

## FIVE NEW SPECIES OF ERIOPHYIDAE ON *AESCULUS HIPPOCASTANUM* L.

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ERIOPHYOIDEA  
ERIOPHYINAE  
NEW SPECIES  
GERMANY

ERIOPHYOIDEA  
ERIOPHYINAE  
ESPÈCES NOUVELLES  
ALLEMAGNE

SUMMARY: *Aceria aesculi*, *Aceria hippocastani*, *Aculus aesculi*, *Eriophyes aesculi* and *Tetra hippocastani* are described on *Aesculus hippocastanum* L. from Germany.

RÉSUMÉ : *Aceria aesculi*, *Aceria hippocastani*, *Aculus aesculi*, *Eriophyes aesculi* et *Tetra hippocastani* sont décrites sur *Aesculus hippocastanum* L. en Allemagne.

Hitherto from *Aesculus hippocastanum* L. are known *Aculus hippocastani* FOKEU 1890, *Shevtchenkella carinatus* NALEPA 1892 and *Shevtchenkella neocarinatus* KEIFER 1938. During inventory of Eriophyoidea from *Xylophytes* in surrounding area of Bruchsal *Aceria aesculi* n.sp., *A. hippocastani* n.sp., *Aculus aesculi* n.sp., *Eriophyes aesculi* n.sp. and *Tetra hippocastani* n.sp. were found on *Aesculus hippocastanum* L. December 1999. During the year 2000. *A. hippocastanum*-trees in Bruchsal were strongly attacked from *Aesculus* miner (*Phyllonorycter ohridella* Deschka & Dimic 1986, *Insecta, Lepidoptera, Lithocolletidae*). Population density of mites remained low. Therefore damage by mites besides miner damages could not be found. Mites go to wintering places on basis of buds as early as in September. I could'nt find males of the new species from *Aesculus hippocastanum* L. during the year 2001. *Aceria aesculi* n.sp., *A. hippocastani* n.sp. and *Tetra hippocastani* n.sp. are frequent on inferior leaf surface. *Eriophyes aesculi* n.sp. and *Aculus aesculi* n.sp. are rare on *Aesculus* leaves. *Aceria aesculi* n.sp. differs from other new

species of *Aesculus hippocastanum* by 3-rayed simple tarsal empodium, female genital coverflap and shield design. Tergites of *Tetra hippocastani* n.sp. are smooth and form a broad dorsal furrow. Sternites are microtuberculated, distance of microtubercles of sternites 1-30 is smaller than of the sternites 31-52. *Aculus aesculi* n.sp. differs from *Aculus hippocastani* in shield design, smooth female genital coverflap, 2nd ventral setae, dorsal setae and other characteristics. *Aceria hippocastani* n.sp. differs from *Aceria aesculi* n.sp. by 4-rayed simple tarsal empodium, shield design, smooth tergites, length of dorsal setae, length of forelegs and hindlegs. *Eriophyes aesculi* n.sp. has a typical shield design, median lines converged at shield margin, dorsal shield setae pointing up, 4-rayed simple tarsal empodium, smooth tergites, femal genital coverflap with 8 converged furrows.

### *Aceria aesculi* n.sp.

FEMALE: (all measurements are given in  $\mu\text{m}$ ) 159 (range of 10 specimens, 155-163) long, 40-42 wide

