

# *Sitobion kurimahala*, another remarkable new aphid from Angola (Homoptera: Aphididae)

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*Abstract:* *Sitobion kurimahala* n.sp. is described from central Angola. It was beaten from vegetation, its host plant being unknown. The siphuncular reticulation in the new species is almost completely lacking. Comparisons are made with other *Sitobion* species with reduced reticulation.

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## Introduction

During the month February in two consecutive years, 1971 and 1972, aphids were beaten from the vegetation of a strip of marshy land bordering the Kurimahala River at Chianga, central Angola. This vegetation consisted mainly of plants of the families Gramineae and Cyperaceae. Despite prolonged searching, the host plants of the aphids could not be found.

Microscopic examination of the aphids showed that these belonged to the genus *Sitobion*, but were almost completely lacking reticulation on their siphunculi. As the species can be easily differentiated from all other *Sitobion* species with reduced siphuncular reticulation, it is here described as new.

## *Sitobion kurimahala* n.sp.

### *Apterous viviparous female*

Morphological characters. Body broadly spindle shaped, 1.6-2.0 mm long. Head smooth, frontal tubercles well developed, diverging; median prominence broad, inconspicuous. Frontal and discal hairs bluntly spear-shaped, 9-11  $\mu$  long. Antennae 1.05-1.15 times as long as body. Antennal segments I and II, as well as base of segment III pale. Rest of antennae dark. P.T. 4.55-5.60 times as long as the base of VI, 1.20-1.45 times antennal segment III. Third a.s. normally without rhinaria, rarely

with a single one, confined to the basal one fifth. Antennal hairs like dorsal cephalic hairs, but somewhat longer: 10-15  $\mu$ . Rostrum short, just reaching middle coxae. Ultimate rostral segment heart-shaped, dusky, 0.70-0.85 times as long as the second joints of the hind tarsi, with only two 25-35  $\mu$  long hairs in addition to the small basal pair and the three constant apical pairs. Dorsal body cuticle entirely pale, variably rugose, but not appreciably sclerotic; intersegmental muscle sclerites only slightly darker than surrounding cuticle. Mesothoracic furca sessile. Legs long, pale, except for the apices of the femorae, the very bases and apical 1/5-1/8 of the tibiae, and the tarsi, which are dusky to dark. Femora slightly imbricated, tibiae almost smooth. Most hairs of femorae blunt, about 10-15  $\mu$  long. Tibiae with hairs of various lengths, between 10 and 30  $\mu$ , but not increasing in length towards apex. First tarsal joints with 3, 3 and 3 hairs. Second joints of tarsi imbricated, longest hairs on them measuring 15  $\mu$ . Dorsal abdominal hairs blunt, those on tergite VIII 10-15  $\mu$  long and 3-4 in number. Ventral hairs more abundant, acute, 15-30  $\mu$  long. Spiracles reniform to oval. Siphunculi darkening progressively from pale dusky at base to blackish over the distal one-third; cylindrical, but expanding slightly over basal one-fourth and extreme apex, in microscopic preparations curving outwardly; imbrication light, but becoming stronger from base

