

RESULTS OF THE ENTOMOLOGICAL COLLECTING EXPEDITION

Of the University of Kansas to Pima County, Arizona, in June and July, 1906.

By F. H. SNOW, University of Kansas, Lawrence.

This paper also includes Arizona material of former expeditions not previously identified, the location being given in each instance.

THE twenty-fifth collecting expedition in charge of the writer spent nine days in camp on the ranch of Mr. Thomas C. Kurtz, one and a half miles north of the railroad station at Tucson. The members of the party, in addition to the director, were Leverett A. Adams, for several years assistant in the department of zoology in the University of Kansas, now a member of the faculty of the State Normal School, at Greeley, Colorado, and S. E. Crumb, a student of the junior class. In the vicinity of this camp 3214 specimens were collected during the nine days, of which more than 2000 belong to the order of Hymenoptera. On July 3 the collecting party was increased by the arrival of Mr. Eugene Smyth, of Topeka, who had accompanied the writer on four preceding expeditions. On July 4 we started by wagon for Sycamore canyon, also called Brown canyon, in the southern portion of the Baboquivari mountains, and located our camp at a distance of sixty miles southwest of Tucson. This entire region is a typical desert area, and we found no small difficulty in obtaining a suitable supply of drinking water. At this second camp we collected insects for three weeks—from July 6 to 26—securing over 11,000 specimens, which, added to the Tucson material, made a total of 15,000 specimens as the result of the entire period of less than five weeks of actual work. At the second camp the Coleoptera took first place in the number of species and specimens collected, amounting to nearly one-half of the entire material. In regard to the scientific value of this material, Mr. Charles Liebeck, of Philadelphia, to whom I submitted many species of the Coleoptera which I was unable to identify from our previous collections, made the following statement: "The usual handicap, lack of Mexican material and synoptical tables in the *Biologia Centrali-Americana*, has hampered me more with this lot than with any other I have ever handled, due to the great number of apparent new species; and I must say that your 1906 catch certainly shows the finest lot of species I ever handled in one consignment.

Arizona is evidently a very rich field, and many possibilities are yet in store. I think it safe to assert that nearly all of those species (nearly sixty in number) marked simply as 'undetermined' are undescribed, and I can most surely state that they are not, or have not yet been, included in the United States fauna."

One of the most interesting captures among the Coleoptera at our second camp, was a limited number of specimens of the rare *Amblychila baroni* Rivers, which was found among the rocks near the summit of the mountain ridges between which our camp was situated—from 400 to 500 feet above the bottom of the canyon.

The altitude of the Baboquivari camp is 3750 feet above sea-level. The vegetation is largely of the usual type of the arid regions of the United States—many forms of cactus, yucca, agave or meschal, mesquite, and greasewood—and in the bottom of the canyon are trees of considerable size of the sycamore, walnut, and live oak. There were three quite copious thunder-showers during the three weeks of our stay, but in no case was there sufficient precipitation to cause the slightest run of water in the dry bed of the canyon. My hearty appreciation is hereby expressed of the most efficient services of my associates, Messrs. Adams, Crumb, and Smyth. Mr. Adams, in addition to his energetic work in collecting insects, also made a collection of birds, numbering 34 species, a list of which is contributed by him to the program for this meeting of the Academy.

I.—LIST OF COLEOPTERA.

For valuable services in the determination of species I am indebted to Mr. Charles Liebeck, of Philadelphia, and Mr. H. C. Fall, of Pasadena, Cal. I am also under obligations to Mr. A. B. Wolcott, of Chicago, for efficient aid in the family Cleridæ.

The numbers are those of Henshaw's lists.

When no locality is appended, the Baboquivari mountains are intended.

Family CICINDELIDÆ.

Amblychila baroni Rivers.

12 *Tetracha carolina* Linn. Tucson.

57 *Cicindela lemniscata* Lec.

wickhami W. Horn.

64b 16-punctata Kl.

Family CARABIDÆ.

139 *Calosoma semilæve* Lec.

213 *Pasimachus mexicanus* Gray.

218 *punctulatus* Hald.

220 *Scarites subterraneus* Fab., var. *californicus* Lec. Tucson; San Bernardino ranch, 1905.

Family CARABIDÆ.

- 275 *Clivina bipustulata* Fab. San Bernardino ranch, 1905.
 345 *Bembidium lugubre* Lec.
 timidum Lec.
 454 *Tachys vivax* Lec.
 557 *Pterostichus subcordatus* Lec. San Bernardino ranch, 1905.
 672 *Amara californica* Dej.
 683 *musculus* Say.
 Calathus, new species near *opaculus* Lec.
 746? *behrensii* Mann.
 771 *Platynus brunneomarginatus* Mann., var. *bicoloratus* Germ.
 772 *extensicollis* Say, var. San Bernardino ranch, 1905.
 two new species?
 866 *Tetragonoderus fasciatus* Hald.
 875 *Lebia majuscula* Chd.
 876 *atriceps* Lec.
 882 *viridis* Say.
 916 *Axinopalpus fusciceps* Lec.
 931 *Plochionus timidus* Hald.
 940 *Cymindis cribricollis* Dej.
 960 *Helluomorpha texana* Lec.
 961 *ferruginea* Lec.
 984 *Brachynus fidelis* Lec.
 986 *carinulatus* Mots.
 two undetermined species.
 991 *Chlænius ruficauda* Chd.
 1008 *Chlænius leucoscelis* Chev.
 new species.
 1047 *Oodes elegans* Lec.
 1057 *Piosoma setosum* Lec.
 1070 *Discoderus robustus* Horn.
 1071 *amœnus* Lec.
 1112 *Harpalus clandestinus* Lec.
 1134 *Selenophorus palliatus* Fab.
 1125 *pedicularius* Dej.
 1140 *Stenolophus conjunctus* Say.
 1179 *Anisodactylus opaculus* Lec. Tucson.
 1192 *arizonæ* Casey.
 new species.
 1214 *Pseudomorpha angustata* Horn.

Family DYTISCIDÆ.

