

gested, as far as is possible, not to duplicate the holding of official positions. Unanimously adopted.

The death of the following members was announced :

Dr. Theodore G. Wormley, of Philadelphia, on January 3, 1897, æt. 71 years.

Dr. William Henry Pancoast, of Philadelphia, on January 5, 1897, æt. 61 years.

The Society was then adjourned by the presiding officer.

THE SPECIES OF THE GENUS MELANOPLUS.

BY SAMUEL H. SCUDDER.

(*Read January 15, 1897.*)

In a memoir to be published by the United States National Museum I have described in detail all the species of *Melanoplus* known to me, whether new or old. As, however, some delay has occurred in the printing of that paper, I am permitted to give here a table for the determination of all the species and their distribution into series, following it with such portion of the synonymy (given in detail in the memoir referred to) as will enable one to understand the latest determinations made after careful study with abundant material.

The genus, it should be said, is characteristically American, and is widely disseminated. Some confusion has resulted in former times by not recognizing the dimorphism which occurs in this and the allied genera in the length of the organs of flight, a subject discussed at some length in my detailed memoir, where also will be found remarks on their geographical distribution.

Although the prime division in the table separates the macrop-
terous and brachyterous species, the same series and sometimes the same species may appear under both divisions, and the final arrangement of series following the table is independent of this distinction.

I have given the name of furcula to the processes of the last dorsal segment of the male abdomen.

Table of the Species of Melanoplus.

*A*¹. Tegmina conspicuously shorter than the abdomen, often no longer than pronotum; furcula almost always developed feebly, generally no longer than the last dorsal segment from which it arises.

*b*¹. Cerci of male expanding and bullate from the base outward, abruptly tapering and bent inward at tip; subgenital plate of male abruptly elevated apically (Lakinus series).

*c*¹. Interspace between mesosternal lobes of male nearly twice as long as broad;¹ of female, fully half as broad again as long.....*marculentus*.

*c*². Interspace between mesosternal lobes of male distinctly less than twice as long as broad; of female, barely broader or not broader than long.

*d*¹. Hind femora heavily fasciate above and on the outer face; hind tibiæ blue throughout.....*lakinus*.

*d*². Hind femora with feeble signs of bifasciation above only, if at all; hind tibiæ pale red, apically infuscated ...*sonoræ*.

*b*². Cerci of male tapering in the basal half, usually from the very base, sometimes throughout, usually laminate; subgenital plate of male of variable elevation apically.

*c*¹. Cerci of male beyond the middle either equal or tapering, sometimes simply styliform throughout, the tip usually more or less pointed, but sometimes broad or truncate;² metasternal lobes of male attingent or subattingent.

*d*¹. Cerci of male very broad and short, not more than twice as long as the middle breadth, broadly rounded at apex (Flabellifer series).

*e*¹. Tegmina about half as long as the abdomen and much longer than the pronotum; cerci of male not longitudinally sulcate apically.

*f*¹. Interspace between mesosternal lobes of male twice as broad posteriorly as anteriorly, the inner margins of

¹ This interval is of various shapes in different species of *Melanoplus*, cuneiform, clepsydral or rectangular, but for the purposes of this table the *middle* breadth is always taken.

² The cerci are faintly enlarged apically in *M. meridionalis* and *M. walshii*, which come under this division. See also the note under the alternate category.

the lobes regularly divergent; of female longer than broad; cerci of male but little longer than broad.....

discolor.

*f*². Interspace between mesosternal lobes of male of nearly equal breadth in front and behind, the inner margins of the lobes convex; of female, transverse; cerci of male nearly twice as long as broad....*simplex.*

*e*². Tegmina shorter than the pronotum; cerci of male deeply sulcate longitudinally at apex and incurved....

rileyanus.

*d*². Cerci of male more elongate, at least twice, generally much more than twice, as long as middle breadth, ordinarily more or less acuminate at apex.

*e*¹. Cerci of male irregularly tapering, or scarcely tapering at all, compressed, in no sense styliform.

*f*¹. Subgenital plate of male short and broad, its apical breadth equal to or surpassing the length of its lateral margin.¹

*g*¹. Cerci of male long and very slender, in the middle not one-half the width of the frontal costa; last dorsal segment of male with a pair of strongly oblique submedian sulci outside the furcula;² submedian plate not apically elevated (Aridus series).

*h*¹. Hind margin of pronotum truncato-emarginate; disk of metazona fully twice as broad as long; tegmina relatively slender, widely distant.

*i*¹. Disk of prozona coarsely and uniformly punctate; cerci of male apically enlarged and inferiorly acuminate at apex.....*humphreysii.*

*i*². Disk of prozona coarsely punctate only along anterior margin; cerci of male apically equal, rounded at tip.....*nitidus.*

*h*². Hind margin of pronotum obtusangulate but sub-

¹ Care should be taken not to include in the apical breadth any part of the membranous integument connecting it with the preceding ventral segment. For simplicity's sake, the length of the plate is here considered its extent parallel to the lateral margin (or that margin itself) as seen from the side; its breadth what would be its length along the ventral line were it regarded as one of the abdominal segments.

² This has not been seen, but is only inferred in *M. humphreysii*.

truncate ; disk of metazona less than twice as broad as long ; tegmina relatively broad, approximate, at least in the male.....*aridus*.

*g*². Cerci of male long and broad throughout, subequal, broader than the frontal costa ; last dorsal segment of male with no oblique sulci outside the furcula ; subgenital plate elevated apically (Indigens series)*indigens*.

*g*³. Cerci of male short, or not very long, and broad or moderately slender, in the middle nearly as broad as, if not broader than, the frontal costa ; last dorsal segment of male with no oblique sulci outside the furcula ; subgenital plate not elevated apically (Manacus series).

*h*¹. Prozona, at least in male, much longer than broad, the disk of the whole pronotum more than twice as long as the middle breadth, the median carina percurrent, equal ; interval between mesosternal lobes of male twice as long as broad

scudderi.

*h*². Prozona, even in male, transverse, subquadrate or slightly longitudinal, the disk of the whole pronotum less than twice as long as middle breadth, the median carina often subobsolete between the sulci ; interspace between the mesosternal lobes of male not more than half as long again as broad.

*i*¹. Cerci of male rather stout, subequal.

*j*¹. Abdomen of male strongly recurved ; forks of furcula divergent, distinctly longer than the last dorsal segment ; subgenital plate with no apical tubercle.....*gillettei*.

*j*². Abdomen of male scarcely recurved ; forks of furcula parallel, minute, hardly as long as the last dorsal segment ; subgenital plate with a slight apical tubercle*artemisæ*.

*i*². Cerci of male rather slender, especially on apical half, of unequal width.

*j*¹. Tegmina shorter than the pronotum, broadly rounded or subangulate at apex ; cerci of male long and rather slender, nearly straight as seen laterally.....*manacus*.