1. Kirrlacher Straße 3, 76646 Bruchsal, Germany.

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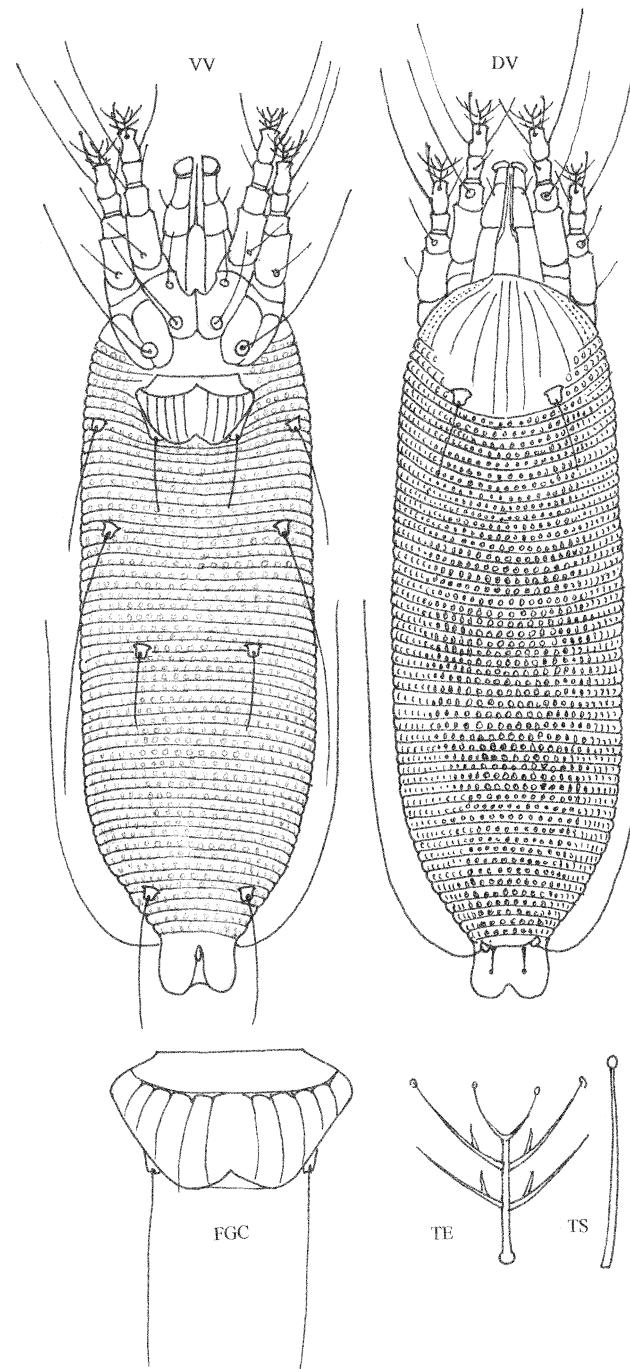


FIG. 1: *Aceria aesculi* n.sp., Female. — Dorsal view (D.V.); Ventral view ((VV); Female genital cover (FGC); Tarsal empodium (TE); Tarsal solenidion (TS).

and 32 thick at shield margin), white, wormlike. Gnathosoma 25-26, chelicerae 28-29 long. Dorsal shield 26-28 long and 40-42 wide. Shield pattern (Fig.1). Dorsal tubercles 3 ahead of shield margin, dorsal setae 15 long, projecting backward, 18 apart. Foreleg 25 long, tibia 5, tarsus 6, foretibial seta 7, patellar seta 25-27, patella 4-5, femoral seta 10, trochanter 3. Tarsal solenidion 7, tarsal empodium 7, **3-rayed**, simple. Hindleg 22 long, tibia 4, tarsus 5; tarsal solenidion 8, tarsal empodium 6, **3-rayed**, simple. First forecoxal tubercles 10 apart, setae 10 long; second forecoxal tubercles 8 apart, setae 20; hind coxal tubercles 18 apart, setae 40. Opisthosoma with 54 dorsal annuli and 53 ventral annuli. Lateral tubercles 39 apart, on ventral annuli 7-9, setae 25 long; 1st ventral tubercles 34 apart, on ventral annuli 18-19, setae 50 long; 2nd ventral tubercles 22 apart, on ventral annuli 30-32, setae 15 long; 3rd ventral tubercles 18 apart, on ventral annuli 48-50, setae 25 long. Caudal setae 85, accessory setae 5 long. Femal genitalia: genital coverflap 9 long and 23 wide, with 10 longitudinal ribs, genital tubercles 11 apart, setae 15 long.

*Aceria hippocastani* n.sp.

