

Species of the genus *Eremocoris* from China, with description of two new species (Heteroptera: Lygaeidae)

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Four species of the genus are found in China: *E. sinicus* Zheng, 1981 (Sichuan, Yunnan), *E. sichuanicus* sp. n. (Sichuan), *E. abietis mesasiaticus* Neimorovets, 2002 (Xinjiang), and *E. kozlovi* sp. n. (Sichuan, Qinghai). Previous records of *E. fenestratus* H.-S. and *E. plebejus* Fall. from China were based on misidentifications. A key to species from China and adjacent regions is given.

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Species of the genus *Eremocoris* Fieb. live in litter under trees and shrubs in the forest zone. *E. sinicus* Zheng, 1981 was the first species recorded from China. Based on misidentified specimens in the collection of the Zoological Institute, St.Petersburg, Péricart (1999) recorded from China *E. fenestratus* H.-S. and *E. plebejus* Fall. Actually, the record of the first species was based on a specimen of *E. abietis mesasiaticus* Neimorovets (see Neimorovets, 2002) and the specimens previously misidentified as *E. plebejus* are described below as *E. kozlovi* sp. n. One more new species from China, *E. sichuanicus* sp. n., was received from Dr. H. Günther (Ingelheim, Germany) in a sample of Chinese Heteroptera gifted by him to the Zoological Institute, St.Petersburg.

The holotypes of new species and other material examined is kept in the Zoological Institute, St.Petersburg.

***Eremocoris sinicus* Zheng, 1981**
(Figs 2, 8, 11, 12, 23, 36, 37, 42)

E. sinicus Zheng in Hsiao et al., 1981: 141, 595.

Material examined. 1 ♂, 2 ♀, China, Yunnan, Julongxue Shan, 30 km N of Lijang, 2800 m, 29.V.2002, Konstantinov & Volkovitch leg.

The species was described from Sichuan and Yunnan.

***Eremocoris sichuanicus* sp. n.**
(Figs 1, 7, 9, 10, 22, 34, 35, 41)

Holotype. ♂, China, Sichuan, Qingchen Shan/Taiping W, 800-1000 m, 18.V-3.VI.1997, Pütz leg.

Paratype. ♀, same data.

Description. Body elongate, nearly parallel-sided; dorsal side duller than the ventral one.

Head shining, black, with dense, shallow punctation; apex of clypeus brown, with adpressed hairs subequal in length to diameter of ocellus. Rostrum yellowish brown, reaching hind coxae.

Antennal segments 1 and 2 brown, 3 dark brown, 4 ochre-yellow with dark brown basal quarter. Hairs of antennae adpressed or nearly so, half as long as width of antennal segment 2 in its middle. Base of segment 1 with 3 longer hairs (0.7 times as long as width of this segment in its middle). Length of antennal segments 1-4 in paratype: 0.8, 1.3, 1.1, 1.1 mm. In holotype, right antenna is missing and left antenna teratological, with only 3 segments.

Pronotum about as long as wide in male, longer than wide (78 : 68) in female; lateral margins slightly concave. Fore and hind lobe subequal in length. Collar impunctate; its length subequal to diameter of ocellus. Fore lobe black, impunctate in central part, with sparse large punctures laterally; an area just behind collar with large, dense punctures. Hind lobe dark brown, nearly black, with large, deep, sparse punctures, with wide median impression occupying about half of its length. Explanate lateral margins yellow mesally, dark brown in hind third and brown in fore third. Hairs on pronotum sparse, adpressed, very short (not longer than diameter of a large puncture on hind lobe).

Scutellum black, coarsely, but rather sparsely punctured, with Y-shaped carina, covered with sparse, very short hairs (not longer than diameter of a puncture).

Ventral side of thorax not haired, coarsely punctured, black. Mesothorax in front of middle coxae without tubercles, nearly flat.

Hemelytra complete, nearly reaching apex of abdomen, non-pubescent. Clavus dark brown, yellowish at apex and on outer margin, with 2 rows of punctures situated nearer to outer margin. Corium ochre-yellow in basal third, black in central third, and brownish black with yellow transverse spot at fore margin and yellowish brown tip in apical third; punctuation sparse, mainly in rows along the weakly marked veins. Membrane black, non-transparent, with slightly paler base and two small yellowish spots (in inner and outer corners); veins not differing in coloration.