*j*². Tegmina as long as or longer than the pronotum, apically acuminate; cerci of male short and not very slender, rather strongly bent-arcuate, as seen laterally. *cancrici*.

*f*². Subgenital plate of male distinctly narrower than long, often narrowing apically.

*g*¹. Cerci of male tapering but little, generally rather stout, or if slender then tapering almost not at all in apical half, which is never less than half as broad as the base and is blunt-tipped, rarely, as in *M. juvenescens*, angulate below.

*h*¹. Interval between mesosternal lobes of male at least half as long again as broad, sometimes fully twice as long; hind tibiæ usually blue or green (*Dawsoni* series).

*i*¹. Cerci of male apically turned sharply inward at right angles or even less. *reflexus*.

*i*². Cerci of male straight or gently incurved, sometimes curved more strongly at apex, but not bent abruptly at right angles.

*j*¹. Lateral margins of subgenital plate of male, as seen from above, regularly convergent nearly to the tip; furcula developed only as slightly swollen lobes. *meridionalis*.

*j*². Lateral margins of subgenital plate of male, as seen from above, basally subparallel, apically rather broadly rounded; furcula developed as a pair of projecting spines or fingers.

*k*¹. Tegmina much shorter than the pronotum, widely separated; interval between mesosternal lobes of female distinctly transverse, as broad as the lobes; subgenital plate of male with distinct though minute apical tubercle. *militaris*.

*k*². Tegmina longer than the pronotum, overlapping; interspace between mesosternal lobes of female quadrate; subgenital plate of male with minute apical tubercle or none.

*l*¹. Subgenital plate of male not pyra-

midal, nor elevated apically except by a minute apical tubercle; furcula minute, overlying the supraanal plate by a less distance than the length of the last dorsal segment; cerci of male bent roundly inwards at the apex. *nigrescens*.

*l*². Subgenital plate of male subpyramidal, broadly and roundly elevated at apex; furcula well developed, reaching middle of supraanal plate; cerci very feebly incurved apically. *dawsoni*.

*h*². Interval between mesosternal lobes of male subquadrate, often gradually widening posteriorly; hind tibiæ usually red (Rusticus series).

*i*¹. Apical margin of subgenital plate of male more or less elevated or tuberculate, or both, generally well rounded, as seen from above, never transverse.

*j*¹. Tegmina attingent or overlapping; cerci of male apically rounded; furcula distinctly developed; subgenital plate relatively long, subequal in breadth.

*k*¹. Interspace between the eyes of male broader than the first antennal joint; cerci of male with arcuate upper margin; subgenital plate apically elevated to a greater or less degree, but never conspicuously.

*l*¹. Prosternal spine transverse, apically truncate or subtruncate; interspace between mesosternal lobes of female slightly transverse; subgenital plate of male moderately narrow. *montanus*.

*l*². Prosternal spine subconical, bluntly pointed; interspace between mesosternal lobes of female broadly transverse, sometimes as broad as the lobes.

*m*¹. Interspace between mesosternal lobes of female narrower than the lobes; cerci of male subequal throughout.

*n*¹. Prozona but little longer than the

metazona; hind tibiæ uniform in color beyond the patellar spot; tegmina transversely convex, so that the dorsal and lateral fields are not distinguished from each other by any angle; costal margin of same regularly arcuate*washingtonianus*.

*n*². Prozona much longer than the metazona; hind tibiæ with a broad pallid subbasal annulation; dorsal and lateral fields of tegmina set in distinct planes; costal margin of same angulato-arcuate*walshii*.

*m*². Interspace between mesosternal lobes of female fully as broad as the lobes; cerci of male scarcely half so broad in the apical half as at base

altitudinum.

*k*². Interspace between the eyes of male no broader than the first antennal joint; anal cerci of male with nearly straight upper margin; subgenital plate not apically elevated though furnished with a backward directed tubercle formed by the angulation of the margin*gracilipes*.

*j*². Tegmina lateral, widely separated; cerci of male apically truncate; furcula obsolescent; subgenital plate relatively short, of unequal breadth*geniculatus*.

*i*². Apical margin of subgenital plate of male neither elevated nor tuberculate, the margins, as seen from above, apically transverse*rusticus*.

*g*². Cerci of male tapering distinctly and abruptly, the apical less or almost less, generally very much less, than half as broad as the basal portion, and more or less acuminate (Borckii series).

*h*¹. Subgenital plate of male more or less elevated posteriorly, but with no distinct apical tubercle.

*i*¹. Posterior margin of pronotum not mesially emarginate; tegmina attingent or approximate.

- j*¹. Interspace between mesosternal lobes of female strongly transverse; lateral carinæ of pronotum rounded so as to be subobsolete; postocular piceous band generally distinct, complete, percurrent..... *pacificus*.
- j*². Interspace between mesosternal lobes of female subquadrate or feebly transverse; lateral carinæ of pronotum distinct; postocular piceous band generally obsolete or wholly wanting, and even when distinct wholly confined to the prozona..... *borckii*.
- i*². Posterior margin of pronotum mesially emarginate; tegmina distinct, lateral.
- j*¹ Color testaceous with feeble or no postocular dark belt..... *tenuipennis*.
- j*². Color dark fuscous, with distinct and broad postocular band, at least in the male...
missionum.
- h*². Subgenital plate of male distinctly tuberculate at tip.
- i*¹. Tegmina more or less widely separated, rarely attingent; interspace between mesosternal lobes of male twice or nearly twice as long again as broad; cerci not finely acuminate at tip.....
fuscipes.
- i*². Tegmina attingent; interspace between mesosternal lobes of male only slightly longer than broad; cerci tapering, rather regular, subfalcate, finely acuminate at tip..... *scitulus*.
- e*². Cerci of male feebly compressed, substyliiform, tapering almost uniformly throughout, apically acuminate (Puer series).
- f*¹. Tegmina attingent; subgenital plate of male short and broad, its apical breadth surpassing the length of its lateral margin, not elevated apically..... *flabellatus*.
- f*². Tegmina distant; subgenital plate of male distinctly narrower than long, elevated apically..... *puer*.
- c*². Cerci of male more or less expanded apically, so as to be broader at some point beyond the middle than at the middle,

spatulate or subspatulate;¹ metasternal lobes of male separated by a variable interval.

*d*¹. Interspace between mesosternal lobes of male quadrate or subquadrate, rarely half as long again as broad (*M. amplectens*); metasternal lobes of male of variable width.

*e*¹. Subgenital plate of male distinctly narrower than long, often narrowing apically.

*f*¹. Lateral margins of subgenital plate of male apically meeting more or less acutely, and here furnished with a conical erect tubercle (*Inornatus* series).

*g*¹. Interspace between mesosternal lobes of female slightly longer than broad; anal cerci of male broadly expanded apically; apical tubercle of subgenital plate of male blunt.....*inornatus*.