- 1246 *Laccophilus pictus* Lap. At both camps.
 1251 *mexicanus* Aube.
 truncatus Mann. Tucson.
 1306 *Deronectes striatellus* Lec.
 æquinachialis Clark.
 1413 *Agabus lugens* Lec.
 1458 *Rhantus flavogriseus* Cr. San Bernardino ranch, 1905.
 1459 *binotatus* Harr.
 1461 *atricolor* Aube.
 1495a *Thermonectes nigrofasciatus* Aube.
 1497 *marmoratus* Hope. At both camps.

Family HISTERIDÆ.

- 3457 *Hololepta cacti* Lec. Tucson.
 3487 *Hister cœnusus* Er.
 undetermined species near *abbreviatus* Fab.
 3516 *vernus* Say.
 9932 *lubricans* Casey.
 3576 *Saprinus pectoralis* Lec.
 3605 *neglectus* Mars.
 3608 *lubricus* Lec.
 3610 *fimbriatus* Lec.

Family TROGOSITIDÆ.

- 3833 *Trogosita virescens* Fab.
 3841 *Tenebriodes sinuata* Lec.
 Hesperobænus yuccæ Sz.

Family PARNIDÆ.

- 3920 *Dryops productus* Lec. At both camps.

Family ELATERIDÆ.

- 4064 *Anelastes drurii* Kirby.
 Adelocera mexicana Candize.
 4090 *Chalcolepidius smaragdinus* Lec.
 10035 *behrensi* Cand.
 tartarus Fall.
 snowi Casey. New species. Bill Williams fork, 1903.
 idoneus Casey. New species. Bill Williams fork, 1903.
 arizonicus Casey. New species. Bill Williams fork, 1903.
 abdominalis Casey. New species. Bill Williams fork,
 1903.
 simulans Casey. New species. Bill Williams fork, 1903.
 rectus Casey. New species. San Bernardino ranch,
 1905.
 ostentus Casey. New species. Congress Junction and
 Bill Williams fork, 1903.
 [The above seven new species of *Chalcolepidius*
 are described from my material in the *Can-*
 adian Entomologist for February, 1907.]
 4092 *Alaus lusciosus* Hope.
 4113 *Cardiophorus tenebrosus* Lec.
 aptopoides Cand.
 Horistonotus, new species.
 4128 *simplex* Lec.
 4135? *Esthesopus præditus* Horn.
 4136 *parcus* Horn.
 4137 *dispersus* Horn.
 new species.
 undetermined species.
 Aptopus spadiceus?
 Anchastus, undetermined species.
 4181 *Monocrepidius lividus* De G.
 4185 *vespertinus* Fab.

Family ELATERIDÆ.

- 4187 *Monocrepidius* *lathoides* Lec.
 4188 *sordidus* Lec.
 elegans. San Bernardino ranch, 1905.
 4194 *Dicrepidius corvinus* Cand.
 Ludius peninsularis Champ. ?
 42772 *hepaticus* Germ.
 Agriotes, undetermined species.
 4306 *Melanotus macer* Lec.
 4322 *fissilis* Say.
 4323 *communis* Gyll.

Family BUPRESTIDÆ.

- Agæocera*, undetermined species.
 4575a *Psiloptera webbii* Lec.
 Dicerca, undetermined species. Tucson.
 4636 *Chrysobothris octocola* Lec.
 4656 *gemmata* Lec.
 10085 *merkelii* Horn.
 4672 *Thrincopyge ambiens* Lec.
 4675 *Polycesta velasco* L. & G.
 Acmæodera conoidea Fall.
 4708 4-vittata Horn.
 10107 *delumbis* Horn.
 undetermined species. San Bernardino ranch, 1905.
 4737 *Agrilus addendus* Cr.
 4749 *obolinus* Lec.
 undetermined species.

Family LAMPYRIDÆ.

- 4768 *Lycus cruentus* Lec.
 4769 *fernandezii* Duges.
 4772 *Lycostomus loripes* Chev.
 4817 *Pyropyga fenestralis* Melsh. Tucson.
 4845 *Microphotus dilatatus* Lec.
 4862 *Spathizus bicolor* Lec.
 Polemius, undetermined species.

Family MALACHIDÆ.

- 5013 *Collops vittatus* Say.
 regularis Gorh. San Bernardino ranch, 1905.
 5061 *Attalus rufiventris* Horn.
 5077 *Pristoscelis convergens* Lec. San Bernardino ranch, 1905.

Family CLERIDÆ.

- 5131 *Cymatodera puncticollis* Bland.
 5134 *cylindricollis* Chev.
 5135 *brunnea* Mels.
 5142 *morosa* Lec.
 5151 *ovipennis* Lec.
 peninsularis Schaeffer.

Family CLERIDÆ.

Cymatodera latefascia Schaeffer.

umbrina Fall.

subsimilis Wolcott. New species.

5164 Clerus spinolæ Lec.

Hydrocena cincta Spin.

5230 Necrobia rufipes Fab. Tucson.

Family PTINIDÆ.

10150 Ctenobium cinereum Horn.

5338 Sinoxylon simplex Horn.

5340 sericans Lec.

5354 Amphicerus fortis Lec.

Family SCARABÆIDÆ.

5432a Canthon corvinus Horn.

5437 indigaceus Lec.

5445 Copris remotus Lec.

5448 carolina Linn.

5461 Onthophagus velutinus Horn.

new species.

Atænius haroldi Steinbeil. San Bernardino ranch, 1905.

5529 Aphodius vittatus Say.

5581 Ochodæus biarmatus Lec.

5617 Trox punctatus Germ. Both camps.

5701 Diplotaxis popino Casey.

three undetermined species.

near tristis Kirby.

5713 mœrens Lec.

5722 atratula Lec.

Lachnosterna labidens Schaeffer?.

10261 vetula Horn.

10270 lenis Horn. San Bernardino ranch, 1905.

5804 Phytalus debilis Horn.

5809 Listrochelus scoparius Lec. B. and T.

5812 mucoreus Lec.

5832 Anomala centralis Lec.

5846 Pelidnota lugubris Lec.

5859 Cyclocephala longula Lec.

5862 villosa Burm.

comata Bates.

5865 dimidiata Burm.

5870 Ligyrus ruginasus Lec.

5891 Phileurus illatus Lec.

5893 Allorhina mutabilis Gory.

Gymnetis impius Fall.

5898 Euphoria verticalis Horn.

5903 devulsa Horn.

5907 leucographa Gory.

holochloris Fab.