Femora dark brown, pale at very apices. Tibiae and tarsi yellowish brown, hind ones darker than fore ones. Legs covered with very short, almost adpressed hairs; length of hairs 0.3-0.4 times the width of hind tibia. Ventral surface of fore femora in addition with longer, oblique hairs, which are as long or slightly shorter than width of hind tibia. Hind tibia with sparse hairs about half as long as width of this tibia. Fore femur weakly thickened, 4 times as long as wide, on ventral surface with 2 rows of small teeth and 1 large tooth at base of apical third. Fore tibia straight, thicker apically. Segment 1 of hind tarsus 2.5 times as long as segments 2 and 3 combined.

Abdomen dark brown ventrally, paler at apex, covered with short, adpressed hairs; their length 0.7 times the width of hind tibia.

Body length: ♂ 7.1 mm, ♀ 6.7 mm.

Comparison. The new species is similar to *E. sinicus* in the body shape, structure of legs and short pubescence. However, in *E. sinicus*, the antennal segment 4 is entirely black, fore lobe of pronotum punctured, hind lobe red-brown, explanate lateral margins of pronotum wider, with hind third black and fore third brown with a darker stripe; mesothorax with pointed tubercles in front of middle coxae; Y-shaped carina on scutellum less distinct, clavus yellowish-reddish, with black spot in apical third and blackish apex, pale spots on membrane larger (their diameter twice that of eye), fore femora brown with dark brown apical third, middle and hind femora yellowish with blackish apical third, and fore tibia of male with a row of denticles.

E. insularis Kerzhner, 1976 and *E. angusticollis* Jakovlev, 1881 resemble *E. sichuanicus* in the subequal length of the pronotal lobes and weakly thickened fore femora with a single tooth, but differ in smaller size, unicolorous lateral edge of pronotum, and other characters.

Eremocoris kozlovi sp. n.

(Figs 3, 5, 13, 14, 25, 29, 30, 31, 43)

Holotype. ♂, China, Sichuan, "Bana-Dzhun" [70 km NW of Garze], first half of April 1901, P.K. Kozlov leg.

Paratype. ♀, China, Qinghai, "Serg-chu" River [about 30 km SE of Ngoring Hu lake], 13800 ft [= 4500 m], late Mai 1901, P.K. Kozlov leg.

Description. Body elongate oval; dorsal side dull.

Head shining, black, with distinct punctuation. Rostrum reaching middle (♂) or hind (♀) coxae; segment 1 dark red brown; segments 2-4 reddish, with oblique hairs half as long as width of segment 2, apex of segment 4 dark brown.

Antennae dark brown, almost black, with reddish articulations. Hairs of antennae dense, decumbent, about half as long as width of antennal segment 2 in its middle; segment 4 in female also with sparse hairs twice as long as width of this segment (in holotype, segment 4 missing). Length of antennal segments 1-4 in holotype: 0.86, 1.37, 1.19, ? mm; in paratype: 0.83, 1.29, 1.1, 1.16 mm.