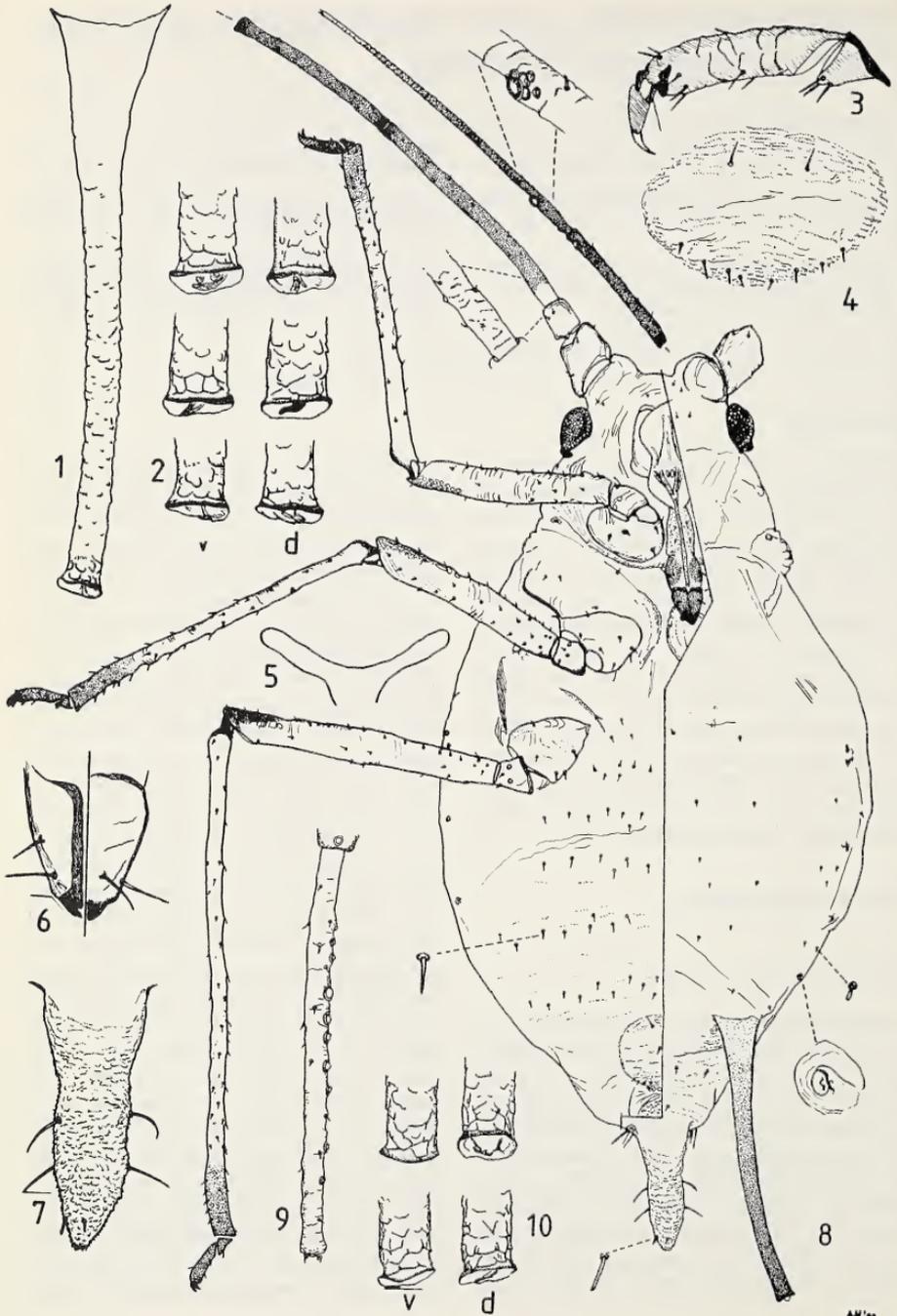


Table 1. Biometric data for specimens of *Sitobion kurimahala* n.sp. Measurements in mm. All specimens beaten from vegetation, Chianga, near Huambo, Angola. Apterous viviparous females: 1-7, 11.ii.1972; 8-10, 24.ii.1971. Alate viviparous females: 11, 11.ii.1972; 12, 24.ii.1972. No 1 is the holotype.

No	body	antennal segments					cauda	siph.	u.r.s.	h.t.2	rhin III
		ant.	III	IV	V	VI					
1	1.89	2.09	0.52	0.32	0.31	0.13 + 0.63	0.27	0.56	0.077	0.110	0
		2.09	0.51	0.33	0.29	0.13 + 0.63		0.57			0
2	1.63	1.71	0.39	0.21	0.24	0.11 + 0.60	0.21	0.45	0.072	0.093	0
		1.71	0.40	0.18	0.25	0.12 + 0.60		0.45			0
3	1.67	1.94	0.45	0.30	0.27	0.13 + 0.62	0.23	0.52	0.077	0.103	0
		1.92	0.46	0.26	0.27	0.12 + 0.64		0.52			0
4	1.93	2.01	0.51	0.31	0.25	0.13 + 0.61	0.27	0.54	0.082	0.104	0
		2.03	0.51	0.33	0.29	0.12 + 0.59		0.55			0
5	1.95	—	0.49	0.31	0.29	0.13 + —	0.24	0.51	0.080	0.105	1
		2.02	0.49	0.32	0.29	0.13 + 0.60		0.51			0
6	1.82	2.09	0.48	0.33	0.30	0.12 + 0.68	0.25	0.51	0.075	0.102	0
		2.06	0.47	0.32	0.30	0.13 + 0.66		0.51			0
7	1.90	2.16	0.50	0.36	0.33	0.13 + 0.67	0.27	0.55	0.081	0.111	1
		2.18	0.50	0.37	0.33	0.13 + 0.67		0.55			0
8	1.72	1.90	0.42	0.33	0.28	0.12 + 0.59	0.23	0.48	0.074	0.101	0
		1.89	0.44	0.32	0.27	0.12 + 0.58		0.48			1
9	1.98	2.15	0.52	0.38	0.32	0.12 + 0.61	0.29	0.61	0.084	0.107	0
		2.12	0.51	0.38	0.30	0.12 + 0.63		0.61			0
10	—	2.02	0.44	0.34	0.31	0.13 + 0.63	0.24	0.53	0.082	0.103	0
		2.01	0.43	0.34	0.31	0.13 + 0.63		0.53			0
11	2.04	2.37	0.55	0.40	0.36	0.14 + 0.72	0.25	0.52	0.085	0.108	8
		2.37	0.54	0.41	0.37	0.14 + 0.72		0.51			10
12	1.96	2.32	0.55	0.39	0.36	0.13 + 0.71	0.23	0.52	0.084	0.110	10
		2.33	0.53	0.41	0.36	0.14 + 0.70		0.53			8

