A Fourth Paper on the Species of Lopidea (Heteroptera, Miridae).[1]

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(Plate II.)

Lopidea amorphae new species (Plate II, Fig. 2).

♂. Length 5.9 mm., width 2 mm. *Head:* width 1.1 mm., vertex .34 mm. *Antennae:* segment I, length .60 mm.; II, 2.09 mm., thickness .114 mm., tapering to more slender on apical half; III, 1.2 mm.; IV, .40 mm. *Pronotum*: width at base 1.84 mm. Genital claspers (fig. 2) indicate a very close relationship with *reuteri,* but in the large series examined the distal portion of the right clasper shows differences that are constant. Hemelytra with red areas bearing fine yellowish pubescence, while in *reuteri* the same areas bear black pubescent hairs; smaller than *reuteri* and more yellowish in color, the majority of specimens more yellowish than red. Breeds on *Amorpha fructicosa* where the nymphs and adults were taken in numbers.

♀. Length 6.3 mm., width 2.3 mm., very similar to the male in form and coloration.

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Holotype: ♂ July 8, 1922, Ramsey County, Minnesota (H. H. Knight), taken on *Amorpha fructicosa,* found growing on bank of Mississippi river; Minnesota University collection. *Allotype*: same data as type. *Paratypes*: 16 ♂ 14 ♀, taken with types; 9 ♂ 26 ♀ July 18, 1922, type locality (H. H. Knight). 2 ♂ 2 ♀ July 2, 1920, type locality (P. B. Lawson).

Lopidea lathyrae new species (Plate II, Fig. 7).

♂. Length 5.9 mm., width 1.9 mm. *Head*: width 1.11 mm., vertex .65 mm. *Antennae*: segment I, length .65 mm.; II, 2 mm., cylindrical; III, 1.58 mm.; IV, .61 mm. *Pronotum*: width at base 1.71 mm. Size, form and color very suggestive of *confluens* Say; deep red, legs, antennae, pronotal disk except lateral and anterior margins, scutellum, broad stripe each side of commissure and membrane black; clothed with fine yellowish pubescence on the red areas but black over the dark surface, with a few sericeous, yellowish pubescent hairs about margin of calli. Genital claspers (fig. 7) distinctive of the species.

♀. Length 6.2 mm., width 2.2 mm.; very similar to the male but with embolium and outer half of cuneus pale.

Holotype: ♂ July 6, 1919, Anoka County, Minnesota (H. H. Knight); Minnesota University collection. *Allotype*: taken with the type. *Paratypes:* 75 ♂ ♀, taken with the types on *Lathyrus venosus.* DAKOTA—3 ♂ 6 ♀ July 30, 1920, Turtle Mountains (T. H. Hubbel). MINNESOTA—♂ July 10, 1920, Morrison County (A. A. Nichol). ♀ July 2, 1919, Mille Lacs County (V. R. Haber.) ♂ Aug. 6, 1910, Koochiching County. 5 ♂ 1 ♀ June 19, 1921, Ramsey County (H. H. Knight.) CANADA, MANITOBA—♀ July 20, 1915, 2 ♀ July 18, 1916, Aweme (N. Criddle). SASKATCHEWAN—♂ July, 1922, Saskatoon (A. E. Cameron).

In Anoka County the writer found this species so numerous that in spots the host plants were largely killed. From this observation it would appear that this insect may be regarded as a potential pest of cultivated vetches.

Lopidea balli new species (Plate II, Fig. 1).

♂. Length 5.7 mm., width 2.2 mm. *Head*: width 1.21 mm., vertex .70 mm. *Antennae*: segment I, length .63 mm.; II, 2.2 mm., thickness .10 mm., very slightly more slender on apical one-fourth. *Pronotum*: width at base 1.74 mm. Genital claspers (fig. 1) indicate a close relationship with *lathyrae,* but in form broader and with less blackish on

the dorsum; pronotum red to roseous, calli scarcely darkened; pubescence nearly as in *lathyrae,* but basal half of clavus bearing sericeous, silvery pubescence, the dark hairs on embolium and outer half of corium becoming yellowish apically,

♀. Length 6.1 mm., width 2.2 mm.; very similar to the male in form and coloration.

Holotype: ♂ July 22, 1900, Denver, Colorado (E. D. Ball); author's collection. *Allotype:* ♀ Aug., 1906, Glen, Sioux County, Nebraska (H. G. Barber). *Paratypes*: 1 ♂ 1 ♀, taken with allotype.

