurements of the mid- and hindtarsus are as follows:—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus.....	24	22	13	8	18
Hindtarsus.....	50	32	21	12	21

Modified Segments.—The eighth tergite is much less emarginate at the apex than in *C. alladinis*.

Length, 3.4 mm.

We have two ♀♀ collected by Mr. J. A. Wolffsohn at Valparaiso, Chile, from *Marmosa elegans*.

This species is also closely allied to *C. californicus* Baker, but differs from that insect in having the mesonotum much more hairy on the back, the metanotum of *C. endymionis* having also several additional hairs in front of the two rows.