5919 Cremastochilus ineptus Horn.

mexicanus Schaum.

Family CERAMBYCIDÆ.

- 5953 *Mallodon dasystomus* Say.
 5955 *serrulatus* Lec.
 5957 *Derobrachus geminatus* Lec.
 6026 *Hypexilis pallida* Horn.
 6032 *Axestinus obscurus* Lec.
 6036 *Osmidus guttatus* Lec.
 Peribacum reticolle Bates.
 6039 *Eburia ulkei* Bland.
 undetermined species.
 6055 *Elaphidion alienum* Lec.
 6059 *inerne* Newm.
 6067 *tenue* Lec.
 Aneflus, new species.
 6076 *protensus* Lec.
 6078 *Eustroma validum* Lec.
 6105 *Rhopalophora longipes* Say.
 6111 *Elytroleptus ignitus* Lec.
 6115 *Callichroma plicatum* Lec.
 6121 *Stenaspis verticalis* Serv.
 6122 *solitaria* Say.
 Metaleptus, new species.
 6126 *Tragidion annulatum* Lec.
 6135 *Æthecerus latecinctus* Horn.
 6145 *Oxoplus jocosus* Horn.
 10297 *Crossidius blandi* Casey. San Bernardino ranch, 1905.
 6160 *Ischnocnemis bivittatus* Dup.
 6370 *Monilema appressum* Lec.
 6372 *gigas* Lec. Both camps.
 6372 *semipunctatum* Lec.
 6410 *Cœnopœus palmeri* Lec.
 Leptostylus yuccæ Fall. New species. San Bernardino ranch, 1905.
 6433 *Dectes spinosus* Say. Tucson.
 6471 *Ataxia crypta* Say, var.
 10324 *Peritapnia fabra* Horn.

Family CHRYSOMELIDÆ.

- *Lema longipennis* Linell.
 6571 *balteata* Lec.
 6582 *Euryscopa lecontei* Cr. Both camps.
 parvula Jac.
 6584 *Coscinoptera æneipennis* Lec.
 6589 *mucorea* Lec.
 6593 *Megalostomis pyropyga* Lac.
 6594 *major* Cr.
 6596 *Babia 4-guttata* Oliv.
 6596b *tetraspilota* Lec.
 6597 *Saxinis apicalis* Lec.
 scutellaris Schaeffer. New species. San Bernardino ranch,
 1905. Described in the Bulletin Mus. Brooklyn Inst. Arts
 and Sciences, October, 1906.
 10346 *sonorensis* Jac.

Family CHRYSOMELIDÆ.

- 6600 *Urodera crucifera* Lac.
 Chlamys arizonensis Linell.
6605 *Exema conspersa* Mann.
 Cryptocephalus simulans Schaeffer. San Bernardino ranch, 1905.
 simulans Schaefer, var.
 basalis Suffr., var.
6651 *Griburius montezumæ* Suffr.
6690 *Pachybrachys atomarius* Melsh.
 new species.
 undet. species.
6747b *Paria 4-notata* Say.
 Nodonota arizonica Schaeffer. New species. San Bernardino ranch,
 1905. Described in the Bulletin Mus. Brooklyn Inst. Arts and
 Sciences, October, 1906.
10356 *Metachroma aterrimum* Horn. San Bernardino ranch, 1905.
6774 *Colaspis brunnea* Fab., var. Tucson.
6787 *Doryphora lineolata* Stal.
6792 *haldemani* Rog.
6794 *rubiginosa* Rog.
6797 *Zygogramma opifer* Stal.
6798 *continua* Lec.
6811 *dislocata* Rog.
6813 *tortuosa* Rog.
6816 *multiguttata* Stal.
 clathrata Jac.
 new species.
 Plagiodera purpurea Linell.
6836 *Lina arizonæ* Cr. Tucson.
 Androlyperus, new species.
 Andrector ruficornis Oliv. Tucson.
10383 *Scelolyperus flaviceps* Horn.
 Triarius, new species, or possibly a color variety of *T. lividus* Lec.
6861 *Diabrotica 12-punctata* Oliv. Both camps.
6883 *balteata* Lec. Tucson.
 two undetermined species.
 Cneorane mexicana? Jacoby.
6916a *Monoxia angularis* Lec.
6933 *Edionychis lugens* Lec., var.
10410 *tenuilineata* Horn.
 extrema Harold.
 two undetermined species.
6954 *Disonycha abbreviata* Melsh.
6962 *Haltica carinata* Germ., var. or perhaps a new species.
6966 *obliterata* Lec.
 undetermined species.
7063 *Microrhopala rubrolineata* Mann.
 Brachycoryne pumila Boh.
7098 *Cassida bivittata* Say.
 undetermined species. San Bernardino ranch, 1905.
7106 *Coptocycla lecontei* Cr.
 profligata Boh.

Family BRUCHIDÆ.

- 7137 *Bruchus prosopis* Lec. Tucson.
7149 *amicus* Horn. Both camps.

Family TENEBRIONIDÆ.

- 7183 *Eurymetopon emarginatum* Casey.
7200 *Epitragus submetallicus* Lec.
7204 *pruinus* Horn.
7219 *Zopherus tristis* Lec.
7238 *Cryptoglossa verrucosa* Lec. Tucson.
7243 *Centrioptera variolosa* Horn. Both camps.
7251 *Ologypus anastomosis* Say.
7255 *Asida mancipata* Horn.
7268 *parallela* Lec. Tucson.
7284a *rimata* Lec.
7307 *Eusattus reticulatus* Say.
7322 *Eleodes carbonaria* Say.
 form soror Lec. San Bernardino ranch, 1905.
7324 *quadricollis* Esch. Both camps.
7325 *humeralis* Lec.
7327 *extricata* Say.
7331 *longicollis* Lec.
10560 *wickhami* Horn.
7339 *nigrina* Lec.
7360 *subnitens* Lec.
 dissimilis, var. *nevadensis* Blaisdell.
 new species.
7379 *Argoporus costipennis* Lec.
10568 *alutacea* Casey.
7392 *Nyctobates subnitens* Horn.
7552 *Notibius gagates* Horn.
7517 *Platydemia inquilinum* Linell.
 undetermined species, near *ruficollis* Lap.
10631 *Strongylium atrum* Champ.

