

New species of genus *Lygocoris* REUTER from China (Insecta: Heteroptera: Miridae)

With 16 Figures

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Abstract. In this paper three new species of genus *Lygocoris* REUTER from China are described. Two junior homonymies are renamed and eighteen new combinations are proposed. The type materials are all kept in the Department of Biology, Nankai University (Tianjin, P.R. China).

Lygocoris (Apolygus) liaoningensis LU et ZHENG, spec. nov. (Figs. 1–6)

Greenish yellow to pale green, shining. Vestiture golden yellow, uniform, slightly sparser than that of *lucorum*.

Head yellow, with faint orange tinge, mandibular plate, maxillary plate and buccula usually pale green. Clypeus completely pale or apex very weakly darkened. Fronto-vertex relatively tumid, vertex with a very shallow median furrow. Eyes piceous. Vertex width = $1.4 \times (\text{♂})$ or $1.5 \times (\text{♀})$ eye width. Anterior profile of head relatively round in lateral view, gena relatively low (Fig. 5). Anterior view of head as in Fig. 4. Antennal segment I greenish yellow, segment II slightly thickened apicad, greenish yellow, gradually darkened into yellowish brown with apical $\frac{1}{8}$ – $\frac{1}{6}$ black, segments III & IV black. Rostrum reaching apex of middle coxa.

Pronotum declivous, posterior half tinged with pale brown. Callar area slightly raised and smooth, relatively broad. Scutellum tumid, uniformly greenish yellow. Costal margin of corium narrowly black, clearly discernible both in lateral and dorsal view. Apical part of corium with a large medial spot, blackish brown, laterally not reaching outer and inner angles of corium. Clavus with inner half darkened into dark brown or blackish brown. Apex of cuneus very narrowly darkened. Membrane smoky grey, with a dark spot surrounding apical $\frac{1}{3}$ of outer vein (M) and another one behind cuneal apex (Fig. 6). Veins yellowish or greenish.

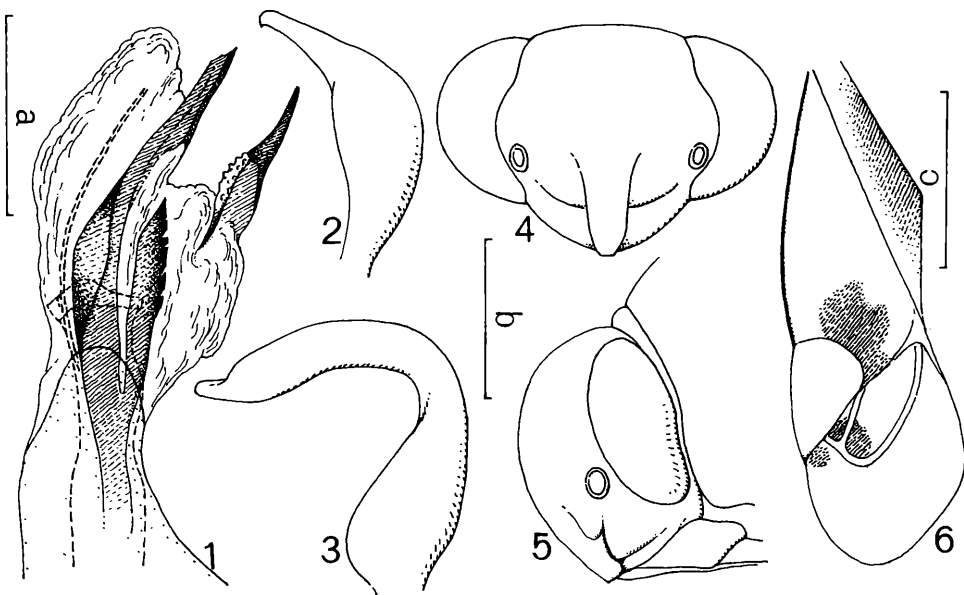
Body beneath pale green. Legs pale green to pale yellowish brown. Hind femur subapically with two brown rings. Tibial spines black, each with a small basal black spot.

