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THREE NEW SPECIES OF ERIOPHYID MITES
(ACARI: ERIOPHYOIDEA) ON SOPHORA JAPONICA L.

by R. DOMES¹

(Accepted May 2008)

NEW SPECIES
ERIOPHYOIDEA
GERMANY

SUMMARY: Epitrimerus sophorae, Vasates sophorae and Vasates sophoracolae, three new species of Sophora japonica.

ESPÈCES NOUVELLES
ERIOPHYOIDEA
ALLEMAGNE

RÉSUMÉ : Epitrimerus sophorae, Vasates sophorae et Vasates sophoracolae sont décrites d’Allemagne sur Sophora japonica.

Pagoda tree (Sophora japonica L.) is an interesting park tree for Germany because of their late summer flowering and their resistance to low temperature. Eriophyids of these trees were not examined to date. Within the genus Sophora, the unique species Aculops sophorae was described by Kuang in 1989 from China for Sophora japonica var. pendula, whereas Aculus semenovi for Sophora alopecuroides, by Shevtchenko, Markowski & Samsutdinova in Russia and for Sophora microphylla, Aceria microphyllae by Manson (1984) from New Zealand were identified. Not any of these mites could be found on Sophora japonica L. in Bruchsal (Germany), but three species were identified: Epitrimerus sophorae n. sp., Vasates sophorae n. sp. and Vasates sophoracolae n. sp. These mites colonize on leaves, flowers and young fruits without injury on the host plant.

Epitrimerus sophorae n. sp.
Female:
(All measurements are given in μm).

Body size: 140-150 long (mean 145), 55-58 wide and 51 thick (at shield margin), white, fusiform.

Gnathosoma 25, chelicerae 23 long.
Dorsal shield 40 long, 55-58 wide, anterior lobe 5 long, 10 wide, shield design netlike (Fig. 1); scapular tubercles Dt-Sr 6, Dt-Dt 31 apart, setae (Sc) 30 long, directed back.
Forelegs 35 long, tibia 6-8, tarsus 7, foretibial setae 8, genual setae 20, genu 6, femoral setae 13, trochanter 4. Tarsal solenidion 9, tarsal empodium 9, 6-rayed. Hindlegs 33 long, tibia 6, tarsus 7, genu 6, genual setae 10, femoral setae 13, trochanter 4. Tarsal solenidion 9, tarsal empodium 9, 6-rayed.
Forecoxal tubercles (1b) Ct1-Ct1 11 apart, setae (1b) 10 long; forecoxal tubercles (1a) Ct2-Ct2 9 apart, setae (1a) 20 long; coxal tubercles (2a) Ct3-Ct3 25 apart, setae (2a) 40 long.
Opisthosoma with 29 dorsal annuli and 64 ventral annuli, microtuberculate; longitudinal ridge on dorsum, 24 wide.
Lateral tubercles (c2) Lt-Lt 47 apart, on ventral annuli 12-13, setae (c2) 40 long; 1st ventral tubercles (d) Vt1-Vt1 35 apart, on ventral annuli 24-25, setae (d) 50 long; 2nd ventral tubercles (e) Vt2-Vt2 17 apart, on ventral annuli 40-41, setae (e) 35 long; 3rd ventral tubercles (f) Vt3-Vt3 21 apart, on ventral

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Fig. 1. — Epitrimerus sophorae n. sp. Female. — DVF. — Dorsal view. VVF. — Ventral view. GCF. — Genital cover flap. TS. — Tarsal solenidion. TE. — Tarsal empodium. VA. — Ventral annuli.
annuli 59-60, setae (f) 40 long. Caudal setae (h2) 110 long, 10 apart, accessoriae setae (h1) 4 long, 5 apart. Female genital coverflap 21 wide, 10 long with 14-16 longitudinal ridges, genital setae (3a) 40 long, genital tubercles (3a) 15 apart.

Vasates sophorae n. sp.

Female

Body size: 174 long, 60 wide and 51 thick (at hind shield margin), yellow, spindle shaped.

