

T.H. HUBBELL NOTEBOOK
1921 Collections made at the
Huron Mountain Club

University of Michigan Museum of Zoology
Insect Division Notebook #34

Photocopy of original made Sept. 1987

Marquette, July 6, 1921. Same date
as last.

105. Melanoplus femur-rubrum femur-rubrum
D&G. Marquette. VII. 6. 1921.

One male, in low grass & herbage
with blueberry bushes, beside path
through thicket of pines, alder, etc.,
in low sandy flats north of town.

106. Ceuthophilus maculatus (Harris).

Huron Mts. VII. 7. 1921. Extremely
abundant in small covered pits about the
valves in the water-pipes, in the sandy
yards of the cottages. About as many
or perhaps more nearly mature nymphs as
adults, and about 2 times as many ♂s
as ♀s. From 3 such pits 22 ♂s and
19 ♀s, nearly all adult, were collected;
the nymphs were left undisturbed in hopes
that some of them might mature.

107. Melanoplus bivittatus (Say).

Huron Mts. VII. 7. 1921. An ♂ & one
♀ in sand near a cluster of cottages.

July 7, 1921 rained in P.M. On the
beach was a small drift which had
evidently been in the water sometime, as
most of the specimens were swollen & white
with fish-mold. Numbers of Melanoplus
bivittatus (Say), and a few specimens each
of Melanoplus mexicanus attavisi (Riley) and
Chortippus curtipennis (Harris) were seen;
all were in too poor condition to keep.

108. Melanoplus islandicus Blatchley

Huron Mts. VII. 8. 1921.

This species was found common along
a trail through the woods along the
shore, between Club and Hans Hansen's
farm. These woods varied from fairly
open groves of pine, with undergrowth
of blueberries, wintergreen, and other
low plants, with a layer, usually thin
uneven, of dead needles covering the
dry sandy ground, to more or less
dense woods of maple, with many
other trees - birch, beech, small oaks,
etc., where the ground was littered
with twigs & fallen branches, and was

Covered with a layer of rotting leaves.
Seemed to be most numerous along
the trail in the latter situations,
but occurred in the former with
Melanoplus dodges huroni Blatchley.

Many nymphs, probably mostly this
species, also found here. 8♂, 7♀, 3 juv.

109. *Melanoplus mexicanus atlantis* (Riley)

Huron Mts. VII. 8. 1921. From a
dry, sandy, bracken - blueberry clearing
near the Lake Superior beach west of
camp.

110. *Acridium*

Huron Mts. VII. 8. 1921. Same data
as 109. On sandy ground among
Vaccinium bushes.

111. *Acridium*

Same data as 110

112. *Nemotettix*

Same data as 110

113. *Scirtetica marmorata* - nymphs.

Same data as 110.

114. *Cnococephalus f. fasciatus* (De Geer) - nymphs.

Huron Mts. VII. 8. 1921. From a
grassy clearing on sandy ridge just
back of beach, west of camp. Nymphs
abundant; no adults seen here.

115. *Scudderia* nymph, probably *posticata*.

Huron Mts. ~~■~~ VII. 8. 1921.

Same data as 117 - only one seen.

116. *Melanoplus* nymphs

Huron Mts. VII. 8. 1921. From
trail to Hans Hansen's farm - same
localities as 108.

117. *Chortippus curtipennis* (Harris)

Huron Mts. VII. 8. 1921. From
field of tall grass on hill back of
Hansen's farm - abundant males stridulating.

118. *Melanoplus dawsoni* (Scudder)

Same data as last sweeping.

18, 19.

119. Conocephalus f. fasciatus (DeGeer)

Huron Mts. VII. 8. 1921. From field of tall grass & weeds on hill back of Hansen's farmhouse. One adult ♂, 1 juv. ♀. Last stage nymphs abundant; only one adult seen in course of 20 minutes sweeping.

120. Cannula pellucida (Scudder.)

Huron Mts. VII. 8. 1921. Same data as 119. Abundant.

121. Melanoplus bivittatus (Say)

Huron Mts. VII. 8. 1921. Same data as 120. Common.

122. Melanoplus mexicanus ottanis (Riley)

Same data as 120.

123. Orchelimum gladiator Brunner.

Huron Mts. VII. 8. 1921. Stridulating on grass stem in field of tall grass & weeds, on hillside back of Hansen's farm house. Only one yet heard here.

124. Scudderia pistillata Brunner

Huron Mts. VII. 8. 1921. One adult ♀, swept from raspberry bushes at margin of open grassy field where it is bordered by woods.

125. Melanoplus borealis (Fieber).

Huron Mts. VII. 8. 1921. Same data as 119. Only one ♀ taken. Swept from area of taller, more luxuriant grass in slight depression near margin of field.

126. Circotettix verruculatus (Kirby)

Huron Mts. VII. 8. 1921. Abundant along roads & trails, on the dry sandy areas, and in dry, sparsely vegetated cleared areas.

127. Melanoplus fasciatus (G. Walker)

Huron Mts. VII. 8. 1921. 3 males, in dry, sandy clearing near Lake Superior, among bracken-blueberry growth. Fairly common apparently.

128. Melanoplus dodgieri Huron Blatchley

Huron Mts. VII. 8. 1921. 2♂, 2♀

taken in open grove of pines, west of camp, beside trail through the grove. Found among bracken-blueberry under-growth; males fairly active, ♀s less so. Quite conspicuous.

129. Atlanticus testaceus (Scudder)

Huron Mts. VII. 8. 1921.

One male, one juv. ♂. Found on dead leaves in rather dense maple-birch-hemlock woods west of camp, on rather low ground, where the sandy soil is covered with a considerable thickness of humus & a layer of dead leaves. Many fallen twigs & branches, and scattered low undergrowth.

130. Cannula pellucida (Scudder).

Huron Mts. VII. 8. 1921. Abundant in grassy clearing on sandy soil near Lake Superior; also common in dry bracken-blueberry growth nearby.