Family CISTELIDÆ.

- 10647 *Hymenorus grandicollis* Champ.
10653 *prolixus* Casey.
10678 *Telesicles caudatus* Champ. San Bernardino ranch, 1905.

Family LAGRIIDÆ.

- Statira defecta* Schaeffer.
 huachuchæ Schaeffer.

Family EDEMERIDÆ.

- 7739 *Oxaxis cana* Lec.
7743 *sericea* Horn. San Bernardino ranch, 1905.

Family MORDELLIDÆ.

- 7760 *Diclidia lætula* Lec.
 marginalis Say. San Bernardino ranch, 1905.
7847 *Mordellistena*, new species.

Family ANTHICIDÆ.

Stereopalpus impressicollis Casey?. San Bernardino ranch, 1905.

Notoxus curvitrachus Casey.

7938 *Anthicus sturmii* Laf.

7948 *confinis* Lec. Tucson.

Family MELOIDÆ.

8058 *Macrobasis pupurea* Horn.

8066 *lauta* Horn.

8067 *tenella* Lec.

8069 *segmentata* Say.

10733 *tenuilineata* Horn.

8089 *insignia* Horn. San Bernardino ranch, 1905.

8991 *Epicauta pardalis* Lec. Both camps.

alastor Skinner.

 undetermined species.

8110 *Pyrota postica* Lec.

10748 *Tegrodera latecincta* Horn. Tucson.

Family RHIPIDORHYNCHIDÆ.

8183 *Myodites scaber* Lec.

Family OTIORHYNCHIDÆ.

8249 *Eupagoderes sordidus* Lec.

8250 *argentatus* Lec. Tucson.

8315 *Pandeletejus cinereus* Horn.

8338 *Coleocerus marmoratus* Horn.

Family CURCULIONIDÆ.

8373 *Apion sordidum* Smith.

8500 *Lixus perforatus* Lec.

10860 *Dinocleus denticollis* Casey.

8571 *Endalus limatulus* Gyll. San Bernardino ranch, 1905.

8603 *Otidocephalus vittatus* Horn.

8607 *chevrolatii* Horn.

8654 *Anthonomus hirtus* Lec. Tucson.

11056 *Tychius hispidus* Casey.

8749 *Chalcodermus spinifer* Horn.

8760 *Acalles prosus* Lec.

Cryptorhynchus, undetermined species.

Zascelis oblonga.

8807 *Zygops seminiveus* Lec.

8868 *Baris strenua* Lec. San Bernardino ranch, 1905.

8886 *Pseudobaris farcta* Lec.

Stictobaris, new species. San Bernardino ranch, 1905.

Family CALANDRIDÆ.

8973 *Scyphophorus acupunctatus* Gyll.

 undetermined species.

 Calandrid, undetermined genus and species, near *Nyssonotus*.

Sphenophorus, undetermined species, near *oblitus* Lec. San Bernardino ranch, 1905.

 undetermined species, near *mormonus* Chittenden. San Bernardino ranch, 1905.

Family ANTHRIBIDÆ.

9221? *Cratoparis lunatus* Fab.
undetermined species.

SUMMARY OF FAMILIES AND SPECIES OF COLEOPTERA.

Cicindelidæ.....	5	Malachidæ	4
Carabidæ	45	Cleridæ	12
Dytiscidæ.....	11	Ptinidæ	4
Gyrinidæ.....	2	Scarabæidæ.....	39
Hydrophilidæ.	6	Cerambycidæ.....	34
Silphidæ	1	Chrysomelidæ.....	63
Staphylinidæ.....	7	Bruchidæ.....	2
Scaphidiidæ	1	Tenebrionidæ	29
Phalacridæ.....	1	Cistelidæ.....	3
Coccinellidæ.....	8	Lagriidæ.....	2
Endomychidæ	1	Ædemeridæ.....	2
Erotylidæ	1	Mordellidæ.....	3
Cryptophagidæ.....	1	Anthicidæ.....	4
Dermestidæ.....	5	Meloidæ.....	11
Histeridæ.....	9	Rhipiphoridæ.....	1
Trogositidæ.....	3	Otiorhynchidæ	4
Parnidæ.....	1	Curculionidæ	16
Elateridæ.....	35	Calandridæ.....	5
Buprestidæ.....	15	Anthribidæ.....	2
Lampyridæ	7		

Totals: Families, 39; species, 395.

II.—LIST OF LEPIDOPTERA.

My grateful acknowledgments for assistance in the determination of species in this order are hereby tendered to Dr. Henry Skinner, Dr. H. G. Dyar, Prof. John B. Smith, Dr. W. G. Dietz, Mr. W. D. Kearfott, and Mr. G. W. Taylor.

The locality is the Baboquivari, mountains unless otherwise stated.

Numbers according to Smith's check-list of 1903.

Family NYMPHALIDÆ.

- 103 *Melitæa chara* Edw.
- 113 *definita* Aaron.
- 137a *Synchlœ crocale* Edw.
- 158 *Pyrameis cardui* Linn.
- 160a *Junonia negra* Feld.
- 182a *Heterochroa californica* Butl.
- 185 *Apatura leilia* Edw.
- 205 *Neonympha rubricata* Edw.

Family LIBYTHEIDÆ.

- 255a *Libythea bachmani* Kirtl.

Family ERYCINIDÆ.

- 257 *Lemonias duryi* Edw.
 261 *palmerii* Edw.
 265 *Calephelis australis* Edw.

Family LYCÆNIDÆ.

- 283 *Thecla melinus* Hbn.
 303 *blenina* Hew.
 311 *leda* Edw.
 387 *Lycæna isola* Reak. Tucson.
 388 *gyas* Edw. Tucson.
 393 *exilis* Edw.
 394 *marina* Reak.

Family PAPILIONIDÆ.

- 423 *Catopsilia eubule* Linn.
 433 *Colias cæsonia* Stoll.
 453 *Terias mexicana* Bdv.
 454 *nicippe* Cram. Tucson.
 469 *Papilio philenor* Linn.
 473 *bairdii* Edw.
 485 *daunus* Bdv.

Family HESPERIDÆ.