Male genitalia: Needle spicule absent. Ventral sclerite long, relatively stout in *lucorum*-group, somewhat abruptly bending at middle, apical half relatively thick, apex truncate. Wing-shaped sclerite straight, apex slightly surpassing median bending of ventral sclerite, margin serrate. Sublateral sclerite well developed, rather extensive and crenulate. Lateral sclerite slender. Median sclerite weak (Fig. 1). Parameres as in Figs. 2 & 3.

Measurements: Body length 4.6–5.0 mm, maximal width 2.15 mm. Head length 0.4 mm, width 1.05 mm. Vertex width 0.95 mm. Antennal segments lengths 0.45 : 1.1 : 0.6 : 0.6 mm. Pronotum length

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Figs. 1–6: *Lygocoris (Apolygus) liaoningensis* LU et ZHENG, spec. nov.; 1: vesica – 2: right paramere – 3: left paramere – 4: anterior view of head – 5: lateral view of head – 6: fore wing (scale a = 0.25 mm, for figs. 1–3; scale b = 0.5 mm, for figs. 4 & 5; scale c = 1 mm, for fig. 6).

1.0 mm, width 1.7 mm. Corium length 2.1 mm, claval commissure length 0.9 mm, cuneus length 1.85 mm.

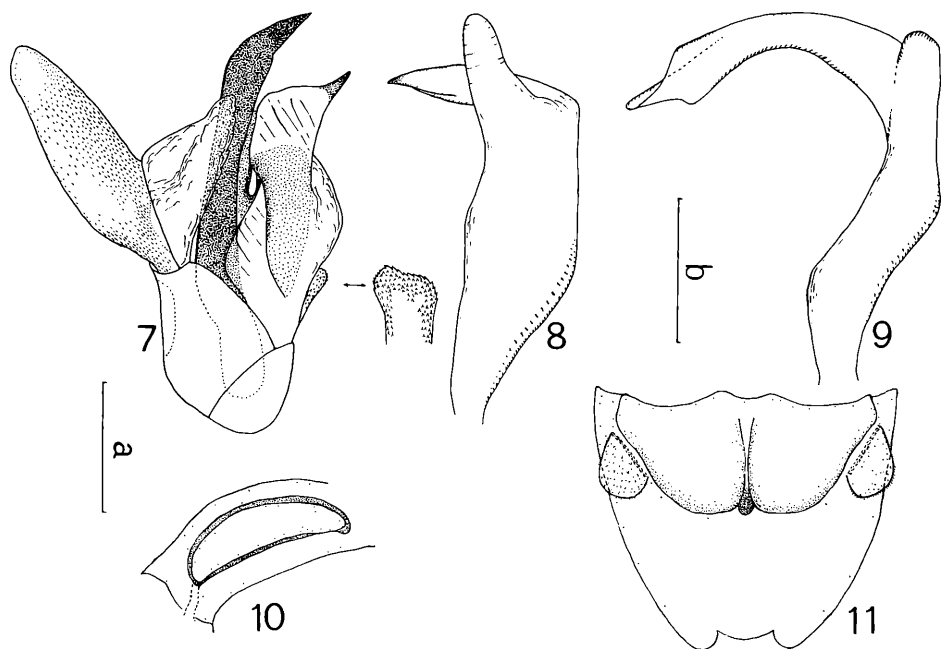
Holotype ♂, paratypes 1 ♂ 3 ♀♀, China: Liaoning Province (Benxi County [N 41.3, E 124.1]), 7. vii. 1992. Collected on *Euvonymus* spec.

Remarks: This new species is a member of *lucorum-spinolae* group (coloration green, needle spicule of vesica absent). It differs from *L. nigrovirens* KERZHNER by: costal margin of corium distinctly black both in lateral and dorsal view, apical dark marking medially positioned, not extending to inner angle of corium, membrane with dark spots, third tarsomere completely black, ventral sclerite of vesica more stout, sublateral sclerite well developed (structure of vesica in *nigrovirens* see YASUNAGA, 1992). The differences between the new species and *L. nigronasutus* (STÅL) are: clypeus completely pale or almost so, corium with large apical spot (according to KERZHNER, 1987 & 1988, the vesical structure of *nigronasutus* are closely resemble those of *lucorum* and *spinolae*). The new species is allied to *L. major* (ZHENG et WANG) described from Western China, but in *major* the apical dark marking of corium is smaller and reaching inner corial angle, the ventral vesical sclerite slender and more abruptly bended, the wing-shaped sclerite larger and triangular, and the sublateral sclerite undeveloped.