131. Melanoplus bimaculatus (Say).

Huron Mts. VII. 8. 1921. 1♂, 3♀.

Same data as 130; ♂ fairly common.

132. Circotettix verruculatus Kirby

Huron Mts. VII. 8. 1921. Very

common along the roads & trails around the camp; also in the clearings where the sandy soil is not too closely vegetated, especially among the bracken-blueberry growth.

133. Melanoplus mexicanus atlanticus (Riley).

Huron Mts. VII. 8. 1921.

Common in the clearings & along the grassy roadsides & trails.

134. Cannula pellucida (Scudder)

Huron Mts. VII. 8. 1921. From

dry grassy clearing partly occupied by bracken-blueberry, near Pine Lake.

135. Scirtotica marmorata marmorata (Horn)

Huron Mts. VII. 8. 1921.

Found fairly common among the open pine groves between Lake Superior and Pine Lake, among the bracken-

blueberry growth which covers the ground. The latter is sandy, covered with dead pine needles in many places, and over considerable areas with patches of grey reindeer moss. In these areas the ~~green~~ immature specimens were most common (apparently); here they were mottled and blotched with gray-green & black so as to resemble most closely their surroundings. Adults and nymphs were also taken among the bracken-blueberry in the absence of these mossy surfaces, however, and the adults were common along the bare sand on the upper parts of the steeply sloping shores of Pine Lake. They fly silently and are quite inconspicuous both in flight & in rest; one specimen made a rather faint rattling sound as he flew about in the net which covered him. The nymphs taken in sandy places were all of a uniform grayish, brownish, or reddish tinge instead of having a mottled green & black coloration.

136. Melanoplus islandicus Blatchley.

Huron Mts. VII-8-1921. From clearing of sparse bracken-blueberry, surrounded by open clumps of pine and birch. Not typical habitat. Only 1♂ seen.

137. Nomotettix

Huron Mts. VII-8-1921. From among the bracken-blueberry growth on dry sandy ridge between Pine Lake & the beach of Lake Superior.

138. Chioctitis nymph.

Same data as 137.

139. Melanoplus fasciatus (F. Walker).

Same data as 137. Quite common here. - 3♂, 3♀.

140. Melanoplus stonei Rehn.

Huron Mts. Marquette Co. Mich.

VII-8-1921. ♂ males. This is the 9th locality record in Michigan, and the 6th general locality known (counting New Jersey as a single one). Extends the range west from Cheboygan Co. even with

Walker-Nipigon record.

One male taken in sandy road near N-shore Pine Lake, between openings filled with bracken-blueberry growth, among clumps of pine & other small trees. Other taken in somewhat similar situation, in sandy road $\frac{1}{2}$ mile east of 1st. Prolonged search in the clearings bordering the road on each side revealed no further specimens. Situation similar to that in which taken at Crystal Lake — sandy soil, rather loose, dry conditions, scanty vegetation (in this case only found near root among the vegetation). Both specimens were spotted instantly, from a distance of several feet, as probably being this species.

141. Melanoplus bivittatus (Say).

Huron Mts. VII. 9. 1921. Fairly common in roadside vegetation near Pine Lake.

142. Circotettix verruculatus Kirby.

Huron Mts. VII. 9. 1921. From the sandy shore of Lake Superior, especially near the upper edge, among the beach grass. Common here.

143. Blattella germanica (Linn.)

Huron Mts. VII. 9. 1921.

From the clubhouse; 1 juv.

144. Melanoplus bivittatus (Say)

Huron Mts. VII. 9. 1921. Very

common along the upper edge of the sandy shore of Lake Superior, among the beach grass.

145. Chortippus curtipennis (Harris).

With 144. Not numerous here.

146. Melanoplus mexicanus atlantis (Riley).

Huron Mts. VII. 9. 1921.

Abundant with 144.

147. Comonula pellucida (Gaudier)

Same data as 146.

148. Ceuthophilus

Huron Mts. VII. 9. 1921. One ♀ & one extremely small juv. (not sexual) taken under slab of wood in a makeshift causeway across a wet, mucky spot in dense Maple-hemlock-birch woods on Conway point. No others seen, though all the slabs were raised & several logs rolled over.

149. Podisma glacialis canadensis E.M. Walk.

Huron Mts. VII. 9. 1921. Swept from patch of large-leaved, hairy herbaceous plants () about 1-2 feet high, at edge of grassy clearing in the woods on Conway point. One ♀ only, one seen in spite of extended search.

150. Melanoplus bruneri Scudder.

Huron Mts. VII. 9. 1921. From grassy, sandy clearing in woods on Conway point. Most numerous near edge of clearing, among patches of young raspberries or everlasting. Not very common; many of specimens general.

151. Melanoplus mexicanus atlantis (Riley).

Huron Mts. VII. 9. 1921. Same clearing as 150 - abundant throughout.

152. Melanoplus fasciatus (F. Walker)

Huron Mts. VII. 9. 1921. One ♂ in tall grass & woods at edge (150), 1 ♀ in open margin of hemlock woods on top of bluff at end Conway Point, among mosses, low-lying green, etc.

153. Cannula pellucida Scudder.

Same data as 151. Also abundant in grassy clearings on beach.

154. Chloscirtus abdominalis (Thomas)

Huron Mts. VII. 9. 1921. Same clearing as 150; in tall grass & around margins. Dr stridulating. More juv. than adult; most of specimens female.

155. Scudderia (pictillata Brunner?) juv.

Huron Mts. VII. 9. 1921. Swept from tall grass in 150.

156. Melanoplus bivittatus (Say).

Huron Mts. VII. 9. 1921. Same
data as 150.

157. Chortophaga curtipennis (Harris)

Same data as 151.

158. Chloeolettis abdominalis (Thomas)

Huron Mts. VII. 9. 1921. 1♂ -
from grassy clearing on shore Conway
Lake. Many ♂s stridulating here.

159. Melanoplus bivittatus (Say).

Huron Mts. VII. 9. 1921. Abundant
in area of tall, luxuriant grass in
low moist area in clearing on shore
Conway Lake. Common throughout field.