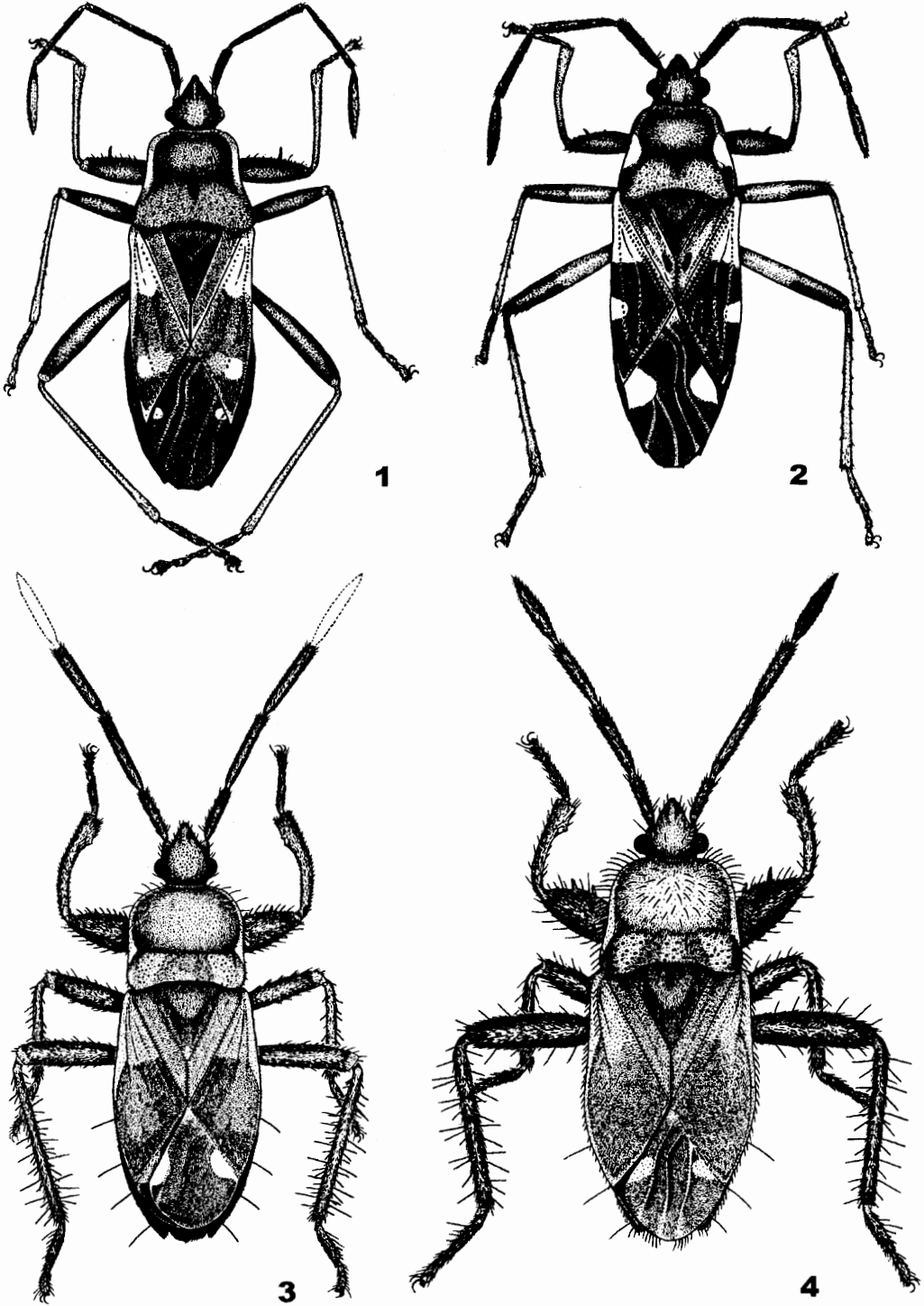
Pronotum subquadrate, with sides slightly concave between the lobes in male and trapezoid, with straight sides in female. Fore lobe twice (♂) or 1.6 times (♀) as long as hind lobe, black, finely punctured. Hind lobe reddish brown, with weakly marked darker stripes and coarser, nearly black punctures. Explanate lateral margins reddish, with yellow central third. Hairs on pronotum dense (especially on fore lobe), 0.6 times as long as eye height, 2.2 times as long as width of hind tibia, reaching in dorsal view beyond the lateral margin of pronotum.

Scutellum black with reddish apex, slightly concave in middle, with oblique hairs, which are 1.4 times as long as width of hind tibia.