*g*². Interspace between mesosternal lobes of female distinctly transverse;² anal cerci of male very feebly expanded apically; apical tubercle of subgenital plate acute.

*h*¹. Hind femora fasciate; apical half of male cerci moderately broad, the narrowest part more than half as broad as the base; lobes of furcula short....

viridipes.

*h*². Hind femora not fasciate; apical half of male cerci very slender, the narrowest part not more than a third as broad as the base; lobes of furcula long.....*decorus*.

*f*². Lateral margins of subgenital plate of male meeting with a rounded curve which, if apically elevated, does not form a conical tubercle (*Fasciatus* series).

*g*¹. Cerci of male strongly incurved and conspicuously enlarged apically.

*h*¹. Cerci of male very slender, in the middle not one-third as broad as at base, the apical lobe feebly bifid; furcula developed as slender spines about a fourth the length of the supraanal plate..*attenuatus*.

*h*². Cerci of male stout, in the middle more than

¹ The cerci are barely enlarged apically in *M. viridipes*, which comes under this division. See also the note under the alternate category.

² The female of *M. decorus* is not known.

half as broad as at base, the apical lobe single ;
furcula developed as mere denticulations.

amplectens.

*g*². Cerci of male at most gently if at all incurved, and feebly if at all enlarged apically.

*h*¹. Metasternal lobes of male subattingent ; tegmina shorter than the pronotum ; anal cerci of male straight as seen laterally, or slightly upcurved apically.

*i*¹. Cerci of male rounded at tip ; furcula scarcely protruding beyond the hind margin of the last dorsal segment ; apical margin of the subgenital plate slightly elevated above the lateral margins.

*j*¹. Supraanal plate of male suddenly contracted before the tip ; anal cerci regularly incurved throughout ; subgenital plate very broad at base *saltator.*

*j*². Supraanal plate of male regularly triangular ; anal cerci slightly twisted as well as incurved ; subgenital plate narrow at base

rotundipennis.

*i*². Cerci of male truncate at tip ; lobes of furcula long ; apical margin of subgenital plate in no way elevated above the lateral margins

obovatipennis.

*h*². Metasternal lobes of male only approximate ; tegmina as long as or much longer than the pronotum ; anal cerci of male slightly decurved apically, or at least inferiorly angulate at apex.

*i*¹. Tegmina not much longer than the pronotum ; cerci of male delicate, tapering considerably in apical half ; subgenital plate only slightly elevated posteriorly, no broader there than at base..... *juvencus.*

*i*². Tegmina more than half as long as the abdomen ; cerci of male coarse and stout, tapering but little in basal half ; subgenital plate strongly elevated posteriorly and there very broad.....

fasciatus.

*e*². Subgenital plate of male short and broad, its apical

breadth equal to or surpassing the length of its lateral margin (Alleni series).

*f*¹. Tegmina twice as long as pronotum ; cerci of male relatively long and narrow, fully three times as long as broad.....*alleni*.

*f*². Tegmina of about the length of the pronotum ; cerci of male broad and relatively short, not more than twice as long as broad*snowii*.

*d*². Interspace between mesosternal lobes of male nearly or quite twice, sometimes more than twice, as long as broad ; metasternal lobes of male attingent or subattingent.

*e*¹. Subgenital plate of male short and broad, its apical breadth equal to or surpassing the length of its lateral margin (Texanus series).

*f*¹. Tegmina widely separated, lateral ; interspace between mesosternal lobes of male more than twice as long as broad ; furcula consisting of a pair of exceptionally broad and short plates.....*dumicola*.

*f*². Tegmina subattingent, attingent or overlapping ; interspace between mesosternal lobes of male less, generally much less, than twice as long as broad ; furcula consisting of a pair of approximate pointed denticulations.

*g*¹. Subgenital plate of male ending in a conical tubercle.....*variabilis*.

*g*². Subgenital plate of male with no pointed tubercle.

*h*¹. Lobes of furcula longer than broad ; extremity of subgenital plate of male elevated, but not noticeably recurved ; interspace between mesosternal lobes of male hardly more than half as long again as broad.

*i*¹. Apex of male cerci angulate below...*lepidus*.

*i*². Apex of male cerci equally rounded above and below.....*blatchleyi*.

*h*². Lobes of furcula broader than long ; extremity of subgenital plate of male elevated and considerably recurved ; interspace between mesosternal lobes of male nearly or quite twice as long as broad.....*texanus*.

*e*². Subgenital plate of male distinctly narrower than long, often narrowing apically (Plebejus series).

*f*¹. Hind margin of pronotum distinctly though obtusely angulate; interspace between mesosternal lobes of female at least half as long again as broad; apical portion of anal cerci of male distinctly and sharply sulcate exteriorly.....*plebejus*.

*f*². Hind margin of pronotum rarely angulate, sometimes emarginate; interspace between mesosternal lobes of female (where known) subquadrate; apical portion of anal cerci of male exteriorly tumid or plane.

*g*¹. Posterior margin of pronotum distinctly emarginate in the middle; tegmina widely separated; cerci of male elongate, surpassing supraanal plate; subgenital plate broader at base than apically, its apical margin regularly rounded and even...*gracilis*.

*g*². Posterior margin of pronotum obtusely angulate or rounded truncate, with at most but feeblest sign of any emargination; tegmina attingent or overlapping; cerci of male relatively brief, not surpassing the supraanal plate; subgenital plate not broader at base than apically, its apical margin angulate or tuberculate.

*h*¹. Tegmina shorter than pronotum; posterior margin of pronotum rounded truncate, with feeblest signs of mesial emargination; cerci of male curved slightly upward; subgenital plate ending in a blunt rather coarse tubercle.....*inops*.

*h*². Tegmina longer than pronotum; posterior margin of pronotum distinctly though very obtusely angulate; cerci of male curved feebly downward; subgenital plate ending in a delicate pointed tubercle.....*marginatus*.

*A*². Tegmina nearly or quite as long as or longer than the abdomen; furcula usually well-developed, generally at least a quarter as long as the supraanal plate, but sometimes obsolete.

*b*¹. Cerci of male rapidly expanding from the base towards the middle, as a whole broad and short, flabellate, rarely twice as long as broad, not expanded apically (Flabellifer series).

*c*¹. Cerci of male twice as broad in broadest as in narrowest portion.

*d*¹. Subgenital plate of male with a distinct though minute independent ¹ apical tubercle *occidentalis*.

*d*². Subgenital plate of male with only an obscure trace of an apical tubercle *cuneatus*.

*c*². Cerci of male with no striking inequality in breadth *flabellifer*.

*b*². Cerci of male tapering from the very base towards the middle, rarely equal in basal portion,² generally long and slender, and rarely as little as twice as long as broad.

