New Species of Lopidea from Arizona (Hemip. Miridae).*

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(Plate X.)

The writer did considerable collecting in Arizona, while with the Cornell Biological Expedition, and in the present paper gives the results of his studies on the species of *Lopidea* taken in that region. This interesting genus presents a number of species having great similarity of coloration and general form but with very distinct genital structures, characters which must be used if we are to determine the species consistently.

Lopidea arizonae new species (Plate X, Fig. 1).

Suggestive of *marginata* but much larger and with bright red on the basal half of the pronotum; genital claspers distinctive of the species.

♂. Length 7 mm., width 2.3 mm. Head white, the sutures, sides of tylus, heavy bar each side of the median line of the front and the base of the head black; rostrum blackish with pale on the first segment, eyes brownish to black; antennae black, second segment linear. Pronotum with the basal half bright red, shining, narrow basal margin fuscous, anterior margin white, calli black. Scutellum fuscous, pale median stripe on the apical half. Hemelytra dark red shaded with fuscous, more red bordering the embolium and on the inner half of the cuneus; embolium and outer margin of the cuneus ivory white; fine pale pubescence with short black bristles on the white embolium; membrane fuscous. Coxae and femora more or less pale and marked with fuscous and black; femora fuscous on the front margin with a row of black dots beneath and usually two rows on the upper side, tibiae and tarsi black. Venter marked transversely with alternating bands of fuscous, reddish and pale.

♀. Very similar to the male in coloration, only more robust, the pale color more extended on the venter.

This species was taken by the writer on *Robinia neomexicana* in Post Creek canyon near Bonita, Arizona. It occurs apparently in several mountain ranges of Arizona at altitudes of 6000 to 7500 feet.

*Contribution from the Department of Entomology of Cornell University.

Holotype—♂, July 16, 1917, near Bonita, Arizona (H. H. Knight); Cornell University Collection.

Allotype—Taken with the type.

Paratypes—3 ♂, 22 ♀, topotypic; 2 ♂, 1 ♀, July 27, Sabino Canyon, altitude 7800 feet, Mt. Lemon, Santa Catalina Mountains, Arizona (H. H. Knight). ♂ ♀, July 29, Huachuca Mountains, Arizona (H. G. Barber). 14 ♂ ♀, Arizona (H. K. Morrison, 1883, Cornell Collection). ♂, June 15, Jemez Springs, New Mexico (Woodgate).

Lopidea apache new species (Plate X, Fig. 2).

Very similar in general appearance to *arizona* but differs in having the anterior margin of the pronotum more reddish and the basal half of the disk more fuscous; male more reddish, including the embolium and cuneus.

♂. Length 6.8 mm., width 2.1 mm. Head nearly as in *arizona* but with the black on the tylus and front more extended. Pronotum deep dull red, calli black, the disk somewhat darkened with fuscous. Hemelytra as in *arizona*, but all white of the embolium, cuneus and scutellum replaced by red. Legs more fuscous and sides of the venter with more red than in *arizona;* genital claspers distinctive of the species (fig. 2).

♀. Length 7.2 mm., width 2.3 mm. Hemelytra with more fuscous than red, embolium and outer half of the cuneus pale, inner half of the cuneus red; disk of the pronotum having the red darkened with fuscous, anterior margin more pale with reddish.

This species was taken in company with *arizonae* on *Robinia neomexicana* and at the time was thought to be the same species. It is possible that *apache* was merely attracted to the plant to feed on the flowers and does not breed there.

Holotype—♂, July 16, 1917, near Bonita, Arizona (H. H. Knight); Cornell University Collection.

Allotype—Taken with the type.

Paratypes—6 ♂, 31 ♀, taken with the types.

Lopidea navajo new species (Plate X, Fig. 3).

Very similar to *apache* but slightly smaller, darker colored and with less red; male genital claspers distinctive of the species.

♂. Length 6.5 mm., width 1.9 mm. Head marked nearly as in *arizona*, but the pale areas more yellowish. Pronotum with the disk more fuscous than reddish, the anterior margin pale yellowish and not conspicuously white as in *arizona*. Scutellum and hemelytra mostly dark fuscous as in *apache*, but the embolium and more than half of the white, claval suture margined with pale. Legs and venter nearly as in *arizona*.

♀. Very similar to the male in coloration and only slightly more robust.