- 495 *Copæodes waco* Edw.
 495a *procris* Edw.
 604 *Amblyscirtes ænus* Edw.
 620 *Pyrgus nessus* Edw.
 occidentalis Skinner.
 640 *Nisoniades clitus* Edw.
 645 *Systasea pulverulenta* Feld.
 649 *Pholisora catullus* Fabr.
 652 *ceos* Edw.
 661 *Eudamus pylades* Scudd.
 666 *hippalus* Edw.
 687 *Heteropia melon* Gdm. and Salv., var. *arizonensis* Skinner.

Family SPHINGIDÆ.

- 725 *Amphion nessus* Cram.
 729 *Deilephila lineata* Fabr.

Family SATURNIIDÆ.

- 814 *Agapema galbina* Clem.

Family CERATOCAMPIDÆ.

- 829 *Adelocephala heiligbrodtii* Harv.

Family SYNTOMIDÆ.

Syntomeida benta Skinner. New species. Described in *Entomological News*, December, 1906.

- 866 *Ctenucha venosa* Wlk. Tucson.

Family ARCTIIDÆ.

- 921 *Ptychoglene coccinea* Hy. Edw.
 950 *Estigmene acræa* Dru.
 1005 *Euchætias murina* Stretch.
 bolteri Stretch. San Bernardino ranch, 1905.
 1016 *Pygarcia elegans* Stretch.
 1038 *Eupseudosoma involutum* Sepp. San Bernardino ranch, 1905.
 1041 *Calidota zella* Dyar.

Family AGARISTIDÆ.

- 1059 *Alypiodes bimaculata* H.-S.
 1066 *Copidryas gloveri* G. & R.

Family NOCTUIDÆ.

- Cyathissa quadrata* Sm. New species.
 1260 *Perigæa albolabes* Grt.
 1359 *Hadena indirecta* Grt. Oak Creek canyon, 1904.
 1372 *smaragdina* Neum.
 1453 *Laphygma flavimaculata* Harv.
 Aleptina flavomedia Sm. New species.
 1642 *Peridroma rudens* Harv.
 2148 *Trichoclea decepta* Grt. San Bernardino ranch, 1905.
 2149 *nova* Sm. San Bernardino ranch, 1905.
 2161 *Leucania unipunctata* Harv.
 2478 *Trileuca buxea* Grt. Tucson.
 2542 *Schinia sexplagiata* Sm. San Bernardino ranch, 1905.
 2548 *unimaculata* Sm.
 2563 *tertia* Grt. San Bernardino ranch.
 accessa Smith. New species. San Bernardino ranch, 1905.
 2645 *Oxycnemis advena* Grt.
 2660 *Neumœgenia poetica* Grt.
 2661 *Narthecophora pulverea* Sm. Tucson.
 2688 *Plusiodonta compressipalpis* Gn.
 Ogdoconta altura Barnes.
 2811 *Pleonectyptera habitalis* Wlk.
 new species.
 2842 *Erastria propera* Grt.
 2852 *Azenia edentata* Grt.
 2863 *Xanthoptera clausula* Grt.
 2864 *semiflava* Gn.
 2869 *Thalpochares daria* Druce.
 2871 *fortunata* Grt.
 2872 *perita* Grt.
 2877 *Tripudia pipara* Hy. Edw.
 2905 *Acontia expolita* Grt.
 2912 *biplaga* Gn.
 2916 *quadriplaga* Sm.
 2924 *elegantula* Harv. Tucson.
 2933 *libedis* Sm.
 alata Sm.
 2937 *Fruva fasciatella* Grt.

Family NOCTUIDÆ.

- 2946 *Spragueia plumbifimbriata* Grote.
 2950 *funeralis* Grote.
 2953 *tortricina* Zeller. Taken also at Tucson.
 2971 *Parora texana* Sm.
 Isogona segura Barnes.
 3003 *Euclidia dyari* Sm.
 3008 *Melipotis nigrescens* G. & R.
 3009 *pallescens* G. & R.
 3010 *perlæta* Hy. Edw.
 3019 *Cirrhobolina deducta* Morr.
 3020 *mexicana* Behr.
 3021 *vulpina* Hy. Edw.
 3191 *Heteranassa fraterna* Sm.
 3192 *minor* Sm.
 3202 *Yrias clientis* Grt.
 3204 *volucris* Grt.
 3205 *repentis* Grt.
 strigalis Smith.
 3235 *Erebus odora* Linn.

Family NOTODONTIDÆ.

Notodonta, new species.

Dasylophia zethus Druce. San Bernardino ranch, 1905. New to United States.

- 3396 *Heterocampa lunata* Hy. Edw. San Bernardino ranch, 1905.
 pyrrha Druce.
 3428 *Gluphisia septentrionalis* Wlk. San Bernardino ranch, 1905.
 Notela jaliscana Schaus.
 Hapigia xolotl Druce.

Family LIPARIDÆ.

Archylus tener Druce.

Family GEOMETRIDÆ.

- 3610 *Coryphista meadii* Pack. Oak Creek canyon, 1904.
 3619 *Phylace luteolata* Hulst. Oak Creek canyon, 1904.
 3638 *Zenophleps lignicolorata* Pack. Oak Creek canyon, 1904.
 3680 *Hydriomena mirabilata* Grt. Oak Creek canyon, 1904.
 3690 *Cœnocalpe aurata* Grt. Oak Creek canyon, 1904.
 3691 *magnoliata* Gn. Oak Creek canyon, 1904.
 3697 *polygrammata* Hulst. San Bernardino ranch, 1905.
 3760 *Cosymbia pannaria* Gn. San Bernardino ranch, 1905.
 3796 *Eois demissaria* Hbn. San Bernardino ranch, 1905.
 3805 *ossularia* Hbn. Taken also at San Bernardino ranch, 1905.
 3808 *balistaria* Gn. San Bernardino ranch, 1905.
 3809 *rufescens* Hulst. San Bernardino ranch, 1905.
 3838 *Chlorochlamys chloroleucaria* Gn. San Bernardino ranch, 1905.
 3857 *Synchlora denticulata* Walker. San Bernardino ranch, 1905.
 3878 *Fernaldella fimetaria* G. & R.
 3893 *Chloraspilates bicoloraria* Pack. San Bernardino ranch, 1905.
 3916 *Deilinia behrensaria* Hulst., var? Oak Creek canyon, 1904; also, at San Bernardino ranch, 1905.