Gnathosoma 30, chelicerae 25 long. Dorsal shield 35 long, 60 wide, anterior lobe 7 long, 13 wide, pointed; shield design with indistinct netlike design (Fig. 2). Scapular tubercles Dt-Sr 5, Dt-Dt 23 apart, setae (Sc) 30 long, directed backwards. Forelegs 36 long, tibia 8, tarsus 6, foretibial setae 7, genual setae 25, genu 6, femoral setae 13, trochanter 4. Tarsal solenidion 8, tarsal empodium 11, 6-rayed. Hindlegs 34 long, tibia 6, tarsus 6, genu 6, femoral setae 11, trochanter 3. Tarsal solenidion 10, tarsal empodium 9, 6-rayed.

Forecoxal tubercles (1b) C1-C1 9 apart, setae (1b) 10 long; forecoxal tubercles (1a) C2-C2 8 apart, setae (1a) 20 long; coxal tubercles (2a) C3-C3 24 apart, setae (2a) 30 long. Opisthosoma with 29 dorsal annuli and 65 ventral annuli, microtuberculate, even vaulted on dorsum.

Lateral tubercles (c2) Lt-Lt 48 apart, on ventral annuli 13-14, setae (c2) 42 long; 1st ventral tubercles (d) Vt1-Vt1 33 apart, on ventral annuli 26-27, setae (d) 65 long; 2nd ventral tubercles (e) Vt2-Vt2 17 apart, on ventral annuli 42-43, setae (e) 30 long; 3rd ventral tubercles (f) Vt3-Vt3 21 apart, on ventral annuli 61-62, setae (f) 32 long.

Caudal setae (h2) 100 long, 9 apart, accessoriae setae (h1) 5 long, 6 apart.

Female genital coverflap 20 wide, 10 long with 12 longitudinal ridges, genital setae (3a) 35 long, genital tubercles (3a) 15 apart.

Male (from August)

Body size: 172 long, 60 wide and 51 thick (at hind shield margin), spindle shaped.

Gnathosoma 25, chelicerae 22 long. Dorsal shield 32 long, 60 wide, anterior lobe 9 long, 15 wide, acute; shield design like female. Scapular tubercles Dt-Sr 5, Dt-Dt 23 apart, setae (Sc) 27 long, directed backwards.

Forelegs 34 long, tibia 7, tarsus 7, foetribial setae 7, genual setae 25, genu 6, femoral setae 11, trochanter 3. Tarsal solenidion 8, tarsal empodium 9, 6-rayed. Hindlegs 31 long, tibia 6, tarsus 6, genu 5, genual setae 8, femoral setae 11, trochanter 3. Tarsal solenidion 11, tarsal empodium 9, 6-rayed.

Forecoxal tubercles (1b) C1-C1 9 apart, setae (1b) 10 long; forecoxal tubercles (1a) C1-C1 8 apart, setae (1a) 20 long; coxal tubercles (2a) C3-C3 19 apart, setae (2a) 30 long.

Opisthosoma with 28 dorsal annuli and 63 ventral annuli, microtuberculate, regular arched on dorsum. Lateral tubercles (c2) Lt-Lt 40 apart, on ventral annuli 11-12, setae (c2) 38 long; 1st ventral tubercles (d) Vt1-Vt1 31 apart, on ventral annuli 25-26, setae (d) 60 long; 2nd ventral tubercles (e) Vt2-Vt2 15 apart, on ventral annuli 40-41, setae (e) 25 long; 3rd ventral tubercles (f) Vt3-Vt3 18 apart, on ventral annuli 59-60, setae (f) 30 long.

Caudal setae (h2) 90 long, 9 apart, accessoriae setae (h1) 4 long, 5 apart.

Genitalia 20 wide, setae 28-35 long, Gt-Gt 13 apart.

Vasates sophoracolae n. sp.

Female

Body size: 170 long, 57-60 wide and 53 thick (at hind shield margin), white, spindle shaped. Gnathosoma 25, chelicerae 20 long; setae antapicalis 10, setae apicalis 5 long.