FEMALE: 128 (range of 10 specimens, 110-145) long, 35-40 wide and 26 thick (at shield margin), white, wormlike. Gnathosoma 21-26, chelicerae 23-27 long. Dorsal shield 22-23 long and 35-40 wide. Shield pattern (Fig.2). Dorsal tubercles on shield margin, dorsal setae 21-26 long, projecting backward, 18 apart. Foreleg 27 long, tibia 4, tarsus 8, foretibial setae 5, patellar seta 30, patella 5, femoral seta 15, trochanter 3. Tarsal solenidion 7, tarsal empodium 7, **4-rayed**, simple. Hindleg 24 long, tibia 3, tarsus 7; tarsal solenidion 8-9, tarsal empodium 9, **4-rayed**, simple. First forecoxal tubercles 12 apart, setae 10; second forecoxal tubercles 10 apart, setae 20; hind coxal tubercles 20 apart, setae 40. Opisthosoma with 52-60 microtuberculated dorsal annuli and 54-57 microtuberculated ventral annuli. Lateral tubercles 32-34 apart, on ventral annuli 8-9, setae 20 long; 1st ventral tubercles 26 apart, on ventral annuli 18-21, setae 50 long; 2nd ventral tubercles 19 apart, on ventral annuli 31-34, setae 15 long; 3rd ventral

tubercles 10 apart, on ventral annuli 48-53, setae thick and 20 long. Caudal setae 80, accessory setae 4 long.

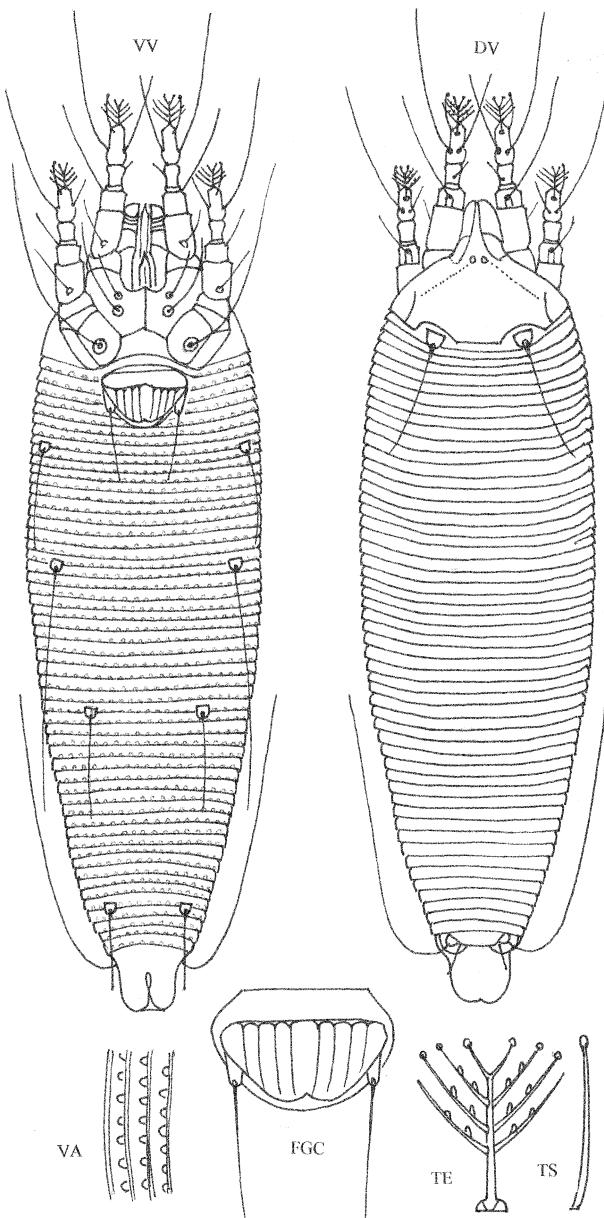


FIG 2: *Aceria hippocastani* n.sp., Female. — Dorsal view (D.V.); Ventral view (VV); Female genital cover (FGC); Tarsal empodium (TE); Tarsal solenidion (TS); Ventral annuli (VA).

Femal genitalia: genital coverflap 8 long and 18 wide, with 10 longitudinal scoring, genital tubercles 15 apart, setae 20 long.