Family GEOMETRIDÆ.

- 3929 *Sciagraphia punctolineata* Pack.
 3948 *Macaria s-signata* Pack. Taken also at San Bernardino ranch, 1905.
 near mendicata Hulst. San Bernardino ranch, 1905.
 4081 *Alcis obliquaria* Grote. San Bernardino ranch, 1905.
 4085 *haydenata* Pack. Oak Creek canyon, 1904.
 4096 *Meris alticola* Hulst. Oak Creek canyon, 1904.
 4102 *Tornos scolopacinarius* Green. Tucson.
 4103 *abjectarius* Hulst.
 4106 *Glaucina pygmeolaria* Grt.
 puellaria Dyar.
 Sabulodes, undetermined species. San Bernardino ranch, 1905.
 4276 *Metanema vanusaria* Strck. Oak Creek canyon, 1904.
 4289 *Stenispilates meskearia* Pack. San Bernardino ranch, 1905.

Family LIMACODIDÆ.

- 4419 *Euclea pænulata* Clem.?
 incisa Harr. San Bernardino ranch, 1905.
 4436 *Prolimacodes trigona* Hy. Edw.
 Limacodes oropeso.

Family MEGALOPYGIDÆ.

- 4448 *Megalopyge opercularis* S. & A.

Family PYROMORPHIDÆ.

- 4458 *Tripocris fusca* Hy. Edw.
 4461 *constans* Hy. Edw.

Family THYRIDÆ.

Dysodia, new species.

Family PYRALIDÆ.

- 4629 *Glaphyria reluctalis* Hulst.
 4634 *Symphysa eripalis* Grt. San Bernardino ranch, 1905.
 simplicialis Kearfott. New species. San Bernardino ranch,
 1905. Described in *Entomological News*, January, 1907.
 4651 *Diastictis fracturalis* Zell.
 4680 *Agathodes monstrialis* Gn.
 4692 *Hellula undalis* Fab. San Bernardino ranch, 1905.
 4694 *Terastia metriculosalis* Gn.
 4718 *Loxostege helvialis* Wlk. Both camps, and at San Bernardino ranch,
 1905.
 4729 *albicerialis* Grt. San Bernardino ranch, 1905.
 4731 *labeculalis* Hulst.
 4741 *ophionalis* Wlk. Bill Williams fork, 1903, and Tucson.
 4766 *Titanio helianthialis* Murtf. Tucson and Bill Williams fork, 1903, and
 San Bernardino ranch, 1905.
 4780 *Phlyctænia extricalis* Gn. San Bernardino ranch, 1905.
 4827 *Pyrausta tyralis* Gn.
 4849 *Noctuelia thalialis* Wlk.
 4871 *Elophila fulcalis* Clem. Bill Williams fork, 1903, and San Bernardino
 ranch, 1905.
 schaefferalis Dyar. Oak Creek canyon, 1904.

Family PYRALIDÆ.

- 4906 *Acallis griphalis* Hulst.
 4914 *Schoenobius sordidellus* Zinck. San Bernardino ranch, 1905.
 4917 *mellinellus* Clem. Bill Williams Fork, 1903, and San Bernardino ranch, 1905.
 4924 *Prionapteryx achatina* Zell.
 baboquivariella Kearfott. New species.
 4964 *Crambus coloradellus* Fern.
 near *haustuellus*. San Bernardino ranch, 1905.
 new species.
 4984 *Thaumatopsis magnifica* Fern.
 4991 *Ommatopteryx ocella* Haw. San Bernardino ranch, 1905, and Tucson.
 4994 *Argyria argentana* Martyn.
 5008 *Dicymolomia metalliferalis* Pack. San Bernardino ranch, 1905.
 5021 *Cacozelia basiochrealis* Grt.
 5024 *Jocara dentilineella* Hulst.
 5027 *Yuma trabalis* Grt.
 5029 *Benta asperatella* Clem.
 5030 *melanogrammos* Zell.
 5046 *Attacapa callipeplella* Hulst. San Bernardino ranch, 1905.
 5164 *Elasmopalpus lignocellus* Zell. Tucson.
 5176 *Epischnia boisduvaliella* Gn.? San Bernardino ranch, 1905.
 5182 *Getulia flavidorsella* Rag.
 5201 *Melitara fernaldalis* Hulst.
 5206 *Zophodia glaucatella* Hulst.
 polingella Dyar.
 5230 *Heterographis morrisonella* Rag. San Bernardino ranch, 1905.
 5253 *Homœosoma electellum* Hulst. San Bernardino ranch, 1905.
 5263 *Ephestioides gilvescentella* Rag.
 5278 *Plodia interpunctella* Hbn. San Bernardino ranch, 1905.
 5279 *Ragonotia dotalis* Hulst. San Bernardino ranch, 1905.
 5295 *Saluria dichroella* Rag.

Family PTEROPHORIDÆ.

- 5347 *Alucita belfragei* Fish. Tucson.

Family TORTRICIDÆ.

- 5410 *Bactra furfurana* Haw.
 5484 *Eucosma bolanderana* Wlsm.
 5533 *pulveratana* Wlsm. Bill Williams fork, 1903, and San Bernardino ranch, 1905.
 5537 *constrictana* Zell. San Bernardino ranch, 1905.
 5539 *solicitana* Wlk. San Bernardino ranch, 1905.
 5541 *strenuana* Wlk. San Bernardino ranch, 1905.
 5542 *perplexana* Fern. San Bernardino ranch, 1905.
 5553 *scudderiana* Clem. San Bernardino, 1905.
 5582 *Cydia perangustana* Wlsm. San Bernardino ranch, 1905.
 5599 *rössleri* Zell. San Bernardino ranch, 1905.
 5639 *Epinotia crispana* Clem. Also at San Bernardino ranch, 1905.
 5792 *Archips virescana* Clem. San Bernardino ranch, 1905.

Family YPONOMEUTIDÆ.

- 6040 *Plutella maculipennis* Curt. San Bernardino ranch, 1905.
 yumatella Kearfott. New species. San Bernardino ranch,
 1905. Described in *Canadian Entomologist*, January, 1907.

Family GELECHIIDÆ.