*c*¹. Cerci of male beyond the middle either equal or tapering, the tip usually slender or acuminate, never bifurcate.³

*d*¹. Furcula of male developed as large flattened lobes about half as long as the supraanal plate and exceptionally broad, but apically narrowed by the considerable excision of their inner side ; subgenital plate not elevated apically above the lateral margins (Bowditchi series).

*e*¹. Body, tegmina and legs almost wholly green, the hind femora not banded.

*f*¹. Sides of disk of prozona with a distinct narrow yellow stripe extending to the upper margin of the eyes ; passage of the disk of pronotum into the lateral lobes more gradual than in the alternate category ; hind tibiæ green ; antennæ apically infuscated. *herbaceus*.

*f*². Disk of pronotum and summit of head uniform in coloration, the forming passing into the lateral lobes with a more distinct angle than in the alternate category ; hind tibiæ blue ; antennæ uniform ... *flavescens*.

*e*². Body, tegmina and legs brown or testaceous, the hind femora generally banded with dark colors.

*f*¹. Forks of the male furcula more or less obliquely or transversely truncate at tip and given an oppositely hooked appearance by the rounded excision of the inner margin ; hind femora generally distinctly banded.

*g*¹. Highly variegated, the lateral lobes of pronotum conspicuously marked with an unequal bright flavous

¹ That is, not formed by the culmination of the more or less pyramidal form of the subgenital plate.

² In rare instances it expands slightly from the extreme base, but is then greatly expanded apically.

³ In *M. ater* it enlarges feebly apically.

stripe next the lateral carinæ; male cerci very feebly expanded and externally sulcate apically *pictus*.

*g*². Rather uniform in coloring, the lateral lobes with no bright stripe; male cerci in no way expanded apically and tumid rather than sulcate externally.

*h*¹. Lateral lobes of prozona with a broad and usually distinct piceous band above; tegmina generally distinctly flecked along the middle line

bowditchi.

*h*². Lateral lobes of prozona with a narrow or no distinct band above; tegmina very obscurely flecked, if at all, along the middle line

flavidus.

*f*². Forks of the male furcula rounded symmetrically at tip, the inner margin scarcely more excised than the outer, so that the forks are straight and not oppositely hooked; bands of hind femora scarcely perceptible . . .

elongatus.

*d*². Furcula of male variously developed, rarely at all unusually broad and flattened, and then either not apically emarginate on the inner side, or the subgenital plate is considerably elevated apically, or both.

*e*¹. Subgenital plate of male almost or quite as broad as the marginal length, its apical margin generally notched; cerci broad and nearly equally broad throughout (except sometimes narrowed by the oblique excision of the lower side of the apical half), the basal half scarcely tapering, the whole rarely more than twice and never thrice as long as the middle breadth (except in a few cases and then the apical margin of the subgenital plate is mesially notched), very broadly rounded at apex.

*f*¹. Apical margin of subgenital plate of male not mesially notched; mesosternum of male variable.

*g*¹. Apical margin of subgenital plate of male but slightly elevated above the lateral margins and moderately prolonged posteriorly; mesosternum of male in front of lobes flat (*Glaucipes* series).

*h*¹. Prozona of male longer than its posterior breadth; lateral carinæ more pronounced on prozona than on metazona; interspace between meso-

sternal lobes of male twice as long as broad ; hind tibiæ blue.....*glaucipes*.

*h*². Prozona of male transverse ; lateral carinæ more pronounced on metazona than on prozona ; interspace between mesosternal lobes of male subquadrate ; hind tibiæ red*kennicottii*.

*g*². Apical margin of subgenital plate of male conspicuously elevated above the lateral margins and greatly prolonged posteriorly ; metasternum of male in front of lobes with a central swelling, forming a blunt tubercle (Utahensis series).

*h*¹. Apical margin of subgenital plate of male entire ;¹ lobes of furcula not exceptionally broad ; subgenital plate greatly but not excessively prolonged.

*i*¹. Interspace between mesosternal lobes of male more than twice as long as broad ; of female a little longer than broad ; male cerci more than twice as long as broad , apical margin of subgenital plate, as seen from behind, subtruncate....

bruneri.

*i*². Interspace between mesosternal lobes of male much less than twice as long as broad ; of female transverse ; male cerci less than twice as long as broad ; apical margin of subgenital plate, as seen from behind, rounded..*excelsus*.

*h*². Apical margin of subgenital plate of male deeply notched on either side of the middle ; lobes of furcula exceptionally broad, subequal throughout ; subgenital plate excessively prolonged.....

utahensis.

*f*². Apical margin of subgenital plate of male mesially notched (Spretus series).

*g*¹. Tegmina extending beyond hind femora, if at all, by not more than the length of the pronotum, generally by much less than that ; prozona of male quadrate or very feebly transverse ; cerci of male generally almost or quite twice as long as broad.

¹ It is occasionally fissured mesially (perhaps in drying), but not properly notched or bilobed.

*h*¹. Cerci of male regularly subfalciform, by both margins being uniformly and distinctly curved rather than bent, and more than twice as long as median breadth.....*alaskanus*.

*h*². Cerci of male nearly straight as viewed laterally, or slightly bent upward in apical half, rather than curved.

*i*¹. Cerci of male distinctly more than twice as long as median breadth, the apical half subequal but narrower than the basal half.

*j*¹. Hind tibiae normally pale glaucous; when red, pale red.

*k*¹. Larger, robust; median carina usually as distinct between the sulci as on the anterior portion of the prozona.....*affinis*.

*k*². Smaller, slender; median carina usually obsolete or subobsolete between the sulci ..
intermedius.

*j*². Hind tibiae bright red.....*bilituratus*.

*i*². Cerci of male not more than twice as long as median breadth, the apical half not only narrower than the basal half, but itself tapering throughout, obliquely truncate beneath; hind tibiae usually red.

*j*¹. Tegmina brief, not nearly reaching the tips of the hind femora; apical margin of subgenital plate of male greatly elevated.....
defectus.

*j*². Tegmina reaching, generally considerably surpassing, the tips of the hind femora; apical margin of subgenital plate of male moderately elevated.....*atlanis*.

*g*². Tegmina extending beyond hind femora by the length of the pronotum or nearly as much, often by the length of head and pronotum combined; prozona of male generally strongly transverse; cerci of male not more than half as long again as broad.....

spretus.

*e*². Breadth of subgenital plate of male variable but generally narrower than long, its apical margin usually entire;

cerci rarely less than four times as long as middle breadth (when less, at least three times as long, and then the apical margin of the subgenital plate is entire), generally slender, excepting sometimes at extreme apex when there is great disparity in width between the apical and basal halves, the basal half generally tapering considerably, the apical half often much narrower than the basal, rarely showing any excision of the lower margin, the apex narrowly rounded or bluntly pointed.