This species was found breeding abundantly on *Robinia neomexicana* near Williams, Arizona. The writer has never seen any species of *Lopidea* so abundant as was this one on the trees of *R. neomexicana* around the camping grounds set aside in the forest preserve two miles west of Williams. Nymphs as well as adults were taken clustered on the tender flower shoots where they preferred to feed. Strangely enough *L. arizonae* was not taken here though the botanists determined the trees as identical with those from which *arizonae* was taken at Bonita.

Holotype—♂, August 4, 1917, Williams, Arizona (H. H. Knight); Cornell University Collection.

Allotype—Taken with the type.

Paratypes—Numerous specimens taken with the types.

Lopidea lateralis new species (Plate X, Fig. 4).

♂. Length 5.9 mm., width 2 mm. Black, the embolium and outer half of the cuneus ivory white. Pronotum with the side margins of the disk strongly margined, narrowly pale; basal angles of the disk and posterior half of the sides orange red; extreme base of the corium and the articulations brownish to orange. Second antennal segment slightly thicker at the base, tapering gradually to the apex; genital claspers (fig. 4) distinctive of the species.

♀. Length 6 mm., width 2 mm. Very similar to the male in coloration. A few females have the membrane much abbreviated, abruptly rounded and scarcely reaching over the tip of the venter (length 4.7 mm., width 2 mm.).

This species was swept from a wild raspberry (*Rubus* sp.) and a few from flowering herbaceous plants growing on the slopes of Mt. Lemon at an altitude of 7800 feet.

Holotype—♂, July 27, 1917, Sabino Canyon, altitude 7800

feet, Mt. Lemon, Santa Catalina Mountains, Arizona (H. H. Knight); Cornell University Collection.

Allotype—Taken with the type.

Paratypes—26 ♂, 17 ♀, topotypic; ♂, August 4, Williams, Arizona (H. H. Knight). 3 ♂, 1 ♀, Arizona (H. K. Morrison, 1883, Cornell Collection).

Lopidea garryae new species (Plate X, Fig. 5).

A small fuscous form having some of the color characters of *nigridea* but differs in several respects; genital claspers distinctive of the species.

♂. Length 5.1 mm., width 1.5 mm. Fuscous, the head and antennae black, legs fuscous to blackish; bordering the front of the eyes, sometimes the sides of the face, sides and front margin of the pronotum, dull pale yellowish. Hemelytra and scutellum fuscous, embolium and frequently the base of the clavus and corium pale yellowish to reddish brown; cuneus reddish, membrane fuscous. Venter fuscous with reddish on the sides.

♀. Length 5 mm., width 1.6 mm. Very similar to the male, the embolium paler with the head and venter more blackish.

This species was found breeding on *Garrya wrightii* in Post Creek Canyon, altitude 7000 feet, near Bonita, Arizona.

Holotype—♂, July 16, 1917, near Bonita, Arizona (H. H. Knight); Cornell University Collection.

Allotype—Taken with the type.

Paratypes—5 ♂, 2 ♀, taken with the types.

Lopidea lepidii new species (Plate X, Fig. 6).

Very similar to *media* in size and coloration but differing distinctly in the structure of the male genital claspers.

♂. Length 5.2 mm., width 1.7 mm. Head and antennae black, juga, lorae, genae and bordering the eyes yellowish to reddish; second antennal segment nearly linear. Thorax, hemelytra and venter bright red, with the calli, scutellum, sternum, apical half of the clavus and inner half of the corium darkened with fuscous. Legs dark fuscous to blackish; genital claspers (fig. 6) distinctive of the species.

♀. Length 5.6 mm., width 1.9 mm. Slightly more robust than the male, the red color more of an orange. This species has very rarely if ever the white embolium so frequent in *media*.

Holotype—♂, July 17, 1917, near Bonita, Arizona (H. H. Knight); Cornell University Collection.

Allotype—Taken with the type.

Paratypes—Numerous specimens taken with the types. 14 ♂ ♀, Arizona (H. K. Morrison, 1883, Cornell Collection). ♂, July 13, Palmer Lake; 3 ♂, July 31, Ridgway; ♂, June 10, Fort Lupton, Colorado.

The writer found the species breeding on *Lepidium thurberi* which was growing around the adobe ruins of old Fort Graham, near Bonita, Arizona. A short distance away was found an extensive growth of the same plant as determined by the botanists on the expedition, which was abundantly infested by *Lygus elisus* V. D., but no specimens of *Lopidea lepidii* were to be found. It would seem from this that the species breeds only in favored spots.

The writer has seen specimens of both *media* and *lepidii* from Colorado where the species appear to overlap. In the eastern States there is only one species that could be taken for *media* Say, it having the inner hook on the right clasper very long and more slender than in *lepidii*, the same clasper having also near the tip a distinct dorsal projection with five or six serrate teeth at the top.