- 6160 *Phthorimæa operculella* Zell. Also at San Bernardino ranch, 1905.
 6228 *Gelechia albilorella* Zell.
 6233 *pauella* Busck.
 6240 *striatella* Busck.
 6251 *lindenella* Busck. Also at San Bernardino ranch, 1905.
 6345 *Trichotaphe inversella* Zell.
 simpliciella Busck.
 6366 *Ypsolophus eupatoriellus* Cham.

Family BLASTOBASIDÆ.

- Holcocera arizoniella* Kearfoot. New species. San Bernardino ranch,
 1905. Described in *Canadian Entomologist*, January, 1907.

Family CECOPHORIDÆ.

- 6453 *Ethmia marmorea* Wlsm.

Family ELACHISTIDÆ.

- 6654 *Scythris trivinctella* Zell. Bill Williams fork, 1903, and San Bernardino
 ranch, 1905.

Family TINEIDÆ.

- Amydrya confusella* Dietz. San Bernardino ranch, 1905.
 arizonella Dietz. San Bernardino ranch, 1905.
 marjoriella Dietz. San Bernardino ranch, 1905.
 crescentella Kearfott. New species. Described in *Can-*
 dian Entomologist, January, 1907.
Setomorpha operosella Zell. San Bernardino ranch, 1905.
Eulepiste cockerellii Dyar. San Bernardino ranch, 1905.
 7119 *maculifer* Wlsm.
 7129 *Acrolophus simulatus* Wlsm.
 7134 *Anophora popeanella* Clem. Bill Williams fork, 1903, and San Ber-
 nardino ranch, 1905.
 7138 *Ortholophus variabilis* Wlsm. Also at Bill Williams fork, 1903, and
 San Bernardino ranch, 1905.
 7139 *Felderia filicicornis* Wlsm.
 7141 *Pseudanophora davisellus* Beut.

SUMMARIES OF FAMILIES AND SPECIES.

Nymphalidæ	8	Geometridæ	30
Libytheidæ	1	Limacodidæ	4
Erycinidæ	3	Megalopygidæ	1
Lycænidæ	7	Pyromorphidæ	2
Papilionidæ	7	Thyridæ	1
Hesperidæ	12	Pyalidæ	47
Sphingidæ	2	Pterophoridæ	1
Saturnidæ	1	Tortricidæ	12
Ceratocampidæ	1	Yponomeutidæ	2
Syntomidæ	2	Gelechiidæ	8
Arctiidæ	7	Blastobasidæ	1
Agaristidæ	2	Cecophoridæ	1
Noctuidæ	56	Elachistidæ	1
Notodontidæ	7	Tineidæ	12
Liparidæ	1		

Totals: Families, 29; species, 240.

III.—LIST OF HEMIPTERA-HETEROPTERA.

For the determination of species in this order the author is indebted to Mr. E. P. Van Duzee.

Numbers according to Uhler's check-list.

Family SCUTELLERIDÆ.

27 *Sphyrocoris punctellus* Stal.

Family CORIMELÆNIDÆ.

53 *Corimelæna nitiduloides* Wolff.

58 *extensa* Uhl.

64 *nigra* Dallas.

Family CYDNIDÆ.

75 *Cyrtomenus mirabilis* Perty.

104 *Pangæus spangbergi* Sign.?

Family PENTATOMIDÆ.

140 *Perillus confluens* H.-Sch.

146 *Mineus strigipes* H.-Sch.?

186 *Brochymena arborea* Say.

192 *obscura* H.-Sch.

201 *Discocephala clypeata* Stal.

Hymenarcys crassa Uhl.

294 *Trichopepla semivittata* Say.

300 *Thyanta custator* Fab. Tucson.

303 *rugulosa* Say, var.

Family COREIDÆ.

440 *Pachylis gigas* Burm.

446 *Mozena lineolata* H.-Sch.

447 *lunata* Burm.

Family COREIDÆ.

- 482 *Acanthocephala granulosa* Dallas.
 493 *Leptoglossus zonatus* Dallas.
 501 *Narnia pallidicornis* Stal.
 snowi Van D. New species. San Bernardino ranch, 1905.
 Described in *Canadian Entomologist*, January, 1907.
 527 *Anasa armigera* Say. Tucson.
 507 *Chelinidea vittigera* Uhl. Also at Tucson.
 560 *Hyalymenus tarsatus* Fab.
 563 *Alydus calcaratus* Fab.
 setosus Van D. New species.
 587 *Harmostes reflexulus* Stal.
 595 *Corizus hyalinus* Fab. Tucson.

Family BERYTIDÆ.

- Jalysus wickhami* Van D. New species.

Family LYGÆIDÆ.

- 658 *Ligyrocoris sylvestris* Linn.
 715 *Lygæus facetus* Say.
 743 *bicolor* H.-Sch.
 752 *reclivatus* Say.
 753 *turcicus* Fab.
 759 *Oncopeltus fasciatus* Dallas.
 Lygæosoma solida Uhl.

Family PYRRHOCORIDÆ.

- 766 *Largus succinctus* Linn.
 773 *Arhapse carolina* H.-Sch.
 779 *Dysdercus obliquus* H.-Sch.

Family CAPSIDÆ.

- 847 *Phytocoris eximius* Reut.
 860 *Calocoris rapidus* Say. Tucson.
 863 *superbus* Uhl. Tucson.
 864 *fulvomaculatus* De G. Tucson.
 892 *Lygus scutellatus* Dist. Tucson.
 902 *Pæciloscytus basalis* Reut. Tucson.

Family ARADIDÆ.

- 1106 *Brachyrhynchus mœstus* Stal.

Family PHYMATIDÆ.

- 1118 *Phymata wolffii* Stal.

Family NABIDÆ.

- 1144 *Coriscus ferus* Linn. Tucson.

Family REDUVIDÆ.

- Sinea rileyi* Montcl.
 complexa Caud. At both camps.
 1152 *diadema* Fab. Tucson.
 1197 *Diplodus exsanguis* Stal. Tucson.
 1209 *Pindus socius* Uhl.

Family REDUVIDÆ.

- 1212 *Apiomerus subpiceus* Stal.?, possibly *immundus* Bergr.
 1214 *crassipes* Fab.
 1218 *ventralis* Say.
 spissipes Say.
 longispinus Champ.
 Homalocoris minutus Mayr.
 1232 *Rasahus thoracicus* Stal.
 1248 *Conorhinus variegatus* Drury.
 maximus Uhl.
 Reduvius senilis Van D. New species.