***Lygocoris (Neolygus) tilianus* LU et ZHENG, spec. nov. (Figs. 7–11)**

Body oval, relatively small; dorsal surface varying from yellowish green to pale brown, immaculate, densely covered with golden suberect vestiture, subshining, shallowly punctate.

Head vertical, with sparse erect hairs; vertex narrow, 0.30 times as wide as head in male, 0.34 times in female; medial longitudinal furrow on vertex very shallow. Antennal segment I and II pale brown,



Figs. 7–11: *Lygocoris (Neolygus) tilianus* LU et ZHENG, spec. nov.; 7: vesica – 8: right paramere – 9: left paramere – 10: sclerotized ring – 11 posterior wall of bursa copulatrix (scale a = 0.3 mm, for figs. 7, 10, 11; scale b = 0.2 mm, for figs. 8, 9).

segment III and IV brown. Rostrum pale brown, except for apical half of segment IV dark brown, extending beyond hind coxa.

Pronotum immaculate, subshining. Scutellum rugose, yellowish green, anterior margin and mesoscutum yellow. Cuneus 1.2 times as long as basal width. Membrane pale greyish brown, veins pale brown.

Body beneath yellowish green. Legs pale brown, except for apex of tarsal segment III dark brown; tibial spines brown, each with a small basal dark spot.

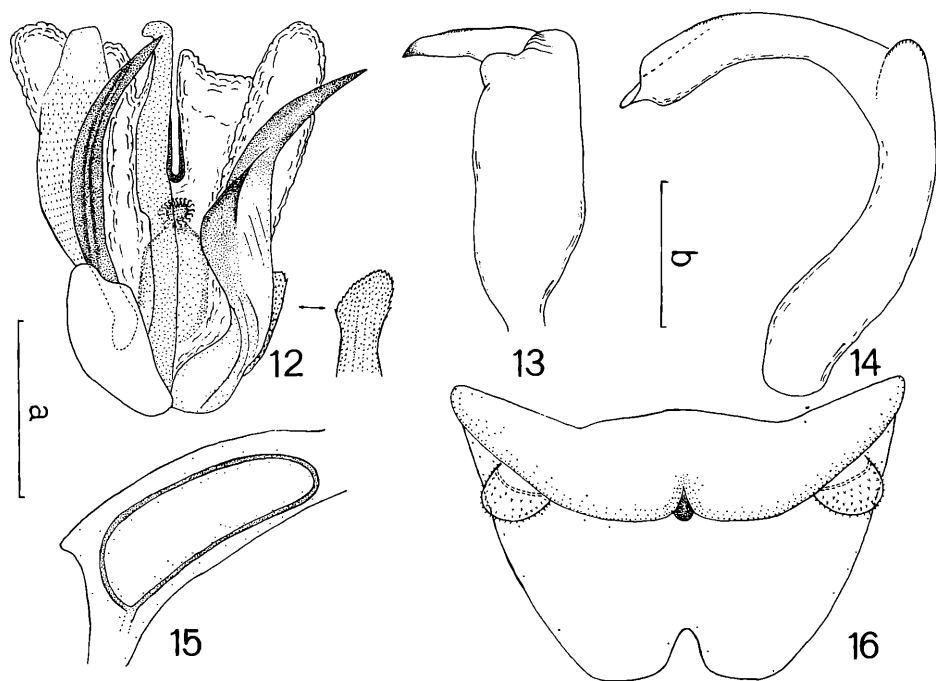
Male genitalia: Sensory lobe of left paramere with a strong apical protuberance (Fig. 9). Right paramere with sensory lobe strongly protruded, protuberance longer than width of paramere body, paramere body straight, hypophysis almost at right angle with the latter (Fig. 8). Vesical spicule relatively long, curved abruptly subbasally and subapically. Rightmost conjunctival lobe cylindrical, densely covered with minute crenulation. Rasp short and broad. Lobal sclerite broad, apex pointed (Fig. 7).

Female genitalia: Sclerotized rings as in Fig. 10; inter-ramal lobes of the bursa copulatrix short and broad; median process pear-shaped, partly overlapped by lateral lobes (Fig. 11).