Lopidea minima new species (Plate X, Fig. 7).

Very small, reddish with fuscous and black, resembling *media* in coloration; genital claspers distinctive of the species.

♂. Length 3.8 mm., width 1.4 mm. Black, the basal half of the pronotum orange to red; hemelytra red, bordering the commissure, membrane and scutellum, fuscous.

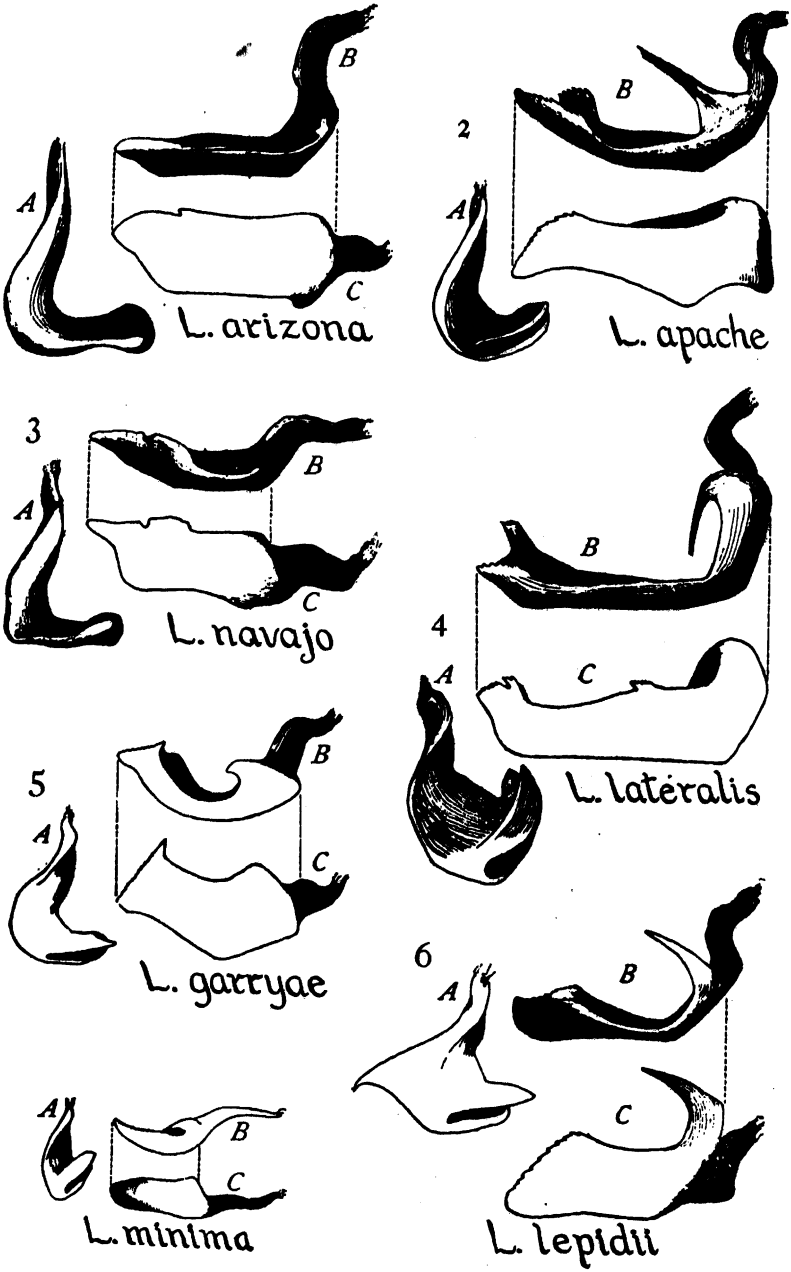
Holotype—♂, July 23, 1917, Sabino Canyon, altitude 5500 feet, Santa Catalina Mountains, Arizona (H. H. Knight); Cornell University Collection.

Paratypes—♂, topotypic. 2 ♂, Arizona (H. K. Morrison, 1883, Cornell Collection).

The writer took the species on *Coursetia microphylla* which is probably the food plant. At that date the species was not in season, the two specimens taken probably being stragglers of the brood.

EXPLANATION OF PLATE X.

Male genital claspers of *Lopidea*. *A*, left clasper, dorsal aspect. *B*, right clasper, dorsal aspect. *C*, right clasper, posterior aspect.



NEW LOPIDEAE FROM ARIZONA.—KNIGHT.