Family HYDROBATIDÆ.

- 1302 *Hygrotrechus remigis* Say.

Family GALGUDIDÆ.

- 1357 *Gelastocoris oculatus* Fab.
 undetermined species.

Family BELOSTOMATIDÆ.

- Pedinocoris* sp. Tucson.

Family NOTONECTIDÆ.

- 1401 *Notonecta mexicana* Am. et S.

Family CORIXIDÆ.

- Corixa*, two species.

SUMMARY OF FAMILIES AND SPECIES OF HEMIPTERA-HETEROPTERA.

Scutelleridæ.....	1	Aradidæ.....	1
Corimelænidæ.....	3	Phymatidæ.....	1
Cydnidæ.....	2	Nabidæ.....	1
Pentatomidæ.....	9	Reduviidæ.....	15
Coreidæ.....	14	Hydrobatidæ.....	1
Berytidæ.....	1	Galgulidæ.....	2
Lygæidæ.....	7	Belostomatidæ.....	1
Pyrrhocoridæ.....	3	Notonectidæ.....	1
Capsidæ.....	6	Corixidæ.....	2

Totals: Families, 18; species, 71.

IV.—LIST OF ORTHOPTERA.

The author hereby expresses his grateful acknowledgments to Mr. J. A. G. Rehn, of the Philadelphia Academy of Natural Sciences, for the determination of a large portion of the material in this order of insects. This list includes all the Arizona species collected by the expeditions of 1902, 1903, 1904, 1905, and 1906.

Family FORFICULIDÆ.

Apterygida linearis Esch. San Bernardino ranch.

Family BLATTIDÆ.

Pseudomops oblongata Linn. San Bernardino ranch.

Stylopyga orientalis Linn. San Bernardino ranch.

Homœogamia bolliana Sauss. Oak creek canyon, Baboquivari mountains.

erratica Rehn. New species. San Bernardino ranch, Baboquivari mountains.

Family MANTIDÆ.

Litaneutria minor Scudd. San Bernardino ranch, Baboquivari mountains, Bill Williams fork, Cactus plain.

Vates paracysis Sauss. Baboquivari mountains.

Stagmomantis limbata Hahn. Bill Williams fork, San Bernardino ranch.

gracilipes Rehn. New species. Baboquivari mountains.

Family PHASMIDÆ.

Diapheromera arizonensis Caud. San Bernardino ranch.

Pseudosermyle truncata Caud. San Bernardino ranch.

Family ACRIDIIDÆ.

Tettix granulatus Kirb. Oak Creek canyon.

Clypeotettix schochii Bol. Baboquivari mountains.

Paratettix toltecus Sauss. Oak Creek canyon, Bill Williams fork, San Bernardino ranch, Tucson.

toltecus Sauss, race *arizonus* Hanc. San Bernardino ranch, Bill Williams fork, Tucson.

toltecus Sauss, form *sonorensis* Hanc. Oak Creek canyon, Bill Williams fork, Tucson.

Telmatettix aztecus Sauss. Bill Williams fork, Baboquivari mountains, Tucson.

Achurum acridodes Stal. Baboquivari mountains.

Mermiria bivittata Serv. San Bernardino ranch.

neomexicana Thom. Baboquivari mountains.

texana Brun. Oak Creek canyon.

admirabilis Uhl. San Bernardino ranch, Baboquivari mountains.

Syrbula fuscovittata Thom. San Bernardino ranch, Baboquivari mountains.

Acrocara maculipennis Scudd. San Bernardino ranch.

Eritettix variabilis Brun. San Bernardino ranch.

Bootettix argentatus Brun. Bill Williams fork.

Amphitornus ornatus McNeill. Oak Creek canyon, Baboquivari mountains.

Opeia testacea Scudd. San Bernardino ranch.

Family ACRIDIIDÆ.

- Cordillacris pima* Rehn. New species. Baboquivari mountains.
Orphulella compta Scudd. Bill Williams fork, San Bernardino ranch.
Gomphocerus clepsydra Scudd. Oak Creek canyon.
Boopedon fuscum Brun. San Bernardino ranch.
Psoloessa buddiana Brun. Baboquivari mountains.
 maculipennis Scudd. Baboquivari mountains, San Bernardino ranch.
 texana Scudd. Baboquivari mountains.
Stirapleura pusilla Scudd. Baboquivari mountains.
Ageneotettix australis Brun. Baboquivari mountains.
Aulocara ellioti Thom. San Bernardino ranch.
 rufum Scudd. San Bernardino ranch, Baboquivari mountains.
Ligurotettix kunzei Caud. Bill Williams fork, Cactus plain.
Arphia aberrans Brun. Baboquivari mountains.
 arcta Scudd. Oak Creek canyon.
 crassa Brun. San Bernardino ranch.
Encoptolophus texensis Brun. San Bernardino ranch, Tucson.
Camnula pellucida Scudd. Oak Creek canyon, Humphrey's Peak, at base.
Hippiscus conspicuus Scudd. Baboquivari mountains.
 corallipes Hald. Baboquivari mountains, San Bernardino ranch.
Seyllina calida Brun. San Bernardino ranch, Baboquivari mountains.
Leprus cyaneus Ckll. Baboquivari mountains.
Dissosteira carolina Linn. Oak Creek canyon.
Spharagemon collare Scudd., var. *angustipenne* Morse. San Bernardino ranch.
Lactista osleri Caud. Tucson.
Tomonotus aztecus Sauss. Baboquivari mountains, San Bernardino ranch.
 ferrugineus Brun. Baboquivari mountains.
Derotmema delicatum Scudd. Bill Williams fork, San Bernardino ranch, Baboquivari mountains.
 haydeni Thom. Flagstaff, San Bernardino ranch, Bill Williams fork.
Trepidulus rosaceus McNeill. Bill Williams fork.
 melleolus Scudd. San Bernardino ranch.
Mestobregma plattei Thom. Baboquivari mountains.
 rubripennis Brun. Baboquivari mountains.
Conozoa carinata Rehn. New species. Tucson, Baboquivari mountains.
 sulcifrons Scudd. