

THREE NEW LYCOSIDS.

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Brief preliminary descriptions of the following species are given in order that the names may be used in another place.

Lycosa permunda, sp. nov.—♀. Cephalothorax dark brown; a pale narrow median line extending backward from first eye row, widening abruptly in front of dorsal groove, and then gradually narrowing to a point at posterior margin; a broad light-coloured marginal stripe on each side not extending forward farther than the third eye row, its upper margin coarsely dentate, the lower border broken by a few dark dots, but not limited below by a continuous dark line or stripe at margin. Chelicerae black. Labium and endites dark brown. Sternum dark brown, with a yellow median line. Legs brown, darker distally; beneath unmarked but having a number of dark cross bars above on femora and posterior tibiae. Abdomen above dark, having the usual lanceolate mark at base followed by a series of light coloured, chevron-formed transverse lines, each ending on each side in a light dot; sides yellowish brown, densely spotted with black; venter also yellowish brown, more sparsely covered with smaller black dots, much as in *helluo*.

Length, 22 mm. Length of cephalothorax, 10.7 mm.; width, 8 mm. Length of leg iv., 30.3 mm.

♂.—Coloured nearly like the ♀, but paler throughout. Marginal stripes of cephalothorax not interrupted below by dark spots. Legs clear brown, without any cross markings on any joints. Palpi yellowish brown excepting tarsus, which is black.

Length, 20 mm. Length of cephalothorax, 10 mm.; width, 7.5 mm. Length of leg iv., 32.4 mm.

Locality: Kansas.

In general appearance the female resembles *helluo*, but is easily separated by structure of epigynum and by various other characters. The male is conspicuously different in its palpal organ and in size, proportion and structure from those of related species. This form also might suggest the *vafra* of Koch, but is not that species.

Pirata aspirans, sp. nov.—♀. Sides of cephalothorax dark brown, crossed by radiating lines of black; a pale-coloured median band enclosing in front the usual dark V-shaped mark; a yellow stripe on each side extending forward as far as third eye row, limited below by a marginal black line; clypeus yellow. Chelicerae reddish yellow. Labium yellow. Endites yellow apically, dusky brown below. Sternum and coxae of legs

immaculate yellow. Legs yellow, with all joints excepting tarsi banded with black annuli, which on the femora of the first legs are confluent, and on the other joints of the same legs are partially so. Abdomen above black, at sides minutely punctate with yellow; at base a lanceolate yellow mark, having at each side behind middle a small ovate yellow spot, with black dot at centre, and each side of its apex a larger triangular yellow spot; behind is a series of chevron-shaped transverse marks, which become successively shorter caudally, the last few being diamond-shaped and contiguous with each other by their apices. Sides of abdomen above like lateral part of dorsum, but with black reduced to spots over a yellow field below. Venter yellow, dusky in front of genital furrow, and with a dusky median stripe behind epigynum extending only part way to the spinnerets. Anterior row of eyes but slightly procurved, shorter than the second; anterior median eyes two-thirds their diameter apart closer to the smaller lateral eyes; anterior lateral eyes three-fourths their diameter from front margin of clypeus, their diameter from eyes of second row; eyes of second row two-thirds their diameter apart; quadrangle of posterior eyes one-fourth as long as the cephalothorax, a little wider in front than long. Epigynum behind at middle shallowly indented or angularly excavated, the side lobes widely rounded.

Length, 3.9 mm. Length of cephalothorax, 1.8 mm.; width, 1.4 mm. Length of leg iv., 7.3 mm. (of tibia + patella, 2.3 mm.).

Locality: Virginia, North Carolina. One specimen from the former locality and two from the latter in company with specimens of *P. bilobata* (Tully). The female of this species is nearest *P. humicolus*, but among other points differs clearly in the form of the spermathecae. In *aspirans* the spermathecae lie entirely in front of their openings, whereas in *humicolus* this is not the case. Both these species may be separated from *minuta* by the fact that in them the inferior margin of the chelicerae is armed with three teeth, *minuta* having but two. The male of *aspirans* is conspicuously different in the form of the scopus.

Allocosa degesta, sp. nov.—♀. *Cephalothorax* shining black, of reddish lustre. *Chelicerae* the same. *Labium* and *endites* brown. *Legs* nearly as in *funerea*, but light marks on femora more obscure and less contrasted on other joints between the light and dark rings. *Sternum* reddish brown, dark about margins, lighter, more yellowish over middle area. *Abdomen* above nearly as in *funerea*; venter yellow, with a few faint dark dots at sides. *Spinnerets* yellow. *Epigynum* brown, weakly reddish at borders.

Chelicerae not quite twice as long as the *face* is high. Anterior row of eyes a little longer than the second, nearly straight; anterior median eyes much larger than the lateral, at most one-fifth their diameter apart, still closer to the lateral eyes, not fully one-third their diameter from eyes of second row; anterior lateral eyes not fully their diameter from front margin of clypeus, some closer to eyes of second row; anterior median eyes three-fourths as large as those of second row; eyes of second row about their radius apart; quadrangle of posterior eyes as wide in front as long, only one-sixth as long as cephalothorax. *Spines* of anterior tibiae greatly reduced, minute; none at all on either anterior or posterior side of joint. Epigynum nearly the same as that of *funerea*.

Total length, 6.6 mm. Length of cephalothorax, 3.2 mm.; width, 2.25 mm. Length of leg iv., 9.4 mm.

Locality: Louisiana.

The other species of *Allocosa* so far described are *funerea*, Hentz; *rugosa*, Keys (*nigra*, Stone, nec *funerea*); and *sublata*, Montg. I have a fifth species not yet described.

STRANGE ATTEMPTED HYBRIDIZATION IN NATURE.

It will doubtless be of interest for me to record what seems to me the strangest cross-copulation between different species of lepidoptera that I have ever heard of. Mr. Arthur Hudson informs me that one night recently he found on a treacled post a ♂ *Orthosia Conradi* in coitu with a ♀ *Noctua Smithii*, and on the same night on another treacled post, a ♂ *Xylophasia lateritia* in coitu also with a ♀ *N. Smithii*. Both pairs remained in cop. for some little time after boxing; but the ♀♀ died, probably from dry heat, within about twenty-four hours, without laying. Mr. Hudson's dictum on matters concerning the habits, etc., of our local lepidoptera is unimpeachable, and he says there cannot be any doubt as to the species in each case. Of course it is unlikely that, had eggs been obtained, they would have proved fertile. During my 17 years' experience as a collector I never yet saw even supposed different species in cop., and never heard of copulation between species so widely distinct. The occurrence of the two cases on the same night would seem to suggest that something about the atmospheric conditions had turned the moths a bit "crazy."—F. H. WOLLEY DOD, Millarville, Alta.