Lopidea chelifer new species (Plate II, Fig. 15).

♂. Length 5.3 mm., width 1.9 mm. *Head*: width 1.17 mm., vertex .64 mm. *Antennae:* segment I, length .63 mm.; II, 2.03 mm., nearly cylindrical; III, 1.36 mm.; IV, .39 mm. *Pronotum*: width at base 1.66 mm. Genital claspers (fig. 15) indicate a relationship with *balli,* but differences are apparent, the dorsum also more thickly clothed with dusky to black pubescence; femora pale fuscous and with black dots.

Holotype: ♂ Aug. 1-15, 1916, Jemez Springs, New Mexico (J. Woodgate); author's collection.

Lopidea dakota new species (Plate II, Fig. 3).

†*Lomatopleura caesar* Uhler, Hemip. Colo., p. 31, 1895.

♂. Length 6.4 mm., width 2.5 mm. *Head*: width 1.22 mm., vertex .77 mm. *Antennae*: segment I, length .77 mm.; II, 2.44 mm., thickness .09 mm., tapering to slightly more slender apically; III, 1.57 mm.; IV, .57 mm. Size and color very similar to *reuteri;* genital claspers (fig. 3) indicate a close relationship with *instabilis* but the antennae are more slender; dorsum clothed with stiff, suberect black hairs which in length nearly equal thickness of antennal segment II.

♀. Length 6.9 mm., width 2.4 mm.; more robust than the male but very similar in form and coloration. Named after the Dakota Indians, the largest division of the Siouan family.

Holotype: ♂ July 12, 1920, Cass County, North Dakota (A. A. Nichol); author's collection. *Allotype:* same data as the type. *Paratypes:* COLORADO—2 ♂ Aug. 3, 1894, Colorado Springs; ♂ June 5, 1894 Fort Collins (C. P. Gillette). 3 ♂ 1 ♀ August, Denver (N. Banks). ♂ July 22, 1900, Denver; ♂ July 13, ♀ July 16, 1900, Fort Collins (E. D. Ball). ♂, "Colo. Spr."; 3 ♂, "Colo. 1599, 1606." ♀ July 22, 1900, Pueblo. MINNESOTA—♂ ♀, Big Stone County; ♂ ♀, Traverse County (O. W. Oestlund). NEBRASKA—♂ Aug., 1903, Glen,

Sioux County (H. G. Barber.) MONTANA—♂ August 24, ♀ Aug. 21, 1892, Assiniboin. NORTH DAKOTA—4 ♂, taken with types. 4 ♂ 4 ♀ July 19, 1920, Devil's Lake. ♂ July 30, ♂ Aug. 4, 1920, Turtle Mountains (T. H. Hubbel). ♂ ♀ July 29, 1921, Edgeley. SOUTH DAKOTA—♂ ♀ June 16, 1891, Brookings (H. C. Severin). WYOMING—3 ♂, 2 ♀ July 20-25, 1920, Yellowstone National Park (A. A. Nichol). CANADA: BRITISH COLUMBIA—♂ June 9, 1905, Vernon. ♀ Aug. 15, 1919, Fort Fraser (W. B. Anderson). MANITOBA—♂, Winnipeg (A. W. Mitchener). ♀ July 22, 1910, Winnipeg (J. Cocks). SASKATCHEWAN—♂ ♀ July, 1922, Saskatoon (A. E. Cameron); reported as injurious to "small fruits."

Lopidea falcicula new species (Plate II, Fig. 6)

♂. Length 6.5 mm., width 2.3 mm. *Head*: width 1.11 mm., vertex .65 mm. *Antennae*: segment I, length .63 mm; II, 2.2 mm., cylindrical; III, 1.61 mm.; IV, .46 mm. *Pronotum*: width at base 1.8 mm. Color suggestive of *dakota* but the calli, scutellum and hemelytra with deeper black, and the pubescence on the dorsum finer and less conspicuous; genital claspers (fig. 6) distinctive.

♀. Length 6.8 mm., width 2.4 mm.; very similar to the male in form and coloration.

Holotype: ♂ August 2, 1900, Rico, Colorado (E. D. Ball); author's collection. *Allotype*: same data as type. *Paratypes*: ♂, topotypic. ♀ August 5, 1900, Antonio, Colorado.

Lopidea fuscina new species (Plate II, Fig. 5).