160. Chortophaga curtipennis (Harris)

Same data as 159. Abundant
throughout field.

161. Circotettix vernacularus (Kirby)

Huron Mts. VII. 9. 1921. Very
common along sandy roads through

pine barrens east of camp.

162. Scirtetica marmorata marmorata (Harris)

Huron Mts. VII. 9. 1921. Very common
in the pine barren areas east of the
club. Here the sandy soil over a large
area about $\frac{1}{4}$ mile inland from the
lake, supports a scattered growth of
jack-pines; the ground between the trees
is covered with grey reindeer moss, with
a scattered growth of bracken ferns
about a foot high, and Vaccinium
bushes only 3' or 4' to a foot (in most
places former) in height. At this time
the moss is as dry as Linden and
crunches under foot, retaining the mark of
the footprint. This species is
represented here by all stages from
those about 3 mm long to adults.

Many of the latter are fuscous. While
in this condition they have the muted
grey-green or black coloration of
the young, but the older ones seem
seldom to show this. Specimens are
common in the pine groves & on sandy
roads & other bare areas near the mossy

pine barren areas; these seem to be the headquarter for the species, however.

163. Melanoplus stoneri Rehn.

Huron Mts. VII. 9. 1921. Found to be ~~more~~ common in the pine-barrens such as described in 162. Easily distinguished in field at a distance by shorter wings, more robust bodies, & striking coloration, from M. m. ottawae, with which it is associated.

164. Melanoplus mexicanus ottawae (Rehn)

Huron Mts. VII. 9. 1921. With 163.

165. Melanoplus islandicus Blatchley.

Huron Mts. VII. 9. 1921. Along the edges of clearings, open-sunlit trails, and edge of forest on top of cliff at end of Conway point. Type of forest apparently no consideration.

166. Melanoplus dodgei huroni Blatchley.

Huron Mts. VII. 9. 1921. One ♂, 1♀ taken where trail through hemlock-pine

forest opens into clearing on top of bluffs at end of Conway point. Found beside trail, among bracken and low herbaceous plants.

167. Melanoplus fasciatus (F. Walker)

Huron Mts. VII. 10. 1921. From a clearing in jack-pine woods on sandy soil near the Lake Superior shore, among the bracken-blueberry growth occupying the clearing. 2♂, 1♀. Only moderately common.

168. Melanoplus keeleri luridus (Dodge)

Huron Mts. VII. 10. 1921. Taken with 167, and at first sight mistaken for that species. 1♂, 1♀. Not very common here. ♂ teneral.

169. Melanoplus islandicus Blatchley.

Huron Mts. VII. 10. 1921. From the borders of the clearing mentioned in 167; quite common among the forest blueberry bushes. 2♀, one teneral and showing distinctly the juvenile coloration.

170. Conocephalus f. fasciatus (De Geer)

Huron Mts. VII. 10. 1921.

One male swept from long, rather dry grass in sandy clearing among the pine woods near the shore of Lake Superior. Nymphs common.

171. Gryllus assimilis (Fabr.) - juvenile

Huron Mts. VII. 10. 1921. One juvenile male taken on board walk in open, sandy grove of large white pines & hemlocks. Several other nymphs seen in last three days, but no adults.

172. Melanoplus bivittatus (Say).

Huron Mts. VII. 10. 1921. Taken from brackish-blueberry growth in clearing in jackpine forest near Lake Superior. Fairly common here, also among the beach grass on the shore. This ♀ has yellow tibiae, as have several others seen here - this coloration seems to be not unusual, though the majority are red.

173. Melanoplus fasciatus (Walker) ^{macropterus}
~~bivittatus~~ ^(Say)

Huron Mts. VII. 10. 1921. One ♀ on porch of Clubhouse, facing the shore of Lake Superior.

174. Melanoplus brunnei Scudder.

Huron Mts. VII. 10. 1921. One ♂, same data as 173. One ♀ also seen.

175. Circotettix verruculatus (Kirby)

HURON MTS., MARQUETTE CO., MICH. VII. 11. 1921.

Common in bare, dry, sandy pasture & in the garden plots at the farm.

176. Melanoplus

Huron Mts. VII. 11. 1921. Swept from dry grass in sparsely vegetated, dry sandy pasture. Only 1 ♀ seen.

177. Gryllus assimilis (Fabr.) - juv.

Huron Mts. VII. 11. 1921. On ground in pasture (176).

178. Cannula pallucida (Scudder)

Huron Mts. VII. 11. 1921. Abundant in 176.

179. Melanoplus mexicanus ottanis (Riley)

Huron Mts. VII. 11. 1921. Abundant
in dry, sandy, sparsely vegetated
pasture.

180. Melanoplus bruneri Scudder

Huron Mts. VII. 11. 1921. One ♂
seen from dry grass in company
with 179.

181. Oedipodid nymph

Huron Mts. VII. 11. 1921. On
ground in bare space in dry, sandy,
sparsely vegetated pasture

182. Ochotona gladiator Bruner

Huron Mts. VII. 11. 1921. One ♂
stridulating on tall grass stem in
dry, sandy, sparsely vegetated pasture.

183. Chortophaga curtipennis (Harris)

Huron Mts. VII. 11. 1921. Quite
common in pasture (182).

184. Conocephalus f. fasciatus (DeGraaf)

Huron Mts. VII. 11. 1921.

Abundant in dry grassy pasture (182).
Males stridulating throughout. Few ♀'s
adult as yet.

185. Melanoplus bruneri Scudder

Huron Mts. VII. 11. 1921.

Fairly common in the long grass
among the shrubbery bordering a large
Vaccinium - Chamaedaphne - Andromeda
bog near the farm. One ♂ also taken
in the bog, among the xerophytic
bog plants.

186. Melanoplus fuscus-rubrum (DeGraaf)

Huron Mts. VII. 11. 1921. One ♂,

from the tall grass & sedges
around the margin of (185). No others
seen.