towards apex, passing gradually into 2-3 rows of imperfectly formed reticulate cells, covering about 1/15 of the length before the very small apical flange; 0.28-0.31 times as long as body, 2.0-2.4 as long as cauda; in the middle about 1¼ times as broad as the middle of the hind tibiae. Cauda pale, elongate tongue-shaped, with a slight constriction in its basal two-fifths and with blunt apex, spinulosely imbricated; normally with 4, seldom 5, pointed, 50-70 µ long lateral hairs and 2, rarely 3, much shorter (15-30 µ) subapical hairs. Subgenital plate pale, with one pair of anterior hairs, 25-30 µ long, and 6-9 slightly shorter (20-25 µ) hairs along the hind margin.

Colour when alive: light green, with antennae and siphunculi appearing mostly black.

#### *Alate viviparous female*

Similar to apterae in most morphological characters. Frontal and dorsal cephalic hairs 13-15 µ long. Antennae slightly longer as in apterae, 1.17-1.19 times as long as body. Third antennal segment with 8-10 secondary rhinaria in a straight row almost over its whole length. Reticulation of siphunculi hardly more developed than in apterae. Otherwise as in apterous viviparous female.

Colour when alive: green.

Figs. 1-10. *Sitobion kurimahala* n.sp. 1-8, apterous viviparous female: 1, siphunculus; 2, apices of siphunculi (v = ventrally, d = dorsally); 3, hind tarsus; 4, subgenital plate; 5, mesothoracic furca; 6, ultimate rostral segment; 7, body; 8, cauda. 9-10, alate viviparous female: 9, third antennal segment; 10, apices of siphunculi.

Table 2. Differential characters for the apterous viviparous females of *Sitobion* species with reduced siphuncular reticulation.

Species	PT/bVI	siph./cauda	urs/ht2	subs.hairs on urs
<i>S. graminearum</i>	7.1	1.3	0.65	3
<i>S. adgnatum</i>	3.0-3.7	1.3-1.5	0.60-0.76	3-4
<i>S. dryopteridis</i>	4.1-5.3	2.5-3.1	1.10	5-7
<i>S. equiseti</i>	3.5-4.5	1.1-1.5	0.70-0.82	4-6
<i>S. scoticum</i>	3.2-3.9	1.4-1.5	0.60-0.67	2
<i>S. milii</i>	4.5-5.6	1.4-1.6	0.83-0.89	4-7
<i>S. kurimahala</i>	4.6-5.6	2.0-2.4	0.68-0.84	2

### Differential diagnosis

Two species of *Sitobion* with reduced reticulation have been described from Africa, both living on plants of the genus *Euphorbia*: *S. adgnatum* (F. P. Müller) from South Africa and *S. milii* Remaudière from Burundi. These species are easily distinguished from *S. kurimahala* as they possess siphunculi which are slightly constricted apically. Also their siphunculi are shorter and they bear more subsidiary hairs on their apical rostral segments.

The species perhaps most similar to *S. kurimahala* are *S. graminearum* (Mordvilko) and *S. scoticum* (Stroyan). Both possess short, heart-shaped ultimate rostral segments with only 2-3 subsidiary hairs. *Metopolophium graminearum* was described in 1919 from sexuales taken on an unidentified grass near Leningrad, USSR. Hille Ris Lambers (1966) gave a short description of the type specimens and noted that the species was quite unlike European *Metopolophium*. Ossiannilsson (1969) collected a single apterous viviparous female of this species in Sweden. His specimen is rather big (body length 3.6 mm), but the siphunculi are relatively much shorter (siph./cauda = 1.3) than in *S. kurimahala*. Eastop & Hille Ris Lambers (1976) for the first time included *graminearum* in the genus *Sitobion*. *S. scoticum* was described from *Poa trivialis* L. in a patch of damp, boggy vegetation bordering a small stream in northern Scotland (Stroyan, 1969). This species also has shorter siphunculi (siph./cauda: 1.4-1.5) and antennae which are clearly shorter than the body.

From Central Europe two other species with reduced reticulation on their siphunculi are known: *S. dryopteridis* (Holman), living on ferns, and *S. equiseti* Holman, living on *Equisetum* spp. In Table 2, *S. kurimahala* is compared with all species mentioned.

### Type material

All material was collected at Chianga, near Huambo, central Angola. The specimens collected in 1971 were preserved in Canada Balsam, those from 1972 in Faure-Berlese medium. The holotype slide will be deposited in the collection of the British Museum (Natural History), London, UK. Paratype slides will be sent to the collections of the Institut Pasteur, Paris, France and the Estação Agronómica Nacional, Oeiras, Portugal. The remainder of the type material will stay in the authors collection.

### References

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