*f*¹. Subgenital plate of male as broad or nearly as broad at apex as at base, generally elevated apically and often notched (generally narrowly); cerci usually narrowing but little on basal half, the apical half equal and symmetrical, bluntly rounded (rarely truncate or angulate) apically.

*g*¹. Apical margin of subgenital plate of male notched with greater or less distinctness; cerci slender, narrower than the frontal costa, subequal, straight or only gently incurved (Devastator series).

*h*¹. Small species, with tegmina not surpassing the hind femora in either sex; interspace between mesosternal lobes of male distinctly less than twice as broad as long.

*i*¹. Cerci of male narrowed rather than broadened apically.

*j*¹. External surface of male cerci apically dimpled; furcula with the tapering portion relatively broad, distinctly flattened, almost reaching the middle of the supraanal plate.

*k*¹. Prozona of male longitudinal; fingers of furcula parallel; cerci bent inwards apically*diminutus*.

*k*². Prozona of male quadrate; fingers of furcula divergent; cerci gently incurved throughout.*consanguineus*.

*j*². External surface of male cerci sulcate through apical third or more; furcula with the tapering portion very slender, not flattened, not nearly reaching the middle of the supraanal plate*sierranus*.

*i*². Cerci of male feebly enlarged apically rather than narrowed *ater*.

*h*². Medium-sized species with tegmina almost always surpassing the hind femora in the male and usually in both sexes; interspace between mesosternal lobes of male fully twice, generally more than twice, as long as broad.

*i*¹. Tegmina more or less, generally distinctly and profusely, maculate.

*j*¹. Lateral lobes of prozona with a generally distinct black band, rarely broken and then by no conspicuous pale oblique stripe.....
devastator.

*j*². Lateral lobes of prozona with a distinct black band, always broken by a conspicuous more or less arcuate oblique pale stripe
virgatus.

*i*². Tegmina immaculate or with the feeblest possible signs of maculation.

*j*¹. Whole body including tegmina very light colored, having a bleached appearance with no dark markings, except (and very rarely) dusky clouds on hind femora.....*uniformis*.

*j*². Whole body including tegmina moderately dark, the lateral lobes with a darker stripe and the hind femora distinctly though not conspicuously bifasciate*angelicus*.

*g*². Apical margin of subgenital plate of male entire; cerci either broad (broader than the frontal costa or fully as broad as it) and subequal, or else very unequal, tapering rapidly at the base and generally arcuate; hind tibiae usually red.

*h*¹. Supraanal plate of male regularly triangular with straight margins; subgenital plate with a postmarginal tubercle at apex (Impudicus series)..
impudicus.

*h*². Supraanal plate of male with the sides more or less irregular or sinuate by lateral compression, or by the depression of the apical half of the plate; subgenital plate with no postmarginal tubercle,

though sometimes with the margin itself apically thickened.

*i*¹. Interspace between mesosternal lobes of male distinctly longer, generally much longer than broad, and much narrower than the lobes; metasternal lobes attingent or subattingent in the male (*Dawsoni* series).

*j*¹. Subgenital plate of male broad, at least as broad as long; cerci incurved feebly and gently, or not at all; hind tibiæ red...*dawsoni*.

*j*². Subgenital plate of male rather narrow, narrower than long, although short; cerci abruptly incurved apically; hind tibiæ yellow.

*k*¹. Tegmina only attaining the tip of the hind femora; supraanal plate of male suddenly depressed in apical half; furcula slightly developed, shorter than last dorsal segment.

gladstoni.

*k*². Tegmina considerably surpassing the tip of the hind femora; supraanal plate of male not apically depressed; furcula well developed, about one-third as long as the supraanal plate.....*palmeri*.

*i*². Interspace between mesosternal lobes of male quadrate, almost or a little transverse and but little narrower than the lobes; metasternal lobes of male only approximate (*Fasciatus* series).

*j*¹. Cerci of male no slenderer or hardly slenderer on apical than on basal half, far surpassing the supraanal plate; furcula very slight, not so long as last dorsal segment...*fasciatus*.

*j*². Cerci much slenderer on apical than on basal half, shorter than the supraanal plate; furcula long and slender, reaching the middle of the supraanal plate.....*borealis*.

*f*². Subgenital plate of male conspicuously narrower at apex than at base (generally only half as wide), rarely at all elevated at apex above the lateral margins and never notched;¹ cerci always distinctly narrowing on basal

¹ Except in *M. monticola*, where it is very broadly and shallowly notched by the tubercular elevation of the extremities of the apical margin.

half, the upper angle of the apex prolonged and often subacuminate (Femur-rubrum series).

*g*¹. Distal half of male cerci much less than half as broad as the extreme base; interspace between mesosternal lobes of male nearly or quite twice as long as broad; tegmina usually surpassing the hind femora.

*h*¹. Pronotum marked above with light carinal streaks on a dark ground; tegmina dark olivaceous green *plumbeus*.

*h*². Pronotum uniform in coloring above; tegmina dark fuscous.

*i*¹. Furcula not reaching or scarcely reaching the middle of the supraanal plate.... *femur-rubrum*.

*i*². Furcula extending considerably beyond the middle of the supraanal plate *propinquus*.

*g*². Distal half of male cerci distinctly more than half as broad as the extreme base; interspace between mesosternal lobes of male scarcely if at all longer than broad; tegmina usually falling far short of the tips of the hind femora.

*h*¹. Apical margin of subgenital plate not elevated where it joins the lateral margins, so that it is straight as seen from behind..... *extremus*.

*h*². Apical margin of subgenital plate elevated to form a tubercle where it joins the lateral margins, so that it is broadly notched as seen from behind..

monticola.

*c*². Cerci of male more or less expanded apically, so as to be broader at some point beyond the middle than at the middle, spatulate or subspatulate or apically bifurcate.

*d*¹. Cerci of male simply spatulate or subspatulate, at most moderately broad, apically entire and no broader than at base; furcula always developed as distinct denticulations, generally as long or very long ones.

*e*¹. Furcula of male long and prominent, the projecting portion much longer than the last dorsal segment from which it springs, generally more than a third as long as the supraanal plate.

*f*¹. Subgenital plate of male only moderately broad at apex, distinctly narrower than long, never in the least

notched and rarely, and then but slightly, elevated apically; furcula rarely (and then but little) less, usually more, than half as long as the supraanal plate; hind tibiæ green or blue, rarely (*M. complanatipes*) reddish yellow (Cinereus series).

*g*¹. Furcula of male only moderately broad at base, tapering uniformly, not more than half as long as the supraanal plate; cerci uniformly incurved throughout, not nearly reaching the tip of the supraanal plate; the latter abruptly and strongly contracted shortly before its tip.

*h*¹. Prozona of male quadrate or transverse; apical margin of subgenital plate of male, as seen from above, well rounded. *bispinosus*.

*h*². Prozona of male a little longer than its basal breadth; apical margin of subgenital plate of male, as seen from above, rounded-angulate. . . *terminalis*.