187. Melanoplus bivittatus (Say)

Huron Mts. VII. 11. 1921. Fairly
common, especially in the grassy
borders, in the bog mentioned in 185.

188. Melanoplus mexicanus ottanis (Riley)

Huron Mts. VII. 11. 1921.

Occurs in fair numbers throughout the bog mentioned in (188).

189. Conocephalus fasciatus fasciatus (De Geer)
Huron Mts. VII. 11. 1921. Same data as 188.

190. Scirtetica marmorata marmorata (Harris)
Huron Mts. VII. 11. 1921. From dry sandy roadway through open forests & groves of jack pine, where the ground beneath the trees is covered with bracken-blueberry growth & dry reindeer moss. Fairly common; extremely active on occasions though at other times sluggish & hard to make fly. When it flies it is usually silent, but it can make a rather faint, dry, rattling stridulation.

191. Circotettix vermiculatus (Kirby).
Huron Mts. VII. 11. 1921. With the last; very common.

192. Spharogeron collaris

Huron Mts. VII. 11. 1921. One ♂ found on sandy roadway through open jack pine grove. When alarmed it flew over among the mossy bracken-blueberry growth, where it was captured. No others seen here.

193. Spharogeron collaris

Huron Mts. VII. 11. 1921. One ♂, in the open jack pine grove south of camp, on the trail to Pine Lake, among the bracken-blueberry & moss. No others seen here.

194. Melanoplus fasciatus (Walk.)

Huron Mts. VII. 11. 1921. With (188). One ♀.

195. Parcoblatta

Huron Mts. VII. 11. 1921. Under loose bark of pine stumps in open pine grove just south of camp. Three stumps examined - occurred in all. No adults. 8 juv. specimens.

196 Ceuthophilus maculatus (Harris)

Huron Mts. VII. 11. 1921.

Some data as before (196).

197. Atlanticus testaceus (Scudder)

Huron Mts. VII. 11. 1921. One of
stridulating about 4 feet from ground
on main stem of young pine tree
near Walker cabin. Easily taken with
flashlight & net.

198. Circotettix verruculatus (Kirby)

Huron Mts. VIII. 12. 1921. From
Vaccinium-bracken fern growth on sandy
ground in open Jack-pine grove, with
many bare sandy or moss-covered areas.
Common, but less so here than
Scirtetica.

199. Nomotettix

Huron Mts. VIII. 12. 1921. Taken
with 198 - not common.

200. Acrydium

Same data as 199.

201. Chlocallis abdominalis (Thomas)

Same data as 199. 1♂.

202. Scirtetica marmorata marmorata (Harris)

Same data as 198. Quite
common, many nymphs. Easily taken
with the fingers ~~the~~ early, & after
rain, but in heat of day very active
& wary.

203. Melanoplus fasciatus (F. Walker)

Same data as 198. Common.

204. Melanoplus islandicus Blatchley

Same data as 199.

205. Melanoplus kaderi laridens Dodge

Same data as 199. 1 nymph
probably belongs here.

206. Camnula pallidula (Scudder)

Same data as 198. Very common.

207. Chartippus certipennis (Harris)

Same data as 199.

208. Melanoplus mexicanus atlantis (Riley)

Huron Mts. VII. 12. 1921. Common in bracken-blueberry growth among open grove of Jack pine, in which are many open sandy or moss-covered areas.

209. Melanoplus.

Huron Mts. VII. 12. 1921. Taken with 208, - not common.

210. Melanoplus.

Huron Mts. VII. 12. 1921. On bank of club-house facing beach.

211. Sphaeragemon

Huron Mts. VII. 12. 1921. From sandy road through Jack pine woods - open & sunny, with bracken-blueberry undergrowth bordering the road on each side. Not very common.

212. Melanoplus bruneri Scudder

Huron Mts. VII. 12. 1921. From the open jack-pine groves N. of Pine River, in bracken-blueberry growth edge of sandy road. Not very common.

213. Melanoplus.

Huron Mts. VII. 12. 1921. From same habitat as 212 - Quite common in one rather open, sunlit space, but not seen elsewhere.

214. Melanoplus fasciatus (F. Walker)

Huron Mts. VII. 12. 1921. Same type of habitat as 213, but not found in company with that species.

214a. Melanoplus fasciatus rotaticus Sc.

Taken with 213; one ♂.

215. Melanoplus mexicanus atlantis (Riley)

Common with 213.

216. Melanoplus islandicus Blatchley

1♂, 2♀ taken with 213.

217. Melanoplus stonei Rehu.

Huron Mts. VII. 12. 1921. Taken among the pine barrens east of camp, same locality as 168. Here the trees are scattered rather widely, standing singly or in groups; the ground

Over rather large areas is covered with reindeer moss, though in many places bare sand areas sparsely covered with dead grass & pine-needles are found. On it grows a scattered ground vegetation of low (2"-6") blueberry plants, wintergreen, and ~~black~~ scattered black ferns.

This species is much outnumbered here by *M. atlantis* a. *Cannula pellucida*, and especially *Scirtetica marmorata*, most abundant of all. It can be distinguished from the rest by its clumsy appearance, short heavy flights, and distinctive coloration, noticeable even in flight.

218. *Melanoplus brunnei* Scudder

Huron Mts. VIII. 12. 1921. With 217-

Only one seen.

219. *Melanoplus bivittatus* (Say)

Huron Mts. VII. 12. 1921. With 217-
moderately common.

220. *Cannula pellucida* (Scudder)

With 212 - Abundant.

221. *Circotettix vermiculatus* Kirby

Huron Mts. VII. 12. 1921. With 217 - apparently many are retreating from bare sand areas to vegetation for the night, though it is only 5:00 P.M. & still quite hot.

222. *Melanoplus islandicus* Blatchley

Huron Mts. VII. 12. 1921. With 217 - in shade of small clump of jackpines - not common here.

223. *Scirtetica marmorata marmorata* (Harris)

Huron Mts. VII. 12. 1921. With 217 -

Very abundant among the mossy vegetation & on the sandy roads through this area.