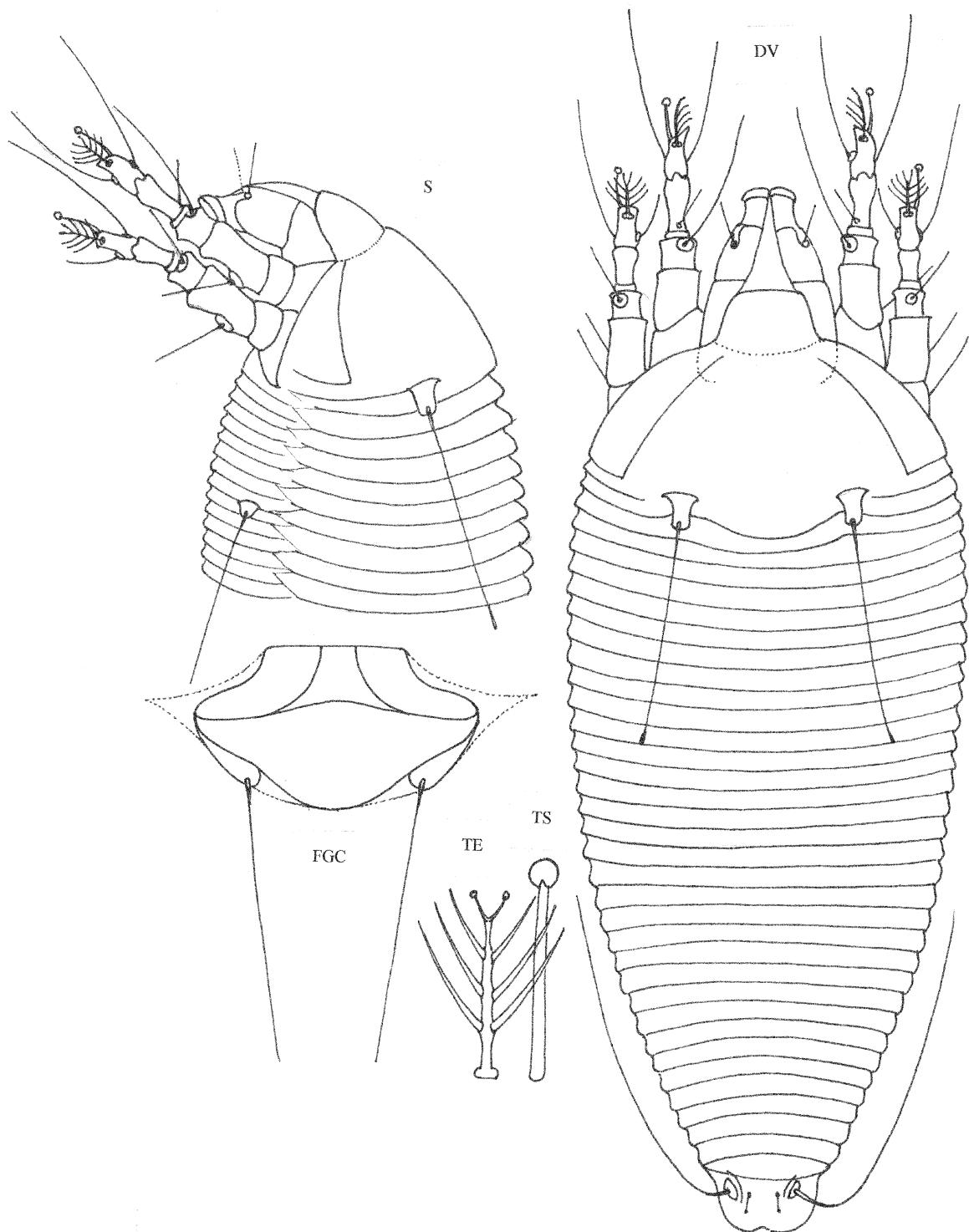


FIG 3: *Aculus aesculi* n.sp., Female. — Dorsal view (DV); Female genital cover (FGC); Tarsal empodium (TE); Tarsal solenidion (TS); Lateral view (S)

*Aculus aesculi* n.sp.