Measurements: Body length 4.8–5.4 mm, maximal width 1.9–2.3 mm. Head length 0.38 mm, width 1.0–1.1 mm. Antennal segments lengths 0.55 : 1.90 : 1.10 : 0.75 mm. Pronotum length 0.69 mm, width 1.5–1.9 mm. Corium length 2.43 mm, claval commissure length 1.04 mm, cuneus length 1.0 mm.

Holotype ♂, paratypes 1 ♂ 4 ♀♀: China: Ningxia Autonomous Region (Mt. Liupan [N 35.7, E 106.2]), 6. vii. 1987. L.-Y. ZHENG leg.

Host: *Tilia chinensis*.



Figs. 12–16: *Lygocoris (Neolygus) bimaculatus* LU et ZHENG, spec. nov.; 12: vesica – 13: right paramere – 14: left paramere – 15: sclerotized ring – 16: posterior wall of bursa copulatrix (scale a = 0.3 mm, for figs. 12, 15, 16; scale b = 0.2 mm, for figs. 13, 14).

Remarks: This new species is a close relative of *L. (N.) tillicola* KULIK, 1965, but it can be easily distinguished from the latter by: dorsal surface immaculate; sensory lobe of right paramere strongly protruded, protuberance longer than width of paramere body; vesical spicule longer.

***Lygocoris (Neolygus) bimaculatus* LU et ZHENG, spec. nov. (Figs. 12–16)**

Body oblong-oval; dorsal surface yellowish brown, covered with golden vestiture, subshining. Head with sparse hairs; vertex 0.29 times as wide as head in male, 0.38 times in female, with a medial longitudinal furrow; apical $\frac{1}{3}$ of tylus black. Antennae pale brown, except for apical $\frac{1}{6}$ of the segment II, segment III and IV dark brown. Rostrum pale yellowish brown, except for apex of segment IV dark brown, reaching hind coxa.

Pronotum yellowish brown, calli slightly darkened, sometimes medial region of pronotum disk slightly darkened. Scutellum yellowish white, distinctly rugose. Hemelytra yellowish brown, inner margin of clavus dark brown, with a large dark marking on apical inner corner of corium; cuneus yellowish brown, 1.5 times as long as basal width in male, 1.3 times in female; membrane yellowish brown to brown.

Body beneath yellowish brown. Legs yellowish brown, except for apex of tarsal segment III dark brown; hind femur with two apical dark rings, sometimes obscure; tibial spines brown, each with a dark brown basal spot.

Male genitalia: Sensory lobe of left paramere with apical protuberance (Fig. 14). Right paramere with sensory lobe tumid, hypophysis at right angle with paramere body, the latter stout and straight (Fig. 13). Vesical spicule relatively short and broad. Rasp short and broad. Apex of lobal sclerite strongly pointed. Medial sclerite large, connecting with loop. Rightmost conjunctival lobe cylindrical, densely covered with minute crenulation (Fig. 12).

Female genitalia: Sclerotized rings as in Fig. 15. Lateral lobes of posterior wall of the bursa copulatrix broad and fused at middle; inter-ramal lobes broad and short; median process pear-shaped, partly overlapped by lateral lobes (Fig. 16).

Measurements: Body length 5.8–7.0 mm, maximal width 2.4–2.5 mm. Head length 0.36 mm, width 1.2 mm. Antennal segments lengths 0.63 : 2.10 : 1.13 : 0.81 mm. Pronotum length 1.0 mm, width 2.0 mm. Corium length 2.93 mm, claval commissure length 1.0 mm, cuneus length 1.13 mm.

Holotype: ♂, China: Sichuan Province (Baoping County [N 30.7, E 102.7], 2200–2700 m alt.), 25. vi. 1963. Paratypes: 2 ♂♂ 7 ♀♀, same data as holotype; 4 ♂♂ 2 ♀♀, same data, L.-Y. ZHENG, J. XIONG, H.-G. ZOU leg.; 2 ♀♀, same locality, 23. vi. 1963, L.-Y. ZHENG leg.; 1 ♀, same locality, 24. vi. 1963, H.-G. ZOU leg.; 1 ♂, same locality, 26. vi. 1963, S.-L. LIU leg.; 2 ♂♂ 1 ♀, same locality, 27. vi. 1963, H.-G. ZOU and J. XIONG leg.

