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A NEW SPECIES OF THE GENUS NALEPELLA ON CANADA HEMLOCK (TSUGA CANADENSIS (L.) CARR), PINACEAE.

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ERIOPHYOIDEA, NALEPELLA
NEW SPECIES, GERMANY

Summary: A new species of the genus Nalepella is described. Nalepella neotsuga n.sp. was found on Canada Hemlock (Tsuga canadensis (L.) Carr). It prefers upper side of needles less inferior side as a vagrant.

Keifer described 1951 originally Nalepella tsugae from Mountain Hemlock (Tsuga mertensiana,(Bong) Carr and 1953 Nalepella tsugifoliae from Canada Hemlock (L.) Carr.). Alternate hosts for Nalepella tsugifoliae Keifer 1953 are Balsam Fir (Abies balsamea (L.) Mill. Eidt 1966 and California Nut (Torreya californica Torr.) Keifer. 1965. Nalepella neotsuga n.sp. does’n’t accord with these Nalepella species. Nalepella neotsuga n.sp. exceptionally differs from other Nalepellidae by three lines, each containing four thorns, 5-7 µ long, on tibia interior surface. These thorns exist only at adult males and females. Nymphs lack them. Thorns are thinner on the forelegs. Nalepella neotsuga n.sp. has a distinctly outlined shield with three setiferous tubercles, two of them with dorsal setae and one with frontal seta. Subdorsal setae are absent. Mites are fusiform, differentiated clear in dorsal and ventral annuli, dorsal annuli are regular arched without lobes. Nalepella neotsuga n.sp. is rarely found on Tsuga canadensis (L.) Carr. They form only small populations. Therefore no damages appear on infested Canada Hemlock (Tsuga canadensis (L.) Carr). Nalepella neotsuga n.sp. differs from Nalepella tsugae Keifer 1951 by the number of branches of tarsal empodium (8-rayed), shield design (Fig.1), cover flap design (Fig.1), length of dorsal shield setae (158-192 µ) and other setae.

Nalepella neotsuga n.sp.

Female: (all measurements are given in µm) 220-290 long (range of 12 specimens), X=254 long, 92-105 wide and 72-100 thick (at shield margin), colour light brown, fusiform. Holotype 254 long, 95 wide and 85 thick. Gnathosoma 57-60, setae antapicalis 15-20, setae apicalis 10, chelicerae 65-70. Dorsal shield 55-64 long and 92-105 wide. Shield pattern (Fig.1). Dorsal tubercles 10-16 high, 10-13 ahead of shield margin, 50-64 apart, dorsal setae 87-192 long, projecting forward, seta frontalis 29-32 long, projecting forward. Foreleg 69-71 long, interior tibia sur-

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Fig. 2. *Nalepella neotsuga* n.sp. HI. — Hindleg, interiror surface tarsus, tibia, patella. S. — Lateral view female. TS. — Tarsal solenidion. TE. — Tarsal empodium.
face with three rows, each containing four thornes, 5-7 long (Fig. 2), tibia 20-22, tarsus 8-10, patella 8-9, foretibial seta 15-18, patellar seta 33, femoral seta 21-25, trochanter 6-7. Tarsal solenidion 13-15, tarsal empodium 18, 8-rayed, simple. Hindleg 64-69 long, tibia 18-22, interior tibia surface with three rows, each containing 4 spiniform, 5-7 high thornes, robust as on forelegs, tarsus 8-9, patella 8, patellar seta 20-23, femoral setae 27-30. Tarsal solenidion 12-13, tarsal empodium 11-14, 8-rayed, simple.

Opisthosoma with 59-67 dorsal annuli, last 16 broader and running through, 106-119 ventral annuli. Lateral tubercles 71-82 apart, on ventral annuli 13-20, setae 17-22 long; 1st ventral tubercles 48-53 apart, on ventral annuli 35-46, setae 80-90 long; 2nd ventral tubercles 31-36 apart, on ventral annuli 59-69, setae 45-83 long; 3rd ventral tubercles 35-40 apart, on ventral annuli 98-110, setae 50 long. Caudal setae 155-205 long, 12-14 apart, accessory setae 12 long, 7 apart. Femal genitalia: genital cover flap 30-32 wide and 13-16 long, structure Fig. 1, setae 46-50 long, 24-26 apart.

MALES: (May-October) 186-250 long, \( \bar{X} = 210 \) long, 77-90 wide and 75-90 thick (at shield margin), colour light brown, fusiform. Gnathosoma 48-55, setae antapicalis 15-17, setae apicalis 8, chelicerae 50-60. Dorsal shield 55-58 long and 77-90 wide. Shield pattern (Fig. 1). Dorsal tubercles 15 high, 6 ahead of shield margin, 44 apart, dorsal setae 102-132 long, projecting forward, seta frontalis 34 long, projecting forward. Forelegs 65-67 long, tibia 20-21 long, interior tibia surface with three rows, each containing 4 spiniform, 5-7 high thornes, like females, tarsus 9, patella 8, foretibial seta 20, patellar seta 35-37, femoral seta 23-28, trochanter 5-8. Tarsal solenidion 11-12, tarsal empodium 10-12, 8-rayed, simple. Hindlegs 61-64 long, tibia 20 long, interior tibia surface with three rows, each containing 4 spiniform, 5-7 high thornes, like females; tarsus 8-9, patella 7-8, with one thorn on exterior surface, 11 long, patellar seta 21-25, femoral seta 23-28. Tarsal solenidion 11-12.5; tarsal empodium 10-12, 8-rayed, simple. Opisthosoma with 57-66 dorsal annuli and 100-102 ventral annuli. Lateral tubercles 63-68 apart, on ventral annuli 17-23, setae 22-30 long; 1st ventral tubercles 46-48 apart, on ventral annuli 32-37, setae 80-95 long; 2nd ventral tubercles 30-32 apart, on ventral annuli 50-59, setae 60-80 long; 3rd ventral tubercles 31-32 apart, on ventral annuli 91-94, setae 45-50 long. Caudal setae 120-170 long, 10-13 apart, accessory setae 11-12 long, 5-6 apart. Epiandrium 25-30 broad, genital tubercles 21-23 apart, setae 40-55 long.

HOST: Tsuga canadensis (L.) Carr.

RELATION TO HOST: Vagrant on upper needles side. No damage to the host is apparent.


REFERENCES