♂. Length 6.2 mm., width 2.14 mm. *Head:* width 1.22 mm., vertex .40 mm. *Antennae*: segment I, length .67 mm.; II, 2.16 mm., nearly cylindrical but perceptibly more slender near apex. *Pronotum:* width at base 1.86 mm. Form and color suggestive of *falcicula* but red areas of dorsum bearing yellowish pubescence; genital claspers (fig. 5) distinctive.

Holotype: ♂ June 6-8, 1907, Mount Diablo Range, Fresno County, California (J. C. Bradley); Cornell University collection.

Lopidea taurula new species (Plate II, Fig. 8).

♂. Length 5.9 mm., width 2 mm. *Head*: width 1.14 mm., vertex .68 mm. Genital claspers (fig. 8) indicate a close relationship with *taurina* but in this case the prongs of the right clasper scarcely form a half circle; dorsum clothed with short, black pubescent hairs, also more broadly red than in *taurina*.

Holotype: ♂ June 24, 1882, Umatilla, Oregon; author's collection.

Lopidea nigridea Uhler, Hemiptera Colorado, p. 30, 1895.

Distinguished by the genital claspers (Plate II, fig. 9), also by the chiefly fuscous coloration and the short, erect black hairs of the dorsum. The figure of the genital claspers here presented was drawn from one of the co-types (♂ July 16, 1894, Steamboat Springs, Colorado, C. F. Baker).

Lopidea fallax new species (Plate II, Fig. 10).

♂. Length 6 mm., width 2 mm. *Head*: width 1.14 mm., vertex .40 mm. *Antennae*: segment I, length .54 mm.; II, 1.97 mm., cylindrical. *Pronotum*: width at base 1.66 mm. Genital claspers (fig. 10) distinctive, although showing a close relationship with *nigridea;* differs from *nigridea* in the soft fine pubescence, nearly black hemelytra with reddish margins and the deep rose red pronotum with black calli.

Holotype: ♂ June 11, 1915, below Mountain Springs, San Diego County, California (Harold Morrison); author's collection. *Paratypes:* 2♂, taken with type. 3♂ June 11, 1915, Jacumba to Campo, San Diego County (Harold Morrison), and ♂ ♀, Los Angeles County, California.

Lopidea serica new species (Plate II, Fig. 12).

♂. Length 5.8 mm., width 2.24 mm. *Head*: width 1.23 mm., vertex .71 mm. *Antennae*: segment I, length .60 mm.; II, 2 mm., cylindrical; III, 1.16 mm.; IV, .46 mm. *Pronotum*: width at base 1.9 mm. Genital claspers (fig. 12) indicate a close relationship with *nigridea,* but *serica* differs in that the hemelytra bear in addition to black hairs, closely appressed, yellowish sericeous pubescence; hemelytra red, only slightly infuscated at commissure, scutellum nearly black, disk of calli with black spots.

♀. Length 5.7 mm., width 2.3 mm.; very similar to the male in form and coloration.

Holotype: ♂ June 28, 1900, Fort Collins (E. D. Ball); author's collection. *Allotype*: taken with type. *Paratypes*: 2♂, topotypic.

Lopidea yakima new species (Plate II, Fig. 11).

♂. Length 5.1 mm., width 2 mm. Closely related to *aculeata* but evidently differs in structure and color of the genital claspers (fig. 11). Dorsum bright red, calli and scutellum black, dorsum clothed with short black hairs and intermixed, at least on clavus, with closely appressed, sericeous yellowish pubescence.

Holotype: ♂ August, 1893, Olympia, Washington (Kinkaid); author's collection. Named after the Yakima Indians.

Lopidea mohave new species (Plate II, Fig. 14).

♂. Length 5.7 mm., width 2 mm. Related to *marginata* but differs in the genital claspers (fig. 14). Dorsum fusco-reddish, pronotum more fuscous than reddish, cuneus bright red; calli with margins black and spots on disk of each.

Holotype: ♂ July 25, 1907, San Antonio Canyon, Ontario, California; author's collection. Named after the Mohave Indians.

Lopidea nicholi new species (Plate II, Fig. 4).

♂. Length 5.8 mm., width 2 mm. *Head*: width 1.14 mm., vertex .64 mm. *Antennae*: segment I, length .60 mm.; II, mutilated. *Pronotum*: width at base 1.52 mm. Dorsum yellow as in *robiniae* but scutellum and each side of commissure not so distinctly black; dorsum clothed with short stiff, suberect black hair. Genital claspers (fig. 4) distinctive of the species.

Holotype: ♂ August 7, 1920, Columbia County, Washington (A. A. Nichol); author's collection.

Lopidea ute new species (Plate II, Fig. 19).