*g*². Furcula of male unusually broad at base, usually tapering unequally, the narrowing beginning beyond the base and leaving a portion of the apex equal and very slender, the whole considerably more than half the length of the supraanal plate; cerci bent suddenly inward before the tip and at the tip reassuming, at least in part, the original course, reaching the tip of the supraanal plate; the latter with no abrupt preapical constriction.

*h*¹. The distal twist of the male cerci conspicuous and involving the apical half of the same.

*i*¹. Furcula of male narrowing uniformly or almost uniformly throughout; hind margin of pronotum very obtusangulate; disk of pronotum dotted obscurely if at all with fuscous. . . *cyanipes*.

*i*². Furcula of male with a considerable part of the apical portion equal and very slender; hind margin of pronotum only a little obtusangulate; disk of pronotum generally distinctly dotted with fuscous. *cinereus*.

*h*². The distal twist of the male cerci inconspicuous, involving only the extreme tip.

*i*¹. Tegmina long and very slender, far surpass-

ing the hind femora, without distinct spots; hind femora strongly compressed; hind tibiae reddish yellow.....*complanatipes*.

*i*². Tegmina of normal width and but little surpassing the hind femora, maculate along the discoidal area; hind femora normal; hind tibiae glaucous.....*canonicus*.

*f*². Subgenital plate of male very broad apically, nearly or quite as broad as long, apically generally notched though very feebly; furcula rarely, and then but little, more than a third the length of the supraanal plate; hind tibiae usually red, but sometimes blue or green (*Angustipennis* series).

*g*¹. Hind tibiae red.

*h*¹. Prozona of male subquadrate; tegmina very slender, subequal, scarcely expanded on the costa; furcula of male with straight subparallel forks....

comptus.

*h*². Prozona of male distinctly longitudinal, much longer than its basal breadth; tegmina of ordinary breadth and costal expansion, tapering; furcula of male with arcuate, strongly divergent forks.....

coccineipes.

*g*². Hind tibiae glaucous.

*h*¹. Furcula of male not more than a third as long as the supraanal plate; tegmina lightly maculate or immaculate.....*angustipennis*.

*h*². Furcula of male more than a third as long as the supraanal plate; tegmina usually heavily maculate.....*impiger*.

*e*². Furcula of male slight, the projecting portion not longer or scarcely longer than the last dorsal segment from which it springs.

*f*¹. Subgenital plate of male broad, throughout broader than the extreme base of the cerci; apical portion of supraanal plate suddenly depressed just beyond the middle; cerci moderately broad, not much narrowed in the middle, more or less suddenly bent inward near tip, exteriorly sulcate at apex (*Packardii* series).

*g*¹. Interspace between mesosternal lobes of male nearly or quite twice as long as broad.

*h*¹. Median carina of pronotum obsolete or almost obsolete on the prozona, distinct but low on the metazona; extremity of male cerci nearly plane or merely depressed within the margin exteriorly; forks of furcula conspicuously divergent.

*i*¹. Prozona ordinarily with a broad median dark stripe, made more conspicuous by the much brighter colors on either side, or else light brownish testaceous; antennæ of male but little more than three-fourths as long as the hind femora; hind tibiæ blue or red *packardii*.

*i*². Prozona with uniform dingy coloring on disk; antennæ of male almost as long as the hind femora; hind tibiæ red *fædus*.

*h*². Median carina of pronotum tolerably distinct on the prozona, at least anteriorly; distinct and moderately high on the metazona; extremity of male cerci deeply sulcate exteriorly or else tumid; forks of furcula parallel or only slightly divergent.

*i*¹. Larger species; narrowest part of interspace between mesosternal lobes of male narrower than the narrowest part of frontal costa; sides of head and prozona rarely with any black band; interspace between mesosternal lobes of female strongly transverse; hind femora red beneath; hind tibiæ stout *corpulentus*.

*i*². Smaller species; narrowest part of interspace between mesosternal lobes of male equal to the narrowest part of frontal costa; sides of head and prozona with a black band; interspace between mesosternal lobes of female subquadrate; hind femora yellow beneath; hind tibiæ slender.

conspersus.

*g*². Interspace between mesosternal lobes of male subquadrate *compactus*.

*f*². Subgenital plate of male very narrow and narrower apically than the extreme base of the cerci; supraanal plate on the same general plane throughout; cerci slender and much narrowed in the middle, gradually incurved, exteriorly tumid at apex (Plebejus series).

- g^1 . Subgenital plate of male, as seen from above, apically angulate and tuberculate. *marginatus*.
- g^2 . Subgenital plate of male, as seen from above, apically well rounded and simple. *paroxyoides*.
- d^2 . Cerci of male apically bifurcate, or with an inferior submedian process or abrupt angulation, or else expanded so as to be distinctly, generally much, broader apically than at the extreme base; furcula wanting or minute, rarely (*M. arizonæ*) a fourth as long as the supraanal plate.
- e^1 . Size smaller or medium; cerci of male always bifurcate or with an inferior submedian process or angulation; supraanal plate pretty regularly triangular with straight or feebly convex lateral margins; furcula usually distinctly developed, rarely (*M. collinus*) wanting; prosternal spine usually short (Collinus series).
- f^1 . Lower fork of bifurcation of male cerci much longer than the upper; apical margin of subgenital plate narrowly, abruptly and considerably elevated.
- g^1 . Small species; interspace between mesosternal lobes of male more than twice as long as broad; of female quadrate; median portion of male cerci cylindrical, not compressed. *alpinus*.
- g^2 . Very small species; interspace between mesosternal lobes of male half as long again as broad; of female transverse; median portion of male cerci compressed. *infantis*.
- f^2 . Upper fork of bifurcation of male cerci longer than the lower, which is sometimes merely an inferior median or postmedian process; apical margin of subgenital plate elevated, if at all, only broadly, gradually and a little.
- g^1 . Furcula of male distinctly present; apical margin of subgenital plate distinctly elevated more or less above the lateral margins.
- h^1 . Furcula of male consisting of slender spines, longer than the last dorsal segment; base of lateral margins of subgenital plate incurved.
- i^1 . Furcula of male less than a fourth as long as the supraanal plate; apical half of cerci bent upward from the basal course.

*j*¹. Prozona of male subquadrate; supraanal plate with the apical and basal portions in the same plane; subgenital plate of equal or subequal breadth beyond the middle *minor*.

*j*². Prozona of male distinctly longitudinal; subgenital plate with the apical portion elevated above the median; subgenital plate distinctly narrowing beyond the middle. *confusus*

*i*². Furcula of male half as long as the supraanal plate; anal cerci incurved, but otherwise straight.

arizonæ.

*h*². Furcula of male consisting of brief triangular lobes; base of lateral margins of subgenital plate not incurved.