Dorsal shield 40 long, 57-60 wide, anterior lobe 6 long, 10 wide, rounded; shield design smooth (Fig. 3). Scapular tubercles Dt-Sr 0, Dt-Dt 28 apart, setae (Sc) 30 long, directed backwards. Forelegs 37 long, tibia 8, tarsus 7, foretibial setae 10, genual setae 25, genu 6, femoral setae 15, trochanter 5. Tarsal solenidion 8, tarsal empodium 11, 7-rayed. Hindlegs 36 long, tibia 7, tarsus 7, genu 6, genual setae 13, femoral setae 15, trochanter 4. Tarsal solenidion 10, tarsal empodium 11, 7-rayed.
Fig. 2. — *Vasates sophorae* n. sp. Female and male. — DVF. — Dorsal view, female. VVF. — Ventral view, female. GCF. — Genital cover flap, female. E. — Epiandrum. TS. — Tarsal solenidion. TE. — Tarsal empodium. VA. — Ventral annuli.
Fig. 3. — *Vasates sophoracola* n. sp. Female and male. — DVF. — Dorsal view, female. VVF. — Ventral view, female. GCF. — Genital cover flap, female. E. — Epiandrium. TS. — Tarsal solenidion. TE. — Tarsal empodium. VA. — Ventral annuli.
Forecoxal tubercles (1b) Ct1-Ct1 11 apart, setae (1b) 10 long; forecoxal tubercles (1a) Ct2-Ct2 11 apart, setae (1a) 30 long; coxal tubercles (2a) Ct3-Ct3 24 apart, setae (2a) 45 long.

Opisthosaoma with 43 dorsal annuli and 60 ventral annuli, microtuberculate, even arched on dorsum. Lateral tubercles (c2) Lt-Lt 52 apart, on ventral annuli 11-12, setae (c2) 40 long; 1st ventral tubercles (d) Vt1-Vt1 38 apart, on ventral annuli 22-23, setae (d) 60 long; 2nd ventral tubercles (e) Vt2-Vt2 18 apart, on ventral annuli 36-37, setae (e) 45 long. Caudal setae (h2) 70 long, 11 apart, accessoriae setae (h1) 4 long, 7 apart.

Female genital coverflap 22 wide, 11 long, with 10-12 longitudinal ridges, genital setae (3a) 50 long, genital tubercles (3a) 16 apart.

Male (from August)

Body size: 140 long, 50 wide and 50 thick (at hind shield margin), spindle shaped.

Gnathosoma 25, chelicerae 20 long. Dorsal shield 37 long, 50 wide, anterior lobe 6 long, 10 wide, rounded; shield design smooth. (Fig. 3). Scapular tubercles Dt-Sr 0, Dt-Dt 23 apart, setae (Sc) 20 long, directed backwards. Forelegs 36 long, tibia 8, tarsus 6, foretibial setae 10, genual setae 25, genu 6, femoral setae 14, trochanter 5. Tarsal solenidion 10, tarsal empodium 9, 6-rayed. Hindlegs 34 long, tibia 7, tarsus 6, genu 5, genual setae 10, femoral setae 14, trochanter 5. Tarsal solenidion 11, tarsal empodium 9, 6-rayed. Forecoxal tubercles (1b) Ct2-Ct2 10 apart, setae (1b) 11 long; forecoxal tubercles (1a) Ct2-Ct2 7 apart, setae (1a) 25 long; coxal tubercles (2a) Ct3-Ct3 21 apart, setae (2a) 40 long. Opisthosaoma with 23 dorsal annuli and 55 ventral annuli, microtuberculate, even arched on dorsum.

Lateral tubercles (c2) Lt-Lt 45 apart, on ventral annuli 9-10, setae (c2) 37 long; 1st ventral tubercles (d) Vt1-Vt1 29 apart, on ventral annuli 19-20, setae (d) 40 long; 2nd ventral tubercles (e) Vt2-Vt2 15 apart, on ventral annuli 33-34, setae (e) 30 long; 3rd ventral tubercles (f) Vt3-Vt3 19 apart, on ventral annuli 49-50, setae (f) 35 long. Caudal setae (h2) 80 long, 10 apart, accessoriae setae (h1) 4 long, 6 apart. Genitalia 18 wide, setae 30 long, Gt-Gt 15 apart.

Host: Sophora japonica L.

Relation to host: Vagrant on leafs, flowers and young fruits. No apparent damage was observed.

Type material

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REFERENCES