♂. Length 5.7 mm., width 1.7 mm. *Head*: width 1.14 mm., vertex .61 mm. *Antennae*: segment I, length .48 mm.; II, 1.86 mm., cylindrical; III, 1.26 mm. *Pronotum*: width at base 1.6 mm. Coloration suggestive of *navajo;* dorsum dark fusco-reddish, anterior margin of pronotum, embolium and outer margin of cuneus pale; clothed with very fine yellowish pubescence; genital claspers (fig. 19) distinctive of the species.

Holotype: ♂ July 15, 1894, Steamboat Springs, Colorado (C. F. Baker); Cornell University collection. *Paratypes*: 2♂, "Colo. 1330, 1341." Named after the Ute Indians, a tribe that inhabited the mountains of Colorado.

Lopidea teton new species (Plate II, Fig. 13).

♂. Length 6.3 mm., width 2.43 mm. *Head*: width 1.2 mm., vertex .68 mm. *Antennae*: segment 1, length .71 mm.; II, 2.1 mm., nearly cylindrical, although perceptibly tapering smaller on apical half; III, 1.54 mm.; IV, .47 mm. *Pronotum*: length 1.26 mm., width at base 2.01 mm. Pubescence and color nearly as in *dakota* but the red coloration tinged with rose, disk of pronotum distinctly rose colored. Genital claspers (fig. 13) distinctive.

♀. Length 6.1 mm., width 2.36 mm.; very similar to the male in form and coloration. *Antennae*: segment II, length 1.86 mm. *Pronotum*: length 1.2 mm., width at base 2 mm.

Holotype: ♂ June 16, 1920, Norman County, Minnesota (A. A. Nichol); author's collection. *Allotype*: ♂ July 12, 1920, Cass County, North Dakota (A. A. Nichol). *Paratypes*: COLORADO—♂ ♀ June 6, ♀ July 17, 1900, Fort Collins (E. D. Ball); ♀ June 13, 1915, Morrison (E. C. Jackson). KANSAS —♂ May 29, Riley County; 2 ♀ May 30, Topeka (Popenoe). MINNESOTA—♀, Ottertail County (O. W. Oestlund); ♀ June 20, 1922, Norman County (A. A. Nichol), MONTANA—♂ June 18, 1911, Gallatin Valley. NEVADA—♂ April 20, 1915, alt. 6300 ft. Round Mountain (E. G. Holt). NORTH DAKOTA—♀, Dickenson (H. Osborn). SOUTH DAKOTA—2 ♀ June 16, ♂ June 21, Brookings; 2 ♂ 2 ♀ June 1, 1921, Capa (H. C. Severin). TEXAS—♀ April, 1914, Fort Worth (W. S. Adkins). Named after the Teton Indians, a name signifying "dwellers of the prairies."

Lopidea bullata new species (Plate II, Fig. 16).

♂. Length 4.6 mm., width 1.7 mm. *Head:* width 1.30 mm., vertex .80 mm. *Antennae*: segment I, length .34 mm.; II, 1.18 mm., slender, cylindrical; III, .86 mm.; IV, .37 mm. *Pronotum*: length .91 mm., width at base 1.51 mm. Closely related to *puella* but surface clothed only with soft yellowish pubescence, also the right clasper (fig. 16) without an erect, acute spine at dorsal angle, nor is the distal portion longitudinally furrowed. Pale to fuscous, head large, anterior margin of pronotum, scutellum, embolium and cuneus pale to white; membrane pale, veins and a ray behind smaller areole fuscous.

♀. Length 4.3 mm., width 2 mm.; embolar margins strongly arcuate; coloration similar to the male; membrane abbreviated, just attaining tip of abdomen.

Holotype: ♂, Los Angeles County, California; Corneli University collection. *Allotype*: same data as type. *Paratypes*: ♂ ♀, topotypic.

Lopidea bullata fusca new variety.

Genital claspers not differing appreciably from the typical species but with membrane and veins uniformly infuscated; scutellum and paler parts of head and pronotum reddish.

Holotype: ♂, Los Angeles County, California; Cornell University collection.

Lopidea wileyi new species (Plate II, Fig 17)

♂. Length 4.6 mm., width 1.6 mm. *Head*: width 1 mm., vertex .60 mm. *Antennae*: segment I, length .43 mm.; II, 1.5 mm., cylindrical;

III, .91 mm. *Pronotum:* width at base 1.36 mm. Black, hemelytra with a reddish tinge, pronotum red, calli blackish; clothed with fine short blackish pubescence; genital claspers (fig. 17) very distinctive of the species.