224. *Melanoplus bivittatus* (Say)

Huron Mts. VII. 12. 1921. 1 ♀ on porch of old house. One other and this one both had yellow legs - other escaped.

225. Atlanticus testaceus (Scudder)

Huron Mts. VII. 12. 1921.

Stridulating 10:00 PM, on low blueberry shrub among the wilting branches of a fallen pine tree, on sandy hilltop in open Jackpine-white pine grove S. of camp.

226. Scudderia pictillata (Brunner)

Huron Mts. VII. 13. 1921. 5♂, 2♀,

in Murphy's clearing on Salmon Trout River. This clearing is about 2 acres in extent, and is grown up to tall grass, very rank in the lower places, and thickets of tangled raspberry, nettle, grasses, young shrubs & trees, and other plants. In most places this herbaceous & shrub growth is not more than knee or hip high, but in places it is chest high, in the hollows & sheltered parts.

Running through it are fairly open roads, covered with low grass & weeds. This species was fairly common among the shrubby & tall herbaceous growth. 10 taken by stridulation. Clearing bounded by woods, except on

side toward Salmon Trout River.

227. Dissosteira carolina (Linn.)

Huron Mts. VII. 13. 1921. 1♂, in (226). Only one seen.

228. Ochetellus gladiator Brueck.

Huron Mts. VII. 13. 1921. 1♀, in tall grass in low swale in 226. Only one seen.

Ochetellus sp.

Huron Mts. VII. 13. 1921. One ♂ seen twice, near where 228 was taken. Appeared to be O. concinnum. Not captured.

229. Pediana glacialis canadensis Walker

Huron Mts. VII. 13. 1921. From 226.

Taken near ground, at base of raspberry bush in thick waisthigh tangle of grasses & shrubs. 1♀.

230. Conocephalus f. fasciatus (De Geer).

Huron Mts. VII. 13. 1921. Fairly common in 226.

231. Acyptera gracilis (Scudder)

Huron Mts. VII. 13. 1921.

Quite common in 226, but extremely wary. Only 2 males secured; they are fairly easily taken once seen, but are difficult to approach close enough to be seen without being alarmed & ceasing to stridulate. 2 photos.

232. Melanoplus mexicanus atlantis (Riley)

Huron Mts. VII. 13. 1921.

Common in 226, but less so than M. bruneri.

233. Melanoplus bivittatus (Say)

Huron Mts. VII. 13. 1921. Probably the most abundant Melanoplus in 226. By far the majority have red hind tibiae, but 3 of the males taken have yellow.

234. Chioecaltis conspersa (Harris)

Huron Mts. VII. 13. 1921. Fairly common in 226.

235. Melanoplus borealis (Fieber)

Huron Mts. VII. 13. 1921.

Quite numerous in parts of 226, apparently where moist soil & the vegetation was rankest. Brachypterus about twice (or less) as numerous as macropterus, latter of both sexes.

236. Chortippus curtipennis (Harris)

Huron Mts. VII. 13. 1921. Very abundant in 226.

237. Melanoplus bruneri Scudder

Huron Mts. VII. 13. 1921. Common in 226, more so than M. atlantis.

238. Chioecaltis conspersa (Harris)

Huron Mts. VII. 13. 1921.

Fairly common in and alongside of grassy trail along bank of Salmon Trout River, between it and the bushy fringe of the Maple forest.

239. Melanoplus dodgieri laurani Blatchley

Huron Mts. VII. 13. 1921.

Same data as 238, ~~—~~ except

Only 4 (10, 39) found, among low shrubbery & dead leaves at edge of trail.

240. Melanoplus.

Huron Mts. VII. 13. 1921. Taken with 239.

241. Chortippus curtipennis (Harris)

Huron Mts. VII. 13. 1921. Same data as 238.

242. Melanoplus islandicus Blatchley

Huron Mts. VII. 13. 1921.
Taken with 239.

243. Circotettix verruculatus (King)

Huron Mts. VII. 14. 1921. Sandy road through pine-barrens S. of camp.

244. Chortippus curtipennis (Harris)

Huron Mts. VII. 14. 1921. From tall grass at entrance to trail from landing on Rush Lake.

245. Melanoplus stans Rehn.

Huron Mts. VII. 14. 1921. 19 taken in blue-berry bramble growth of jack-pine barrens S. of camp, near Pine Lake. Only one seen in 3½ hours collecting. Here the bramble thicketry is taller & thicker, with much less extensive areas of bare, exposed reddeer moss.

246. Scirtetica marmorata marmorata (Harris)

Huron Mts. VII. 14. 1921. Abundant in 245, & along the sandy trails through this area.

247. Poeciloplatus f. fasciatus (Dr. Geer)

Huron Mts. VII. 14. 1921. From beach grass on sandy shore Rush Lake.

248. Nomotettix cristatus

Huron Mts. VII. 14. 1921. Scarce in 245.

249. Acridium Hancockii Morse.

Same data as 248.

250. Melanoplus islandicus Blatchley.

Huron Mts. VII. 14. 1921. Common along trails through heavy mixed forest between Pine & Rush Lakes. 1♂ + 2♀ in bracken, blueberry & jackpine barrens S. of camp.

251. Melanoplus fasciatus (F. Walker)

Huron Mts. VII. 14. 1921.
Common in 245.

252. Nemobius (fasciatus) juv.

Huron Mts. VII. 14. 1921. In small opening in woods near Pine Lake, where the sandy ground has scant growth of grass, with mosses, etc.

253. Acydium acadicum Scudder

Huron Mts. VII. 14. 1921.
With 252.

254. Chilocoris juv.

Huron Mts. VII. 14. 1921.
With 252.

255. Panorabatta

Huron Mts. VII. 14. 1921. Juv. & parts of hard remains of last season's specimen, & one egg case, in jack-pine boughs near camp. Under loose bark of white pine stumps.

256. Chilocaris abdominalis (Thomas)

Huron Mts. VII. 16. 1921.