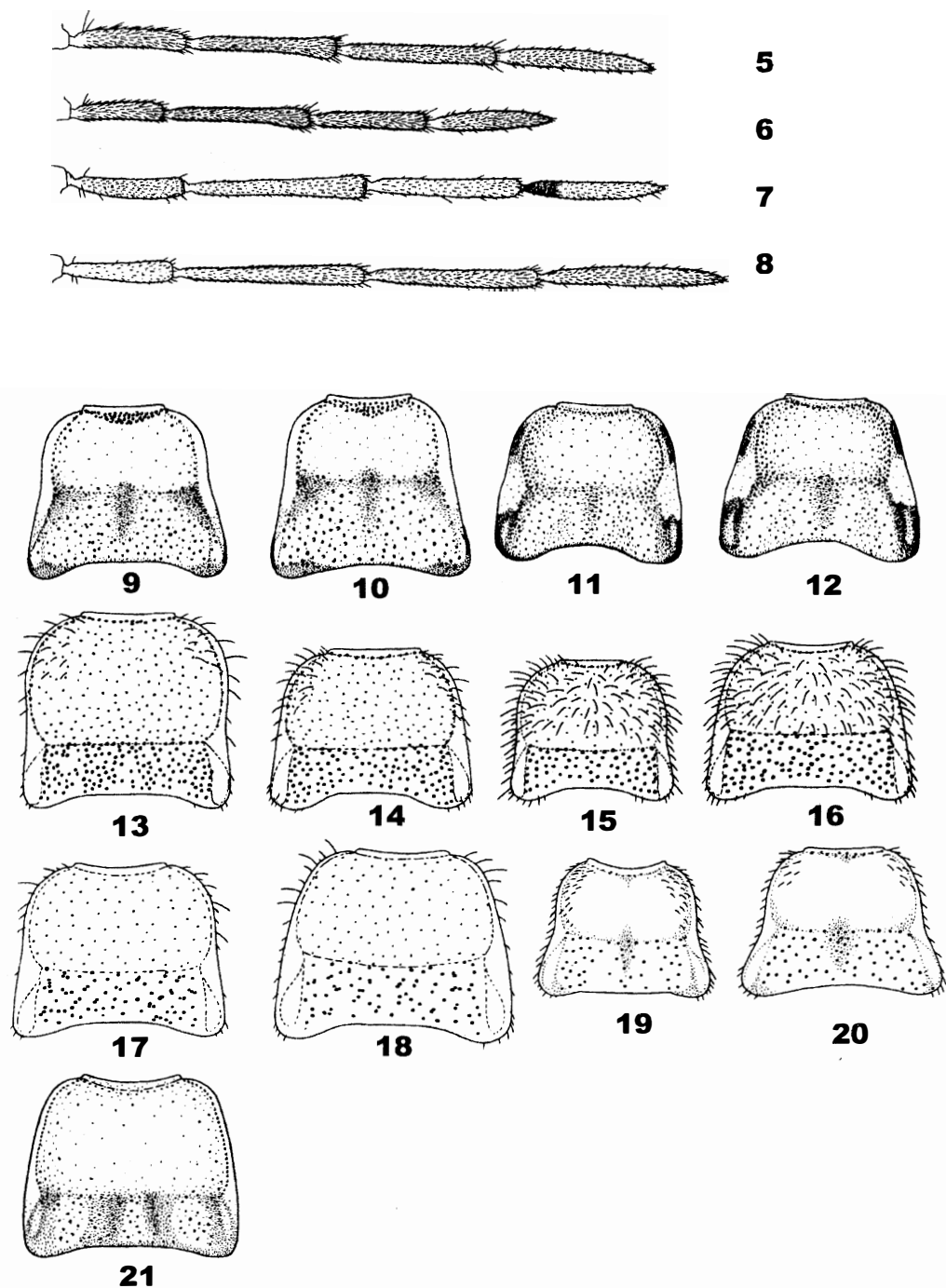
Mesothorax in front of middle coxae with triangular, pointed tubercles.

Hemelytra complete, reaching apex of abdomen (♂) or middle of 7th tergite (♀), covered with decumbent hairs less than half as long as width of hind tibia. Clavus reddish. Corium reddish brown, with yellowish basal third, large dark brown spots with diffuse margins near the middle and yellowish outer margin in distal third. Membrane chestnut brown, reddish at base, with white margin in apical half and two large white spots (in inner and outer corners); veins not differing in coloration.