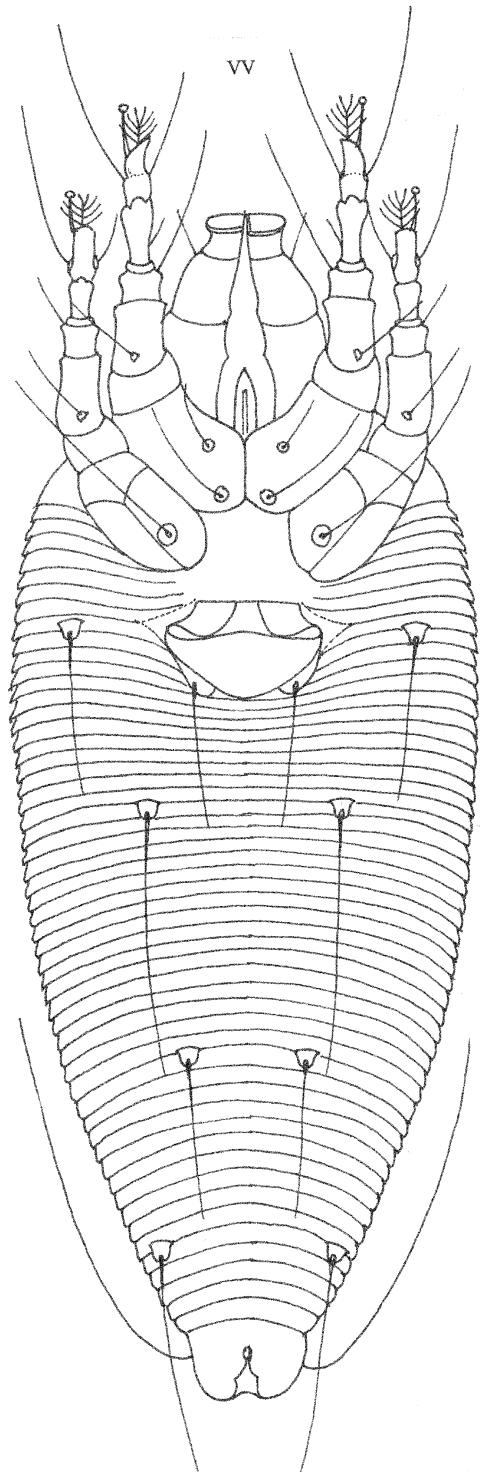


FIG 3b. *Aculus aesculi* n.sp., Female. — Ventral view.

FEMALE: 195 (range of 10 specimens, 180-210) long, 75 wide and 70 thick (at shield margin) light brown, fusiform. Gnathosoma 36-38, chelicerae 35-47. Dorsal shield 43 long and 75 wide. Shield pattern (Fig.3a). Dorsal tubercles on shield margin, dorsal setae 39-48 long, projecting backward, 37 apart. Shield lobe rounded, 12 long and 23 wide. Foreleg 44-47 long, tibia 9-10, tarsus 8-10, foretibial seta 10, patellar seta 30, patella 7, femoral seta 15, trochanter 5. Tarsal solenidion 9-10, tarsal empodium 7-8, 4-rayed, simple. Hindleg 39-41 long, tibia 8-12, tarsus 8-10; tarsal solenidion 9-10, tarsal empodium 7-8, 4-rayed, simple. First forecoxal tubercles 12 apart, setae 10 long; second forecoxal tubercles 8 apart, setae 20 long; hind coxal tubercles 20-28 apart, setae 40 long.

Opisthosoma with 32-35 dorsal annuli and 51-53 ventral annuli. Lateral tubercles 62 apart, on ventral annuli 9-10, setae 30 long; 1st ventral tubercles 35 apart, on ventral annuli 20-22, setae 50 long; 2nd ventral tubercles 21 apart, on ventral annuli 32-38, setae 20-30 long; 3rd ventral tubercles 32 apart, on ventral annuli 44-50, setae 40 long. Caudal setae 60, accessory setae 3 long. Female genitalia: genital coverlap 12 long and 29 wide, smooth, genital tubercles 19 apart, setae 30 long.

*Eriophyes aesculi* n.sp.