Quite common in certain places along the trail between Pine Lake and Mountain Lake, where the woods opened out a little, and there was a considerable growth of shrubbery (consisting very largely of thimbleberry bushes, with a few raspberries, young trees, & other plants.) Most of the specimens were found in the short grass of the trail, near these thickets; others in the more open parts of the thickets themselves. By stridulating - very much louder than C. conspersa (which also occurred here) and intermediate in loudness between that species and Acydium gracile. It is a typical Chilocaris call, however - zrik - zikk - zikk - zik - teleated 3 to 5

times, as a rule, slightly more deliberate than in *C. conspersa*, but forming a continuous phrase, not single notes as in *Acrydium's* court song.

257. Chloocoris conspersa Harris

Huron Mts. VII. 16. 1921.

Found with 256; also in rather shady trail near Mountain Lake. Not so common as *C. abdominalis* in the thimble berry thickets. 1 long-winged dark brown ♀ seen but escaped. All of the 5 specimens taken are brachypterus.

258. Chortophaga curtipennis (Harris)

Huron Mts. VII. 16. 1921. Abundant

Along the trails in the grassy spots, & in the thimble berry thickets in the old logging roads described in 256.

259. Melanoplus fasciatus (F. Walker)

Huron Mts. VII. 16. 1921. 285 taken in rather open part of the thimble berry thickets down in 256, where the holes were few & small, near the margin of the maple - birch lumber roads.

260. Melanoplus dodgei Huron Blatchley

Huron Mts. VII. 16. 1921.

Taken with 259; only 1 ♂ seen.

261. Melanoplus islandicus Blatchley.

Huron Mts. VII. 16. 1921. Common

along the trail through the maple - birch - hemlock forest between Pine lake & Mountain lake, especially in the broader logging trails. Also very common with *Podisma glacialis canadensis* among the foliage of the thimble berry thickets in the old lumber road above the falls. Several were seen in ~~the~~ open & white pine - hemlock grove on the N. shore Mountain lake.

262. Melanoplus bivittatus (Say).

Huron Mts. VII. 16. 1921. Common

with 258.

263. Acridium Hancocki Morse.

Huron Mts. VII. 16. 1921. From

~~the~~ old logging trail through maple - birch - hemlock forest between Pine lake & Mountain lake, on humus soil among short

grass; between thimbleberry bush thicket
on one side & forest on other. $\frac{1}{2}$ mi.

264. Pediasia glacialis quadratus EM.W.

Huron Mts. VII. 16. 1921.

42 specimens, 24 ♂s & 18 ♀s, were taken in about 3 hours' time in low thickets of thimbleberry & occasional raspberry plants in old logging roads & small clearings above the falls, between Pine and Mountain Lakes, among the heavy Maple-birch-healock forest of this region. Specimens were easily taken after the knock was agreed, but it required cautious movement and quick use of the net to capture them, especially the males. They were usually seen resting among the upper leaves & branches of the bushes, in plain sight, and in spite of their general green hue were quite conspicuous, the yellow on the ♂ showing up well, and the ♀s being of a rather darker shade than the leaves they were resting on. If one body blindfolded the bushes,

keeping a sharp lookout about 6 feet ahead, they could usually be discovered before being alarmed, and could then be captured about a dozen at a time. If alarmed they generally hopped (in the case of the male) two or three, finally falling to the ground, where they would remain motionless, and often, if discovered away the bases of the plant stems, would allow themselves to be picked up with the fingers. The ♀s usually dropped at once to the ground, and were more difficult to discover there than the ♂s.

5 pairs were seen to copula upon the upper leaves of thimbleberry bushes, of which 3 were taken; these are designated respectively a, b, &c.

265. Melanoplus bruneri Scudder.

Huron Mts. VII. 16. 1921. Fairly common with 264.

266. Melanoplus borealis (Fieber)

Huron Mts. VII. 16. 1921. Same data as 265.

267. Pammula bellucida (Scudder)

Huron Mts. VII. 16. 1921. Fairly common in the grassy, more open parts of the old logging roads through the woods.

268. Scudderia pistillata Brunner

Huron Mts. VII. 16. 1921. One ♂ taken & several heard. 1 ♀ seen, with 264.

269. Melanoplus bivittatus (Say)

Huron Mts. VII. 16. 1921. From beach grass, shore of Mountain Lake.

270. Conocephalus f. fasciatus (DeG.)

Huron Mts. VII. 16. 1921. Some data as 269.

271. Chlocatitus conspersa Harris

Huron Mts. VII. 16. 1921. From ~~the~~ grassy trail through low woods near Mt. Lake.

272. Circotettix verruculatus (Kirby)

Huron Mts. VII. 16. 1921.

Crackling around base of log but in clearing beside road mentioned in 264 - on the bare ground & logs scattered about.

273. Percoblatta juv.

Huron Mts. VII. 16. 1921. Under loose bark pine stump near camp, in open white-pine jackpine grove.

274. Centrophilus maculatus (Harris)

Huron Mts. VII. 16. 1921.

Same data as 106. - Much less numerous, since must have been collected out. Each catch the greater part of the adults were removed, leaving the young to mature.

275. Orecholimum gladiator Brunner

Huron Mts. VII. 15. 1921.

Stridulating on dead grass, shore of Lake Superior.

276. Orecholimum gladiator Brunner

Huron Mts. VII. 17. 1921. Stridulating on Iris clump in damp spot in Hans pasture.

277. Nemobius f. fasciatus (De Geer)

Huron Mts. VII. 17 1921. Adults & juv. both abundant in Hawn pasture, especially in the moister spots among the taller grass & weeds. No stridulating vigorously. No Gryllus heard.

278. Conocephalus f. fasciatus (De Geer).

Huron Mts. VII. 17. 1921. Abundant with 276 & 277.

279. Cicadettix variegata Kirby

Huron Mts. VII. 17. 1921. Abundant in logging clearing on shore Lake Superior on Huron Mountain Point at Flat Rock, among the log piles & on the bare bark-covered ground; also in fairly fresh logging trails nearby.