*i*¹. Interspace between mesosternal lobes of male twice as long as broad; upper fork of cerci scarcely bent upward above the trend of the basal stem.

*j*¹. Upper fork of male cerci much shorter than the stem; subgenital plate shorter than broad *keeleri*.

*j*². Upper fork of male cerci nearly as long as the stem; subgenital plate of equal length and breadth *deletor*.

*i*². Interspace between mesosternal lobes of male scarcely longer than broad; upper fork of cerci bent distinctly upward *luridus*.

*g*². Furcula of male absent; apical margin of subgenital plate not elevated above the lateral margins. *collinus*.

*e*². Size medium or large; cerci of male rarely bifurcate or with an inferior process (and then the insect is of large size, which it never is in the alternate category, and the supraanal plate is distinctly shield-shaped, the apical half tapering with much greater rapidity than the basal; or the furcula is absent; or the interspace between the mesosternal lobes of the male is three times as long as broad, which it never is in the alternate category); supraanal plate of variable shape; furcula either absent or very minutely developed; prosternal spine usually long.

*f*¹. Interspace between mesosternal lobes of male nearly,

fully, or much more than twice as long as broad; of female generally longer than broad, rarely quadrate; prosternal spine generally long; tegmina usually clear, or with a marked distinction in color between the dorsal and lateral areas, or with the angle between the two marked by a conspicuous light colored stripe; head less prominent and with less prominent eyes than in the alternate category, the front margin of the pronotum in no way flaring to receive the head.

*g*¹. Furcula of male entirely absent, or present only as a minute point or bead; hind tibiae generally yellow, but sometimes red (*Robustus* series).

*h*¹. Tegmina fully equal to or surpassing the hind femora; hind tibiae yellow.

*i*¹. Cerci of male boot-shaped, the foot as long as the leg, the apical margin deeply emarginate below; markings of the outer face of hind femora so run together as to be more longitudinal than transverse.....*differentialis*.

*i*². Cerci of male apically expanded only a little more above than below; the apical margin regularly or almost regularly convex; markings of outer face of hind femora transverse....*robustus*.

*h*². Tegmina somewhat abbreviated, not reaching the extremity of the hind femora; hind tibiae red or reddish yellow.

*i*¹. Apical margin of male cerci convex or angulate-convex.

*j*¹. Tegmina distinctly and considerably spotted with fuscous on the lateral field; cerci of male nearly equal on proximal half, the apical margin convex.....*viola*.

*j*². Tegmina almost uniformly fuscous on lateral field; cerci of male distinctly tapering on proximal half, the apical margin broadly angulate.....*clypeatus*.

*i*². Male cerci apically forked, the apical border being deeply emarginate.....*furcatus*.

*g*². Furcula of male distinctly present, though always very small, angulate, the angle rarely produced; hind

tibiæ never yellow, usually red, rarely purplish and yellow at tip (*Bivittatus* series).

*h*¹. Interspace between mesosternal lobes of male distinctly more than twice as long as broad; pronotum with conspicuous light colored lateral stripes on the disk, their outer margin at the position of lateral carinæ.

*i*¹. Cerci of male very much more expanded apically above than below, the apical border slightly emarginate below.

*j*¹. Hind tibiæ clear red throughout
femoratus.

*j*². Hind tibiæ purplish basally, yellow (rarely reddish) apically.....*bivittatus*.

*i*². Cerci of male apically expanded but little more above than below, the apical border convex, with no emargination below*thomasi*.

*h*². Interspace between mesosternal lobes of male a little less than twice as long as broad; pronotum unicolorous on disk, any lateral stripes being confined to the position of lateral carinæ.

*i*¹. Prozona of male feebly longitudinal; apical margin of subgenital plate considerably elevated and truncate; furcula formed of apically rectangulate lobes*yarrowii*.

*i*². Prozona of male distinctly longitudinal; apical margin of subgenital plate considerably prolonged and subtuberculate; furcula formed of rounded lobes with a slight prolongation.....
olivaceus.

*f*². Interspace between mesosternal lobes of male subquadrate; of female transverse; prosternal spine short; tegmina maculate with roundish fuscous spots; eyes of male and head prominent, the front margin of the pronotum flaring to receive the head (*Punctulatus* series).

*g*¹. Of large size; furcula present as a pair of very small denticulations; apical margin of male cerci broadly convex, feebly emarginate on the lower half. .

arboreus.

*g*². Of medium size; furcula wanting; apical margin

of male cerci angulato-convex with no inferior emargination.....*punctulatus*.

Lakinus series. This contains three species which range from southwestern Nebraska and Colorado to central Mexico. *Marculentus* and *sonoræ* are new species, the former named by Bruner; *lakinus* was described by me in 1879.

Flabellifer series. The six species belonging here are evenly divided between macropterous and brachypterous forms; they are found only west of the Mississippi, and mainly in the Cordilleran region. They are *occidentalis* Thom. (*variolosus* Scudd.), *cuneatus* Brun. MS., *flabellifer* Scudd., *discolor* Scudd., *simplex* sp. nov., and *rileyanus* McNeill MS.

Bowditchi series. Here belong six species found almost altogether in the southwest; only one occurs a short distance east of the Mississippi. The species are *herbaceus* Brun., *flavescens* sp. nov., *pictus* Brun. MS., *bowditchi* Scudd., *flavidus* Scudd. (*cenchri* McNeill), and *elongatus* sp. nov.

Glaucipes series. Two species only belong here: *glaucipes* Scudd., from Texas and northern Mexico, and *kennicottii* Scudd., which ranges from Montana to Alaska.

Utahensis series. The three species belonging here are found mainly in the Cordilleran region from latitude 38° northward; they are *bruneri* sp. nov., *excelsus* sp. nov., and *utahensis* Brun. MS.

Spretus series. There are seven species in this series which range widely, some of them occurring in every part of the United States except the southernmost Atlantic States and most of California, and extending far north as well as to central Mexico. The species are *alaskanus* sp. nov., *affinis* Brun. MS., *intermedius* Brun. MS., *bilituratus* Walk., *defectus* sp. nov., *atlanis* Riley, and *spretus* Uhler.

Devastator series. The species are eight in number and almost exclusively confined to California; it is the characteristic group of the Pacific Coast. They are *diminutus* sp. nov., *consanguineus* sp. nov., *sierranus* sp. nov., *ater* sp. nov., *devastator* Scudd. (*affinis* Coq.) occurring in four forms, *virgatus* McNeill MS., *uniformis* sp. nov., and *angelicus* sp. nov.

Impudicus series. There is but a single species, *impudicus* sp. nov., found in the southern States east of the Mississippi.

Aridus series. Here belong three species found in Arizona,

Lower California and the proximate part of Mexico. They are *humphreysii* Thom., *aridus* Scudd., and *nitidus* sp. nov.

Indigens series. Contains a single Idaho species, *indigens* sp. nov.