♀. Length 4.6 mm., width 1.6 mm.; very similar to the male in form and coloration.

Holotype: ♂ April 20, 1921, Eastland County, Texas (Grace O. Wiley); author's collection. *Allotype*: same data as the type. *Paratypes*: 2 ♂ 7 ♀, taken with the types. ♀ April 24, ♂ May 2, San Diego, Texas.

Lopidea falcata new species (Plate II, Fig. 18).

♂. Length 5.4 mm., width 2 mm. *Head:* width 1.14 mm., vertex .63 mm. *Antennae*: segment I, length .57 mm.; II, 2 mm., nearly cylindrical but tapering to slightly more slender apically. Black, lateral margins of pronotal disk behind calli, cuneus, embolium, base of clavus and outer half of corium red; dorsum clothed with fine yellowish pubescence; genital claspers (fig. 18) very distinctive of the species.

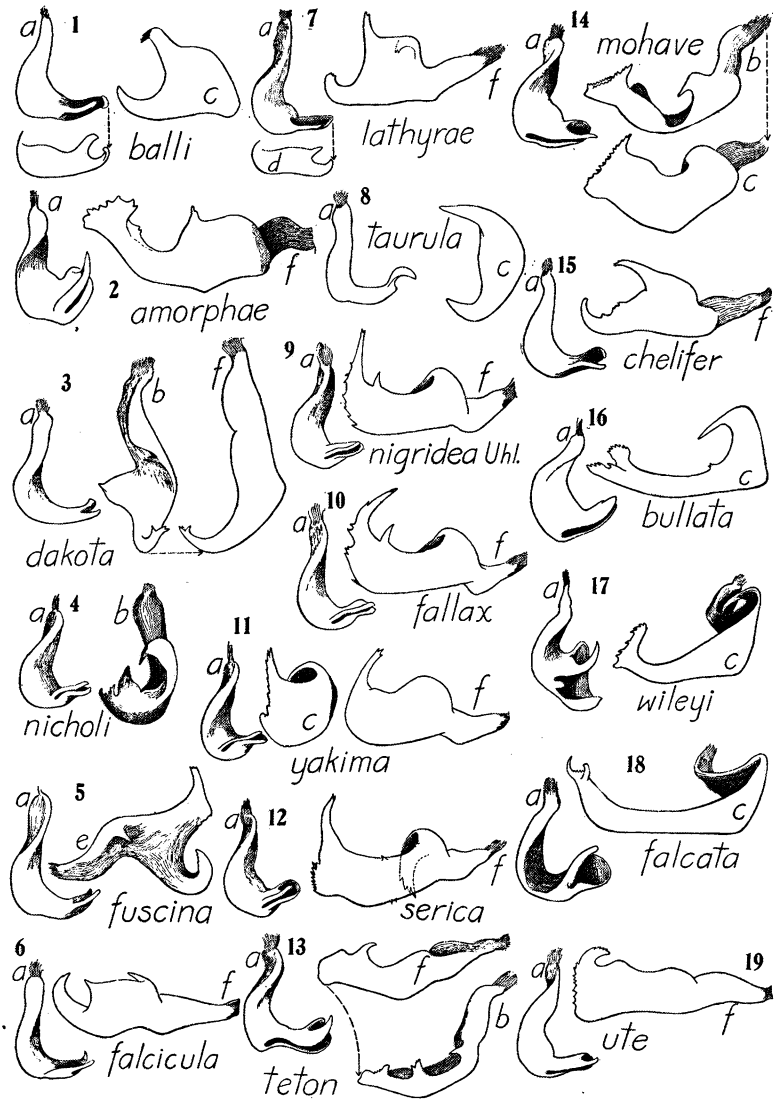
♀. Length 6.3 mm., width 2.2 mm.; larger than the male but very similar in form and coloration.

Holotype: ♂ July 12, 1915, Jemez Springs, New Mexico (J. Woodgate); author's collection. *Allotype*: same data as type. *Paratypes*: 2 ♂ 3 ♀, topotypic.

EXPLANATION OF PLATE II.

Male genital claspers of *Lopidea*

a, left clasper, dorsal aspect.
b, right clasper, dorsal aspect.
c, right clasper, posterior aspect.
d, left clasper, posterior aspect.
e, right clasper, internal lateral aspect.
f, right clasper, lateral aspect.



MALE GENITAL CLASPERS OF SPECIES OF LOPIDEA.—KNIGHT.