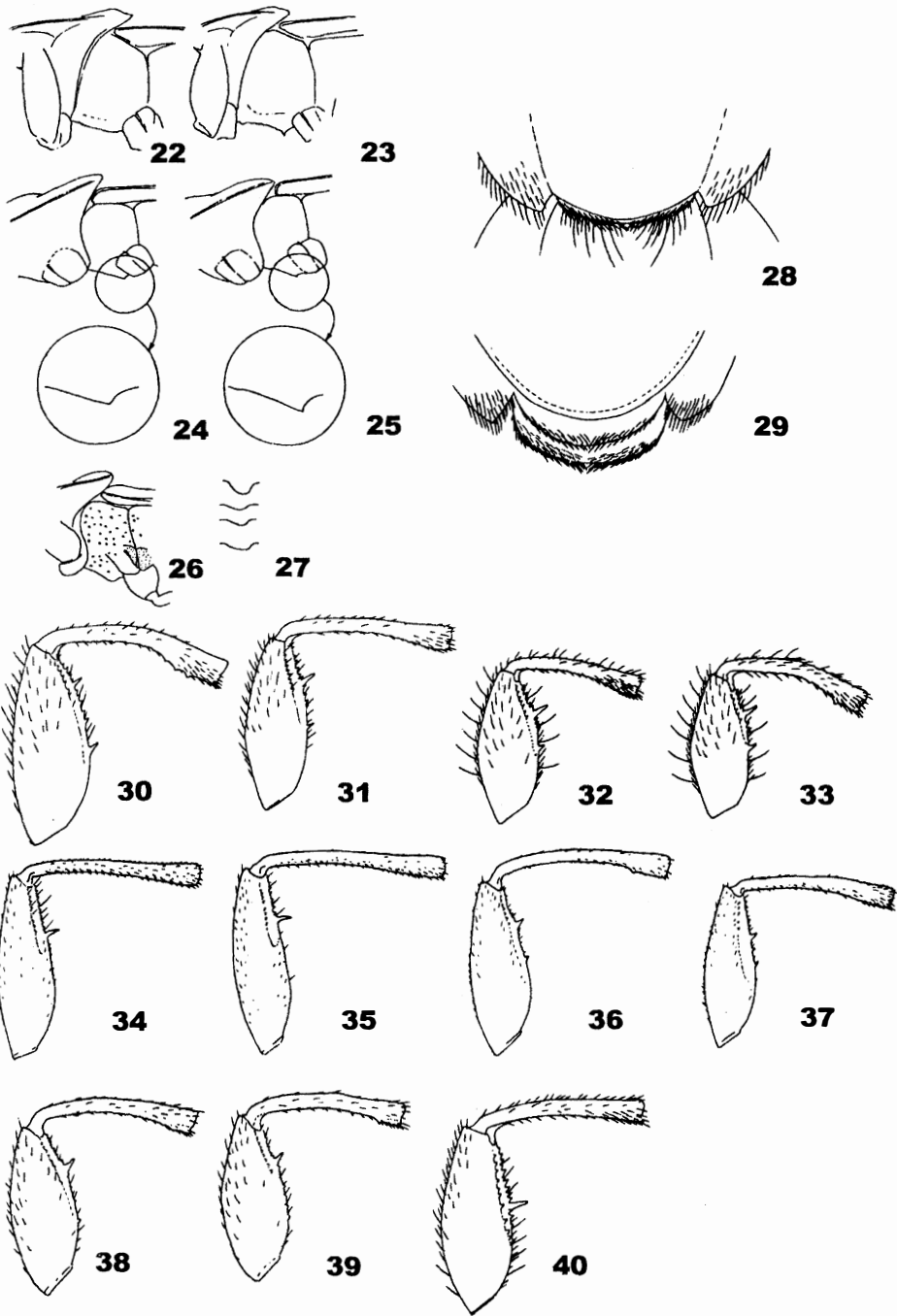
Femora dark brown; tibiae and tarsi yellowish brown. Fore femora with short and long hairs, the longer ones being twice as long as width of hind tibia and forming an angle of 40-60° with surface of femur. Fore femur thickened, especially in male, 2.7 (♂) or 3 (♀) times as long as thick, with 2 large teeth, of which the distal one the largest, and several small teeth (4 distal to and 5 proximal to the largest tooth). Fore tibia covered with hairs (longer hairs raised and shorter than width of tibia), in male more curved and more thickened apically as compared to that