Remarks: This new species closely resembles *L. (N.) honshuensis* LINNAVUORI, 1961, in size and in hemelytral markings. However, it can be distinguished from the latter by: yellowish white scutellum, shape of left paramere, shorter vesical spicule and narrower lobal sclerite.

***Lygocoris (Apolygus) badius*, nom. nov. et comb. nov.**

Lygus pubescens ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 48, 49, 57 (nom. praeoccup., nec REUTER, 1912, Ofv. F. Vet. Soc. Faun. Forh. **54A** (7): 37).

***Lygocoris (Apolygus) ulmicolus*, nom. nov. et comb. nov.**

Lygus ulmi ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 426, 427, 431, 432 (nom. praeoccup. in *Lygocoris*, nec KERZHNER, 1979, Trudy Zool. Inst. Leningr. **81**: 30).

***Lygocoris (Apolygus) fujianensis* (WANG et ZHENG, 1982), comb. nov.**

Lygus fujianensis WANG et ZHENG, 1982, Wuyi Science Journal **2**: 119, 120, 122, 123.

***Lygocoris (Apolygus) concinnus* (WANG et ZHENG, 1982), comb. nov.**

Lygus concinnus WANG et ZHENG, 1982, Wuyi Science Journal **2**: 118, 119, 121, 122.

***Lygocoris (Apolygus) nigricans* (WANG et ZHENG, 1982), comb. nov.**

Lygus nigricans WANG et ZHENG, 1982, Wuyi Science Journal **2**: 118, 119, 120, 122.

***Lygocoris (Apolygus) emeia* (ZHENG et WANG, 1982), comb. nov.**

Lygus emeia ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 47, 48, 56.

***Lygocoris (Apolygus) signatus* (ZHENG et WANG, 1982), comb. nov.**

Lygus signatus ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 48, 56, 57.

***Lygocoris (Apolygus) mosaicus* (ZHENG et WANG, 1982), comb. nov.**

Lygus mosaicus ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 49, 50, 57, 58.

***Lygocoris (Apolygus) curvipes* (ZHENG et WANG, 1982), comb. nov.**

Lygus curvipes ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 50, 51, 58.

***Lygocoris (Apolygus) marginatus* (ZHENG et WANG, 1982), comb. nov.**

Lygus marginatus ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 51, 52, 58.

***Lygocoris (Apolygus) elegans* (ZHENG et WANG, 1982), comb. nov.**

Lygus elegans ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 52, 53, 58, 59.

***Lygocoris (Apolygus) picturatus* (ZHENG et WANG, 1982), comb. nov.**

Lygus picturatus ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 53, 54, 59.

***Lygocoris (Apolygus) yunnananus* (ZHENG et WANG, 1982), comb. nov.**

Lygus yunnananus ZHENG et WANG, 1982, Entomotaxonomia **5** (1): 54, 55, 59.

***Lygocoris (Apolygus) angustus* (ZHENG et WANG, 1983), comb. nov.**

Lygus angustus ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 422, 423, 430.

***Lygocoris (Apolygus) major* (ZHENG et WANG, 1983), comb. nov.**

Lygus major ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 423, 424, 430.

***Lygocoris (Apolygus) hainanensis* (ZHENG et WANG, 1983), comb. nov.**

Lygus hainanensis ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 424, 430, 431.

***Lygocoris (Apolygus) ornatus* (ZHENG et WANG, 1983), comb. nov.**

Lygus ornatus ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 425, 426, 431.

***Lygocoris (Apolygus) triangulus* (ZHENG et WANG, 1983), comb. nov.**

Lygus triangulus ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 426, 431.

***Lygocoris (Apolygus) castaneus* (ZHENG et WANG, 1983), comb. nov.**

Lygus castaneus ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 427, 428, 432.

***Lygocoris (Apolygus) evonymi* (ZHENG et WANG, 1983), comb. nov.**

Lygus evonymi ZHENG et WANG, 1983, Acta Zootaxonomica Sinica **8** (4): 428, 429, 432, 433.

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