

few black scales, which on the upper surface supersede the others; last joint black; antennæ black, annulated broadly below, narrowly above, at the base of each joint with glossy, pale lemon-yellow scales, which on the base of the stem are merged into a common bright patch; club, excepting as just stated, black; the crook dull castaneous to the very tip.

Thorax covered above with mingled greenish-yellow and brownish hairs, the brighter ones more conspicuous on the prothorax and patagia than elsewhere; beneath covered with pale yellowish hairs, mingled with dusky ones. Femora pale yellow, whitish above, the inside of the middle and hind pair dusky; tibiæ and tarsi dull orange, becoming dusky above, especially at the tips of the tarsal joints and increasingly so toward the tips of the legs; spurs pale orange, tipped minutely with testaceous; spines testaceous; spurs reddish; pad dusky.

Wings above tawny, exceedingly broadly bordered with dark brown, particularly in the female, where the tawny is reduced to a comparatively narrow interrupted band. Fore wings with the outer margin broadly bordered with dark brown, the interior margin of the border passing from the tip of the costal nervure on the costal margin in a bent, slightly curved, pretty regular line to the middle of the outer two-thirds of the submedian nervure, and passing midway between the apex of the cell and the outer margin of the wing; the inner margin is similarly bordered with dark brown as far as the submedian nervure; the costal edge is blackish, and within these encompassing borders the veins are distinctly marked with dark brown; besides which the outer limit of the cell and the outer half or two-thirds of the upper limit are rather broadly bordered externally with blackish, which often reaches to the costal border; besides, the basal third of the wing, and especially the part lying below the middle of the cell, is heavily begrimed with brownish scales, most conspicuously next the nervures; and all these latter markings are so blended in the female that no tawny color whatever is left but a small quadrate spot (often obsolete) at the tip of the cell, and a transverse, nearly equal, strongly curving or bent band next the outer bordering, about as broad as the width of the cell; this is indeed most frequently reduced to a series of 7 or 8 unequal longitudinal spots, forming a bent series lying farther removed from the outer margin, the upper portion starting from the middle of the outer half of the costal margin and directed toward a