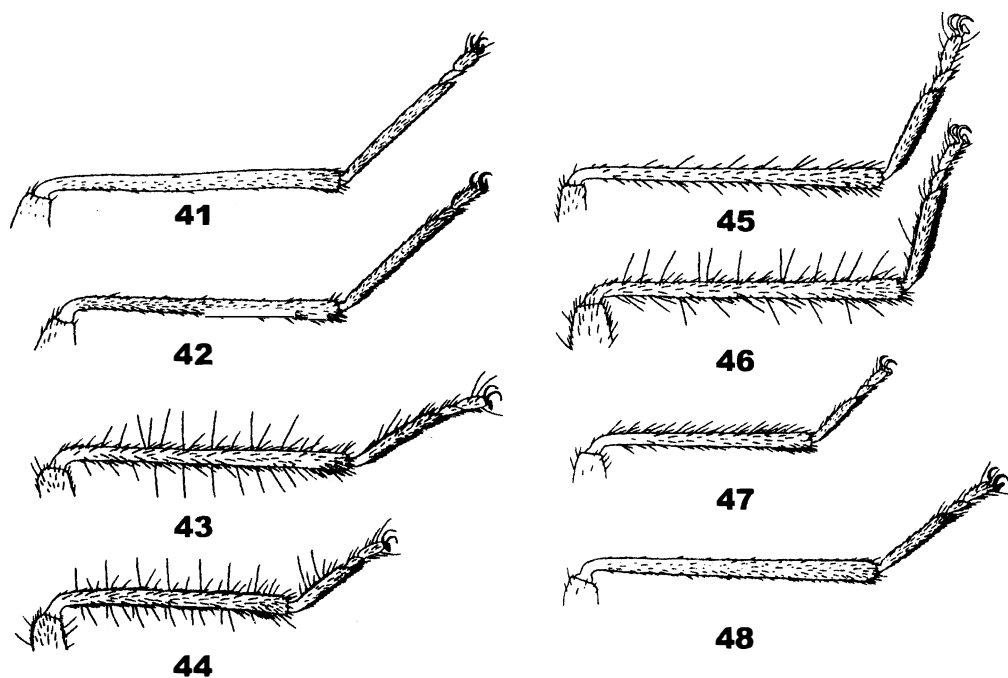
Figs 1-4. *Eremocoris*, habitus. 1, *E. sichuanicus* sp. n.; 2, *E. sinicus*; 3, *E. kozlovi* sp. n.; 4, *E. plebejus plebejus*.



Figs 5-21. *Eremocoris*. 5-8, antenna: 5, *E. kozlovi* sp. n.; 6, *E. plebejus*; 7, *E. sichuanicus* sp. n.; 8, *E. sinicus*. 9-21, pronotum: 9, 10, *E. sichuanicus* sp. n. (9, ♂; 10, ♀); 11, 12, *E. sinicus* (11, ♂; 12, ♀); 13, 14, *E. kozlovi* sp. n. (13, ♂; 14, ♀); 15, 16, *E. plebejus plebejus* (15, ♂; 16, ♀); 17, 18, *E. abietis mesasiaticus*, Iskanderkul' (17, ♂; 18, ♀); 19, 20, *E. angusticollis* (19, ♂; 20, ♀); 21, *E. indicus*, ♀.



Figs 22-40. *Eremocoris*. 22-26, mesothorax, lateral view: 22, *E. sichuanicus* sp. n.; 23, *E. sinicus*; 24, *E. plebejus*; 25, *E. kozlovi* sp. n.; 26, 27, *E. abietis mesasiaticus*. 28, 29, apex of male abdomen, dorsal view: 28, *E. plebejus*; 29, *E. kozlovi* sp. n. 30-40, fore leg: 30, 31, *E. kozlovi* sp. n. (30, ♂; 31, ♀); 32, 33, *E. plebejus* (32, ♂; 33, ♀); 34, 35, *E. sichuanicus* sp. n. (34, ♂; 35, ♀); 36, 37, *E. sinicus* (36, ♂; 37, ♀); 38, 39, *E. abietis mesasiaticus*, Iskanderkul' (38, ♂; 39, ♀); 40, *E. angusticollis*.