280. Melanoplus islandicus Blatchley.

Huron Mts. VII. 17. 1921. Common along margins of clearings or along the lumber roads.

281. Melanoplus fasciatus (F. Walker)

broken growth, with few scattered Vaccinium, among the small shrubbery on the steep sloping north shore of Rush Lake. Much bare dry sandy soil exposed here.

282. Acridium granulatum Kirby

Huron Mts. VII. 17 1921. 2d. sp., from a low, springy spot in Stance trail just west of Hawn's farm. Here the ground was soft, wet ~~soil~~ muck, covered with dead leaves, & with corduroy laid in spots for wagon travel. Sparse growth of grass & low herbaceous plants. Elaphrus (russarius?) also occurred here in numbers.

283. Melanoplus fasciatus (F. Walker)

Huron Mts. (NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 9, T. 50 N, R. 29 W. - Bentley's half way camp) VII. 19. 1921.

This species is the most numerous grasshopper on the sandy jack-pine covered outwash plains in this vicinity. In places among the low blueberry bushes & scattered bracken ferns it is ~~extremely~~

Very common. This seems to be a characteristic form of the "bracken-blueberry-reindeer-moss" association at the pine barrens & of clearings generally in this region. The barren areas are extensive - about 10 miles in diameter, on slightly undulating, sandy plain; the transition from the heavy hardwood forest of the rocky moraine soils to the north is quite abrupt. In places, they have been burned over, leaving acres of standing dead jackpines of mournful aspect - elsewhere it is untouched. The composition of the bracken-blueberry-reindeer-moss undergrowth varies in the proportions occupied by these plants here as elsewhere in the region; over ~~a~~ a certain area blueberry bushes (here low, not over 6"-8" tall) predominate; elsewhere bracken forms; and occasionally there are large areas of nearly bare ground, covered only with mosses and lichens ("reindeer-moss"). The jackpines form rather open groves over most of this area, though crowded closely in places.

284. Melanoplus islandicus Blatchley
Huron Mts. (NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 4, T. 50 N., R. 29 W. - Beatty half way camp) VII. 19. 1921. Common, with 283, but much less so than that species.
285. Melanoplus stonei Rehn.
Huron Mts. VII. 19. 1921. Same locality as 283. Only specimen (♀) seen in 30 minutes' collecting. Cold day - probably fairly common here. - Locality similar to that of 163 & 217.
286. Scirtetica marmorata marmorata (Harri)
Huron Mts. VII. 19. 1921. Common with 283, especially in the bare spots.
287. Nemotettix oristatus oristatus (Scudder)
Same data as 286. Taken chiefly on lichen-covered patches.
288. Acropteron gracilis (Scudder)
Huron Mts. VII. 18. 1921. (NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 4, T. 50 N., R. 29 W. - Beatty,

halfway camp.)

Common in the tall rank grass growing around the borders of a mucky, weed-filled pond, in the sandy jack-pine plain at the halfway camp. 78. 14 taken in about an hour's collecting. The habitat was not especially wet, but was (drier than it probably is) at moist times, as Mr. Bentley said the water in the pond was a foot or two lower than usual. Males were stridulating locally. The ♀ was taken when stalking a male - it flew well, and was not easily captured. (Song - khii-i-k, khii-i-k, khii-i-k)

289. Acyptera lineata (Gaudier)

Same data as last. One ♂ was taken, among low vegetation on the mudflats between the edge of the water and the tall mud. Attention was drawn to him by the peculiar sound he made - tick --- tick --- tick --- tick, usually repeated 4 or 5 times, a little sharp click, with no other sound. This he continued for some time, occasionally walking along a little between stridulations.

He was not recognized as being distinct until after he was captured. Ticking or clicking like this was heard several other times, but stalking only succeeded in flushing a gracilis on 2 occasions. It may be that the latter species also makes a similar noise. The flight of this specimen seemed a little swifter & more prolonged than that of its broader-winged relative gracilis. No others were seen.

290. Chortophaga curtipennis (Harrold)
Abundant with 288.

291. Conocephalus f. fasciatus (De Geer)
Abundant with 288.

292. Melanoplus lirifrons (Gig.)
Abundant with 288.

293. Melanoplus mexicanus atlantis (Riley)
Abundant with 288.

294. Melanoplus borealis (Fischer)
Very common with 288. - Long-

winged forms numerous.

295. Melanoplus f. fasciatus (De G.)

One male taken with 288.

296. Nemobius f. fasciatus (De G.)

Same locality as ~~288~~ 289.

Common among low vegetation on exposed mud flats.

297. Chioecaltis conspersa Harris

Fairly common with 288.

298. Chioecaltis abdominalis (Thomas)

Common along borders of grassy margins of pond, (288) where they join the jack pine woods.

299. Camnula bellucida (Scudder)

Common in 288, abundant in 289, and very common on the jack-pine sand-plain in the more open places & along the trail.

300. Circotettix vernacularus (Kirby)

From the bare muddy flats

around the lake (289), fairly common; also common along the trail through the jack pine sand plain.

301. Nemotettix or cristatus (Scudder)

Huron Mts. VII. 19. 1911. From the bare muddy flats, among the low vegetation & scattered grass where the thick rank grass thins out to the bare mud flats, same locality as 289. Only two seen. Same locality & taken with 296.

302. Atlanticus testaceus (Scudder)

Huron Mts. VII. 18. 1911. (NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 9. T. 50, N., R. 29 W. - Bentley, halfway camp.).

Very numerous among the shrubby, bracken, and dead brush at the margin of the jack-pine forest surrounding the small pond described in 288. One stridulating on all sides in large numbers at 10:00 PM. 5♂s & 1 ♀ taken here with flashlight & others seen. One heard stridulating about 15 feet from ground on ~~a~~ 25 foot jackpine. Others mostly within a foot or two of ground.

On bracken ferns or dead branches, one
about 5 feet high on young maple.

303. Altanticus testaceus (Scudder)

Same locality as last. VII. 19. 1921.
One ♀ found hopping on open pine-
needle covered ground among jackpines
near margin of the woods about the
pond.

