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A NEW SPECIES OF THE GENUS SITEROPTES
(ACARI: PYGMEPHOROIDEA)
FROM XIZANG, THE PEOPLE’S REPUBLIC OF CHINA

BY Jian-Rong GAO*, Ping ZOU** and Rong QIN***

SUMMARY: A new species of pygmephoroid mite, Siteroptes xizangensis n. sp., is described and illustrated. It was collected from highland barley and wheat in Xizang, China.

The genus Siteroptes Amerling, 1861 (sensu Kaliszewski, 1987) is known to contain nine species, viz. S. avenae (Müller, 1905), S. cerealium (Kirchner, 1864), S. graminisugus (Hardy, 1851), S. graminicola Mitrofanov et al., 1984, S. huangsiensis Su, 1979, S. longisomus Kaliszewski, 1987, S. qinghaiensis Su, 1979, S. reniformis Krantz, 1957 and S. triticola Su, 1979. Among them, the first three species were studied morphologically for all stages based on rearing materials and it was concluded that they were different species (Suski, 1973, 1984), but it was still doubtful that whether S. avenae and S. cerealium are the same species (Kaliszewski, 1987). S. huangsiensis was treated as a junior synonym of S. cerealium (Livshits et al., 1986). These problems need further study in future by examining type specimens and by undertaking biological work.

In the present paper, a new species of this genus, S. xizangensis n. sp., collected from China is described and illustrated. According to the classification of Livshits et al. (1986), this new species should be placed in the subgenus Eositeroptes. The type specimens are deposited in the Department of Landscape and Environmental Science, Shanghai Agricultural College, Shanghai, P. R. China. The nomenclature is based on Lindquist (1986) and Kaliszewski & Rack (1985). All measurements are in micrometers. Body length measurements exclude gnathosoma and body width were measured at the level of anterior of trochanter III.

Siteroptes xizangensis sp. nov.
(figs 1-12)


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Figs. 1–2: *Siteropites xizangensis* sp. nov., female. 1. — Dorsum. 2. — Venter.
Figs. 3–6: *Sisteroptes zixangensis* sp. nov., female. 3. — Leg I. 4. — Leg II. 5. — Leg III. 6. — Leg IV.
Idiosomal dorsum: Stigmata slit-like. Peritremes very long (20–21), 2.2–2.8 wide, sides parallel. Distances between anterior ends and between posterior ends of peritremes are 12 and 1.1–1.7, respectively. Cupules ia, im and ih not found. A pair of marks present on plate D well anterior from setae d. Length of setae: v1 17–20, v2 24–25; sc1 20–21, sc2 84–87; c1 39–45, c2 45–46; d 49–52; f 55–58; h1 43–48, h2 69–73. Distances between setae: v1 _ 1 13–16, v2 _ 2 28–31, sc _ 2 24–26, v1 _ 2 12–14, v2 _ sc2 4–6, c _ 1 45–49, c _ 2 70–73, d _ d 14–16, f _ f 38–42, h _ 1 21–23, h _ 2 47–51. Sensilli (sc1) clublike, with small indistinct spines, located almost in transverse line with setae sc2. Setae e absent.

Idiosomal venter: Sporothecae opening along anterior margin of metapodosoma. All apodemes on propodosoma well developed, except sejugal apodeme which is almost invisible. Apodemes on hysterosoma very weak. Posteromedian apodeme short, level with posterior parts of trochanters III. Apodeme III with only lateral extremity developed. Apodeme IV not continuous. Apodeme V vestigial. Length of setae: 1a 13, 1b 14–16, 1c 7–8; 2a 18, 2b 21–24; 3a 11–12, 3b 7–8, 3c 14–18; 4a 16–20; 4b 18–20; ps5 5, ps3 26–28. Distances between setae:
3a-3a 30-32, 3b-3b 20-25, 3c-3c 48-52; 4a-4a 46-49, 4b-4b 22-25; ps1, 13-16, ps2, 31-33; 3a-3b 36-39, 3b-3c 17-20; 4a-4b 22-25; ps1-ps3 8-11. Setae 1b bifurcate. Setae 2c, 4c and ps3 absent. Setae 1c, 3a, 3b and ps3 blunt. Setae ps2 also coarse, with relatively stiff endings. All other setae flagelliform.

Legs: Leg I with one claw, without empodium; legs II–IV with paired simple claws and large membranous empodium on short stalk. Formula of setae on leg I: 1-4-4-6 + 2S-13 + 2S. Solenidion \( \omega_{1} \) 2.8–3.1 long, rod-like; solenidion \( \omega_{2} \) 5.3 long, fusiform; solenidia \( \varphi_{1} \), \( \varphi_{2} \) both rod-like, 3.9 and 4.8 long, respectively; seta k setiform; formula of setae on leg II: 1-3-2-4 + 1S-7 + 1S; solenidion \( \omega \) 5.3 long, fusiform, inserted basally; solenidion \( \varphi \) 3.6 long, rod-like, arising slightly basally of the middle. Formula of setae on leg III: 1-2-2-4 + 1S-7 and on leg IV: 0-2-1-3-6; one trochanteral and one tibial seta on leg IV absent.