Figs 41–48. *Eremocoris*, hind tibia and tarsus. 41, *E. sichuanicus* sp. n.; 42, *E. sinicus*; 43, *E. kozlovi* sp. n.; 44, *E. plebejus plebejus*; 45, 46, *E. abietis mesasiaticus* (45, Iskanderkul, Hissar Range; 46, Ak-Terek, Fergana Range); 47, *E. angusticollis*; 48, *E. indicus*.

of female, with a row of denticles, of which two larger situated at base of the thickening. Hind tibia with dense, nearly perpendicular hairs 1.6–2 times as long as width of this tibia. Segment 1 of hind tarsus almost twice as long as segments 2 and 3 combined, dorsally with several hairs twice as long as width of this segment.

Abdomen dark brown ventrally, covered with long and short hairs; long hairs forming an angle of about 45° with the surface of abdomen, 3 times as long as width of hind tibia; short hairs adpressed, half as long as width of hind tibia.

Apex of genital segment with dense, slightly raised hairs a little shorter than width of hind tibia.

Body length: ♂ 7.3 mm, ♀ 7.0 mm.

Comparison. *E. kozlovi* is closely related to *E. plebejus* (Fallén, 1807), especially to its eastern subspecies, *E. p. guttatus* (Matsumura, 1911). They are similar in the shape of body, shape and pubescence of pronotum, proportion of antennal segments, pubescence of hind tibia, and distinct white spots on membrane, but *E. p. guttatus* is smaller (4.8–6.1 mm), with much longer hairs on hemelytra (1.5 times as long as width of hind

tibia) and long hairs on the male genital segment, thickened part of male tibia with 1 denticle. In *E. abietis mesasiaticus*, the membrane is brown or grey, with whitish veins.

The ZIN collection includes 1 ♀ of *E. indicus* Breddin, 1907 from Kashmir. It differs from *E. kozlovi* sp. n. in the sparse and short pubescence of pronotum (hairs not longer than width of hind tibia), dark hind lobe of pronotum with characteristic pattern, darker hemelytra and legs, presence of a single large tooth on fore femora, and short hairs on hind tibia (shorter than width of tibia).

***Eremocoris abietis mesasiaticus* Neimorovets, 2002**

Eremocoris abietis mesasiaticus Neimorovets, 2002: 670.

Material examined. ♀ (paratype), China, Xinjiang, env. of Kulja [= Yining], 22.IV.1879, leg. A. Regel.

Distribution. The species is widely distributed in the forest zone of Palaearctic; the subspecies is endemic to the Tien Shan and Pamiro-Alai mountains.

Key to species of *Eremocoris* from China and adjacent territories

Species not found as yet in China are given in brackets.

- 1(6). Fore lobe of pronotum about as long as hind lobe (Figs 9-12, 19, 20).
- 2(3). Mesothorax in front of each middle coxa with pointed tubercle (Fig. 23) **E. sinensis** Zheng
- 3(2). Mesothorax without pointed tubercles in front of middle coxae (Fig. 22).
- 4(5). Hairs on hind tibia sparse, not longer than width of this tibia (Fig. 41). Body length more than 6.5 mm **E. sichuanicus** sp. n.
- 5(4). Hairs on hind tibia dense, oblique, almost twice as long as width of this tibia (Fig. 47). Body length less than 5 mm [**E. angusticollis** Jakovlev]
- 6(1). Fore lobe of pronotum at least 1.6 times as long as hind lobe (Figs 13-18, 21).
- 7(8). Hairs on hind tibia not longer than its width (Fig. 48) [**E. indicus** Breddin]
- 8(7). Hairs on hind tibia at least 1.5 times as long as its width (Figs 43-46).
- 9(10). Membrane pale brown or grey (not darker than apex of corium), with whitish veins **E. abietis mesasiaticus** Neimorovets

- 10(9). Membrane black or dark brown (nearly always darker than apex of corium); veins black or whitish at base only.
- 11(12). Smaller (4.9-6.1 mm). Hairs on hemelytra 1-1.3 times as long as width of hind tibia. Genital segment of male with long hairs [**E. plebejus guttatus** (Matsumura)]
- 12(11). Larger (7.0-7.3 mm). Hairs on hemelytra very short, half as long as width of hind tibia. Genital segment of male with short, adpressed hairs **E. kozlovi** sp. n.

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