FEMALE: 149 (range of 20 specimens, 135-160) long, 38-44 wide and 39-40 thick (at shield margin), pink, wormlike. Gnathosoma 25-26, chelicerae 28 long. Dorsal shield 26-27 long and 38-44 wide. Shield pattern (Fig.4). Dorsal tubercles 5 ahead of shield margin, dorsal setae 22 long, projecting up and forward, 14-15 apart. Foreleg 31-32 long, tibia 5-6, tarsus 7-8, foretibial seta 7-8, patellar seta 25-30, patella 5-6, femoral seta 10-12, trochanter 3. Tarsal solenidion 8-9, tarsal empodium 8-10, 4-rayed, simple. Hindleg 28-30 long, tibia 4-5, tarsus 6-7, tarsal solenidion 8-9, tarsal empodium 8, 4-rayed, simple. First forecoxal tubercles 9-10 apart, setae 10 long; second forecoxal tubercles 7-8 apart, setae 23-30 long; hind coxal tubercles 17-22 apart, setae 40 long.

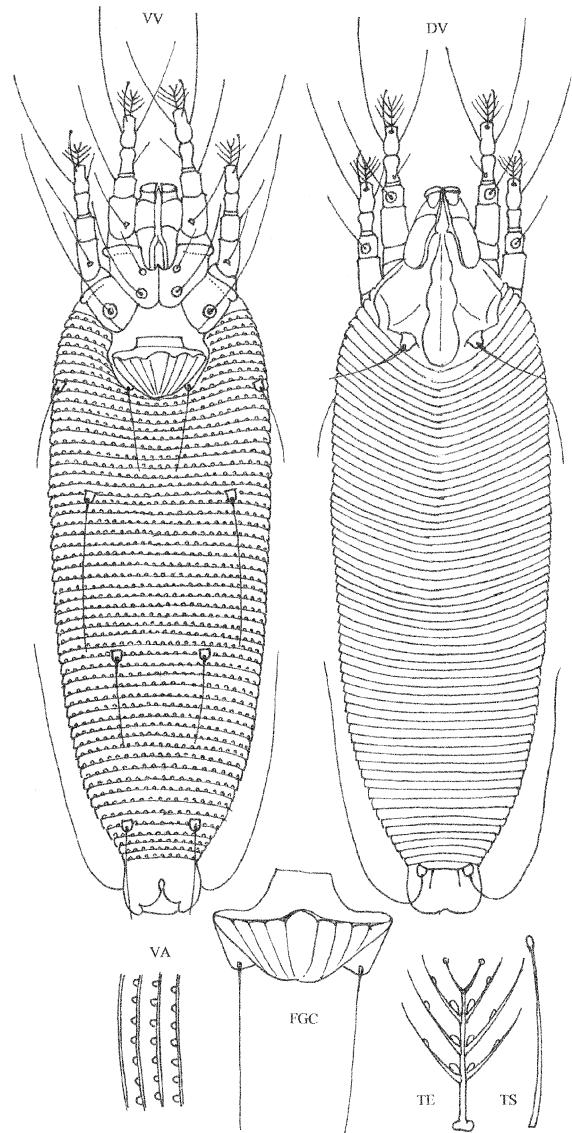


FIG 4: *Eriophyes aesculi* n.sp., Female. — Dorsal view (D.V.); Ventral view ((VV); Female genital cover (FGC); Tarsal empodium (TE); Tarsal solenidion (TS); Ventral annuli (VA).

Opisthosoma with 56-66 microtuberculated dorsal annuli and 54-63 microtuberculated ventral annuli. Lateral tubercles 37-38 apart, on ventral annuli 9-11, setae 20 long; 1st ventral tubercles 26-30 apart, on ventral annuli 17-22, setae 30-35 long; 2nd ventral tubercles 16 apart, on ventral annuli 31-37, setae 20-25 long; 3rd ventral tubercles 12-14 apart, on ventral annuli 50-59, setae 20-25 long. Caudal setae 60-90, accessory setae 3 long. Femal genitalia: genital coverflap 8 long

and 18-20 wide, with 8-10 longitudinal scoring, genital tubercles 13-15 apart, setae 20 long.