304. Podisma glacialis. canadensis. EMW.

Same locality & date as 302.
One pair found on ground in copula
among bracken ferns, 10:30 P.M. Sluggish.
Accidentally seen while searching for Altanticus.
One ♀ seen but escaped, among low
blueberry plants & occasional bracken
fern near trail across sandy jackpine
plain.

305. Melanoplus bivittatus (Say).

Huron Mts. VII. 16, 1921. On
dovet of clubhouse.

306. Melanoplus mex. atlanticus (Riley).

Taken with 283. Not numerous here.

307. Circotettix reticulatus (Kirby).

Huron Mts. VII. 20. 1921. On the
bare or lichen-covered rock exposure
in the openings on the summit of
Huron Mountain. Very numerous. These
specimens seem lighter in color than those
from the roads & trails through the forest.

308. Melanoplus dawsoni (Scudder)

Huron Mts. VII. 20. 1921. Very
common among the low blueberry
bushes and grass growing in thick mats
among the rock areas and clumps of
trees & shrubbery on the open summit of
Huron Mountain.

309. Melanoplus fasciatus (F. Walker)

Huron Mts. VII. 20. 1921. With

308. 1 ♀ - only one seen.

310. Melanoplus leucurus Scudder.

Same locality & date as 305 -
1 ♂ with 308, 1 ♀ among a thick tangle
of high bush (3-4' tall) blueberries in
small area surrounded by tall shrubbery.
No others seen. Much less common than 308.

311. Melanoplus mexicanus atlanticus (Riley)

Abundant in the drier, more
grassy habitats with 308 & 314, also
in small numbers in the shrubby &
with 310. Much more common than that
species.

312. Melanoplus islandicus Blatchley

Huron Mts. VII. 20. 1921. Common
in the more open parts of the
ascent of Huron Mt. by the trail through
the woods from Rush Lake; occasional
on the summit with 308.

313. Podisma glacialis canadensis EMG.

Huron Mts. VII. 20. 1921. One ♂ wt 308.

314. Camnula bellucida (Scudder)

Huron Mts. VII. 20. 1921. The most
abundant grasshopper on the bare, dry,
open rocky & thicketed summit of Huron
Mountain. Found everywhere in numbers,
exceeding 311 many times.

315. Melanoplus bivittatus (Say)

VII. 20. 1921. Fairly common on summit Huron Mts.

316. Chloaaltis conspersa Harris

Huron Mts. VII. 20. 1921. 1 ♂, 1 ad.
♀ from the ♀ low, thick growth of
Vaccinium at edge of thicket of young
trees among the rocky outcrops on open
summit Huron Mt. Much less common
than 317.

317. Chloaaltis ~~co-~~ abdominalis (Thomas)

Very common with 316, and
among the dry grass & other low vegetation
growing among the rocks & shrubbery.

318. Atlanticus testaceus (Scudder)

Huron Mts. VII. 20. 1921. One ♀.
On ground at margin of thicket of
shrubbery & young trees, among the bare
rocks on the open summit of Huron Mts.

319. Podisma glacialis canadensis EM. Walker

Huron Mts. VII. 20. 1921. 3 ♂, 1 ♀, from
tangled growth of highbush blueberries, fitting
a small opening among the clumps of shrubbery
waist high. Summit of Huron Mts.

320. Pareoblatta pennsylvanica (De Geer)

Huron Mts. VII. 20. 1921.

One adult ♀, beneath loose bark standing pine stub, in open summit of Huron Mts., among the bare rock outcrops & the clumps of shrubbery. One nymph under rotting log with old oothecae, and another ootheca in crevice between large, lichen-covered boulder & small piece of rock lying against it. No possibility of introduction, since far from any road or habitation, & comparatively seldom visited.

321. Conocephalus f. fasciatus (De Geer)

With 308. Not very common.

322. Chortippus curtipennis (Harris)

Fairly common with 308.

323. Melanoplus bivittatus (Say)

Huron Mts. VII. 21. 1921.

From clearing on Salmon Trout River; abundant among the tall grass & herbage & among the low shrubbery filling the

324. Scudderia pistillata Brunner

Huron Mts. VII. 21. 1921.

Common with 323.

325. Melanoplus borealis (Fieber)

Huron Mts. VII. 21. 1921.

Same data as 324.

326. Melanoplus mexicanus atlantis (Riley)

Same data as 325.

327. Chortippus curtipennis (Harris)

Same data as 323.

328. Conocephalus f. fasciatus (De Geer)

Same data as 323.

329. Melanoplus bruneri Scudder

Same data as 324.

330. Podisma glacialis canadensis E. M. Walker

Huron Mts. VII. 21. 1921. One ♀, in clearing on Salmon Trout R., with eggs on raspberry bush in raspberry thicket.

St. Ignace, Mackinac Co. Mich.

331. Melanoplus islandicus Blatchley

Huron Mts. VII. 21. 1921.

From the low vegetation at side of
~~old~~ old lumber road through maple-
hemlock forest to Murphy's clearing
on the Salmon Trout River. Common.

332. Melanoplus dodgieri huroni Blatchley

Huron Mts. VII. 21. 1921. Taken
with 331 - only 1 ♂ seen.

333. Melanoplus bivittatus (Say)

St. Ignace VII. 23. 1921.

Fairly common in dry grassy
fields, & very common in the low
moist meadows near Little Lake (last
of the chain lakes).

334. Cannula pallucida (Scudder)

VII. 23. 1921. Abundant along

the roads & R.R. tracks, & in the
dry grassy fields - most abundant
Grasshopper in the region.

335. Chloeaaltis cuspis Harris.

VII. 23. 1921. Common among

the low shrubbery & near it, at
edge dry grassy field grown with
bergamot, & yellow & blue flowers.
A number of ♀'s taken; 1 ♂ seen but
escaped. Also found along edges of
path through ~~Alnus~~ Alnus, ~~Corylus~~, &
young maples forming thick growth.