Mancus series. The five species belonging here are brachypterous, but have a wide range, though most of them are separately local. They are *scudderi* Uhl. (*unicolor* Thom.), *gillettei* sp. nov., *artemisiae* Brun. MS., *mancus* Smith, and *cancris* sp. nov.

Dawsoni series. A somewhat heterogeneous group with both macropterous and brachypterous species and one dimorphic. They are seven in number and occur almost wholly in the great interior region between the Mississippi and the Rocky mountains, and extend from Alberta to central Mexico. They are *reflexus* sp. nov., *meridionalis* sp. nov., *militaris* sp. nov., *nigrescens* Scudd. (*zimmermanni* Sauss.?), *dawsoni* Scudd., (*tellustris* Scudd., *abditum* Dodge), *gladstoni* Brun. MS., and *palmeri* sp. nov.

Rusticus series. Seven species belong to this group, ranging from Washington, South Dakota and Michigan to southern California, Texas and Mexico, though, excepting in Montana, no two species have yet been found in any one State. They are *montanus* Thom., *washingtonianus* Brun., *walshii* sp. nov., *altitudinum* Scudd. (*marshallii* Scudd., *sanguinipes* Brun. MS.), *gracilipes* McNeill MS., *geniculatus* sp. nov., and *rusticus* Stål.

Borckii series. The six species grouped here are brachypterous and are mainly confined to the Pacific coast from Washington to California, but one species occurs also in Idaho and Wyoming, and another is known only from San Luis Potosi, Mex. They are as follows: *pacificus* Scudd., *borckii* Stål, *temuipennis* McNeill MS., *missionum* sp. nov., *fuscipes* McNeill MS., and *scitulus* sp. nov.

Puer series. Contains only two species from Texas and Florida, *flabellatus* Scudd., and *puer* Scudd.

Inornatus series. Three species belong here, found one in Mexico, another in North Carolina and the third in Illinois and Indiana. They are *inornatus* McNeill MS., *viridipes* Walsh MS. (*viridicrus* Walsh MS., *viridulus* McNeill), and *decorus* sp. nov.

Fasciatus series. This group is not very homogeneous, apart from its containing both brachypterous and macropterous forms. There are eight species and their range is not very concordant; one comes from the extreme north (barren grounds) of Labrador and from Greenland; two from Florida only; another from Oregon and

Washington; others occur in Kentucky, North Carolina, Indiana and Texas, while the last ranges across the continent from Newfoundland and New Jersey in the east to Oregon and Washington in the west, and centrally from the Saskatchewan to Colorado. They are: *attenuatus* sp. nov., *amplectens* sp. nov., *saltator* sp. nov., *rotundipennis* Scudd., *obovatipennis* Blatchl. (*longicornis* Sauss.?), *juvencus* sp. nov., *fasciatus* Barnst. (*borealis* Scudd., *rectus* Scudd., *curtus* Scudd.), and *borealis* Fieb. (*septentrionalis* Sauss.).

Alleni series. Two species are known, *alleni* sp. nov., from Iowa and Dakota, and *snowii* sp. nov., from New Mexico.

Femur-rubrum series. A dominant and homogeneous group with five species spread over the continent from Atlantic to Pacific, from central Labrador to central Florida, and from the McKenzie river to Texas and central Mexico. No other series has quite so wide an area of distribution. The species are the following: *plumbeus* Dodge, *femur-rubrum* DeGeer (*erythropus* Gmel., *sanguinolentus* Prov., *devorator* Scudd., *interior* Scudd.), *propinquus* McNeill MS., *extremus* Walk. (*junius* Dodge, *parvus* Prov., *leucostoma* Kirby?), and *monticola* Brun. MS.

Cinereus series. Six species are with one exception found only in the extreme southwestern States, but that exception (the typical species) extends the range to Idaho, western Nebraska and Louisiana. The species are: *bispinosus* sp. nov., *terminalis* sp. nov., *cyanipes* Brun. MS., *cinereus* Scudd., *complanatipes* sp. nov., and *canonicus* sp. nov.

Angustipennis series. The four species occur from Iowa to Utah and from Montana and Manitoba to Texas, though one ranges east to Ontario. They are *comptus* sp. nov., *coccineipes* sp. nov., *angustipennis* Dodge, and *impiger* sp. nov.

Packardii series. The five species are all found west of the Mississippi from British Columbia and Assiniboia to Central Mexico, but occur in California only in the north. They are *packardii* Scudd. (*fasciatus* Scudd.), *fædus* Scudd., *corpulentus* Brun. MS., *conspersus* sp. nov., and *compactus* Brun. MS.

Texanus series. This group also contains five species, all occurring west of the Mississippi, except one found in the upper Mississippi region. They are *dumicola* Scudd., *variabilis* Brun. MS., *lepidus* sp. nov., *blatchleyi* sp. nov. (*occidentalis* Brun., *viola* Blatchl.), and *texanus* Scudd.

Plebejus series. The five species are distributed among brachyp-

terous and macropterous forms, one being dimorphic. They are widely separated geographically, one ranging from Dakota to Kentucky, while the others are found respectively in Florida, Texas and California. They are *plebejus* Stål. (*pupæformis* Scudd.), *gracilis* Brun. (*minutipennis* Thom.), *inops* sp. nov., *marginatus* Scudd., and *paroxyoides* sp. nov.

Collinus series. An extensive group, with nine species ranging over the entire United States excepting Alaska and California. They are *alpinus* Brun. MS., *infantilis* Scudd., *minor* Scudd., *confusus* sp. nov., *arizonæ* Scudd., *keeleri* Thom. (*tenebrosus* Scudd.), *deletor* Scudd., *luridus* Dodge, and *collinus* Scudd.

Robustus series. Five large species occurring in the southern half of the United States, but hardly known east of the Alleghenies. They are *differentialis* Uhl., *robustus* Scudd. (*ponderosus* Scudd.), *furcatus* sp. nov., *viola* Thom. (*affiliatus* Uhl. MS.), and *clypeatus* Scudd.

Bivittatus series. Five heavy-bodied species belong here, and together they cover nearly the entire continent and include two of the commonest kinds. They species are: *femoratus* Burm. (*flavovittatus* Harr., *milberti* Serv., *edax* Sauss., *hudsonium* Barnst. MS.), *bivittatus* Say, *thomasi* Brun. MS., *yarrowii* Thom., and *olivaceus* Brun. MS.

Punctulatus series. Two species are known, *arboreus* sp. nov., from the southwest, and *punctulatus* Scudd. (*griseus* Thom., *helluo* Scudd.), from a large part of the country east of the Rocky mountains.



Scudder, Samuel H. 1897. "The species of the genus *Melanoplus*." *Proceedings of the American Philosophical Society held at Philadelphia for promoting useful knowledge*. 36, 5–35. <https://doi.org/10.5962/bhl.part.27421>.

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