**Male** Body length 213–235, width 120–123.

Gnathosoma reduced; non-functional.

Idiosomal dorsum: Prodorsal shield with four pairs of setae (\( v_{1}, v_{2}, sc_{1} \) and \( sc_{2} \)). Tergite C consolidated with tergite D; shield CD with three pairs of setae (\( c_{1}, c_{2} \) and \( d \)). Setae \( d \) reduced to small tuberculi. Tergite EF with one pair of setae (\( f \)). Tergite H with two pairs of setae (\( h_{1} \) and \( h_{2} \)); setae \( h_{1} \) smooth, rod-like, with rounded ends, setae \( h_{2} \) small, needle-shaped. All other setae coarse with relatively stiff endings. Length of setae: \( v_{1} \) 11–14, \( v_{2} \) 9–11; \( sc_{1} \) 20–24, \( sc_{2} \) 18–23; \( c_{1} \) 14–17, \( c_{2} \) 20–25; \( f_{1} \) 21–23; \( h_{1} \) 5–6. Distances between setae: \( v_{1}, v_{2} \) 6–8, \( v_{2}, sc_{1} \) 36–39; \( sc_{1}, sc_{2} \) 39–43, \( sc_{2}, c_{1} \) 40–46; \( c_{1}, c_{2} \) 40–53, \( c_{2}, d \) 71–98; \( d, d \) 16; \( f_{1}, f_{2} \) 20. \( h_{2}, h_{2} \) 16; \( v_{1}, v_{2} \) 16–21, \( v_{2}, sc_{1} \) 4–7, \( sc_{2}, c_{1} \) 10–11.

Idiosomal venter: Apodemes moderately developed. Anteromedian apodeme connected with strong, short apodeme I and arched apodeme II, not connecting with sejugal apodeme. Apodeme III strong only between setae 3a and trochanter III, not connecting with posteromedian apodeme. Apodeme IV vestigial. Posteromedian apodeme jointed with apodeme V. Coxal plates I with three pairs of setae, \( 1b \) slightly thicker than \( 1a \) and \( 1c \). Coxal plates II with two pairs, coxlal plates III with three pairs and coxal plates IV with two pairs of setae. Length of setae: \( 1a \) 7–9, \( 1b \) 7–11, \( 1c \) 6–9; \( 2a \) 8–10, \( 2b \) 8–10; \( 3a \) 6–10, \( 3b \) 6–10, \( 3c \) 7–11; \( 4a \) 6–10, \( 4b \) 7–10; \( ps_{1} \) 2–3, \( ps_{3} \) 5–6.

Legs: Leg I with single claw, without empodium; legs II and III each with paired claws and a membranous empodium; leg IV with two modified claws but without membranous empodium. Formula of setae on leg I: 1-4-4-6 + 2S-12 + 2S; solenidion \( \omega_{1}, \omega_{2} \) fusiform, 5.3–5.9 long, respectively, \( \varphi_{1}, \varphi_{2} \) rod-like, 6.2 and 11 long, respectively, seta \( k \) lanceolate. Formula of setae on legs II and III: 1-3-2-4 + 1S-7 + 1S and 1-2-2-4 + 1S-7. Setae \( tc' \) and \( pl' \) on both legs spine-like and solenidia rod-like. On leg II, solenidia \( \varphi \) and \( \varphi \) 5 and 5.6 long, respectively; on leg III, \( \varphi \) 7.3 long. Formula of setae on leg IV: 0-2-1-3 + 1S-6; solenidion \( \varphi \) 8.4 long, rod-like, slightly contracted in middle; seta \( tc'' \) long flagelliform, seta \( tc' \) and \( pl'' \) spine-like.

**Type Material:** Holotype female, allotype male, paratypes 15 females and 13 males, collected from * Hordeum vulgare* var. nudum at Jiaza County, Xizang, China by Rong Qin on June 5, 1991. Paratypes 20 females and 1 male, collected from * Hordeum vulgare* var. frifurcatum at Longzi County, Xizang, by Rong Qin on June 5, 1990.

**Remarks:** This species is very closely related to *Siteroptes qinghaiensis* Su, 1979, but the females differ from those of the latter species in setae \( v_{1} \) arising closer to peritremes than to setae \( v_{2} \), and trochanter IV lacking a seta; the males differ from those of all other known species in having setae \( sc_{2} \) short, subequal in size to setae \( sc_{1} \).

This new species is very important as a major vector of the fungal pathogen *Monographella nivalis* (Schaffn.) Mull. which causes severe spike-rot of wheat. This disease has been found recently in many regions in northern China.

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