***Tetra hippocastani* n.sp.**

FEMALE: 147 (range of 11 specimens, 135-160 long, 48-64 wide and 35 thick (at shield margin), pink, fusiform. Gnathosoma 23-25, chelicerae 26-28 long. Dorsal shield 38-42 long and 48-64 wide. Shield pattern (Fig.5). Dorsal tubercles 5 ahead of rear shield

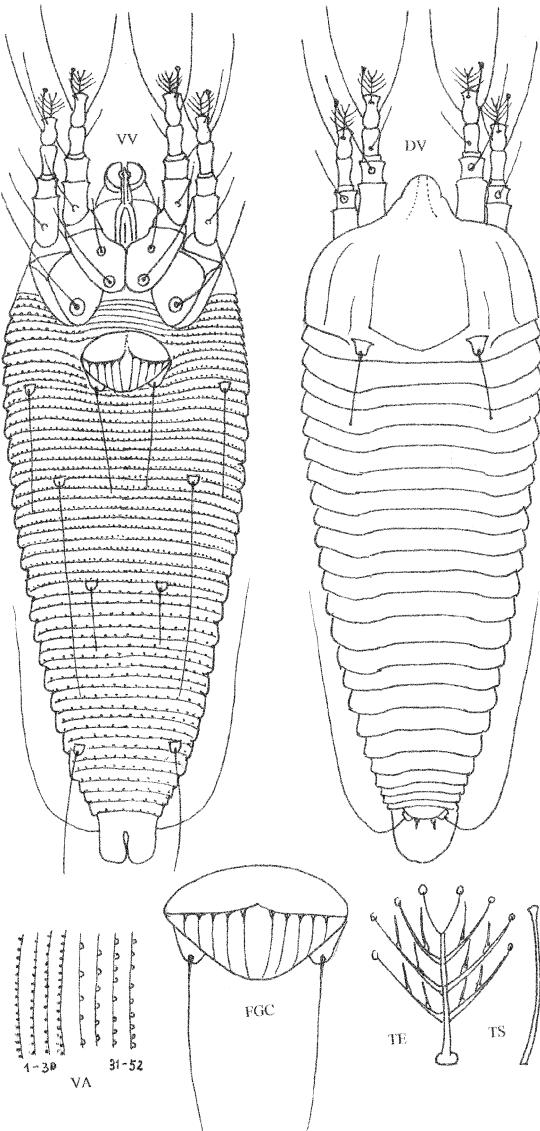


FIG 5: *Tetra hippocastani* n.sp., Female. — Dorsal view (D.V.); Ventral view ((VV); Female genital cover (FGC); Tarsal empodium (TE); Tarsal solenidion (TS); Ventral annuli (VA).

margin, dorsal setae 16-20 long, projecting backward, 25-27 apart, shield lobe acuminate, 10 long and 17 wide. Foreleg 33-37 long, tibia 7-8, tarsus 7-8, foretibial seta 7-8, patellar seta 20-25, patella 5-6, femoral seta 14-17, trochanter 4-5. Tarsal solenidion 7-8, tarsal empodium 7-8, 4-rayed, simple, antapicalis seta 10, apicalis seta 5. Hindleg 31-36 long, tibia 6-8, tarsus 6-8, tarsal solenidion 7-8, tarsal empodium 7-8, 4-rayed, simple. First forecoxal tubercles 13 apart, setae 10 long, second forecoxal tubercles 9-10 apart, setae 20 long, hind coxal tubercles 23-26 apart, setae 30 long. Opisthosoma with 22-24 dorsal annuli and 49-53 microtuberculated ventral annuli. Lateral tubercles 45-53 apart, on ventral annuli 9-12, setae 25-30 long; 1st ventral tubercles 29-35 apart, on ventral annuli 23-25, setae 43-50 long; 2nd ventral tubercles 16-20 apart, on ventral annuli 33-36, setae 15 long; 3rd ventral tubercles 22-25 apart, on ventral annuli 45-48, setae 25-30 long. Caudal setae 60-75, accessory setae 1 long.

Femal genitalia: genital coverflap 8 long and 22 wide, with 10 longitudinal ribs, genital tubercles 15-16 apart, setae 20 long.

Host: *Aesculus hippocastanum L.* (*Hippocastanaceae*).

Type material: Holotype: female on slide ZMH Nr.A1/02,A3/03,A5/05, Zoologisches Museum, Hamburg, Germany.

Paratype: female on slide ZMH Nr.A2/02, A4/04, A6/06, Zoologisches Museum, Hamburg, Germany.

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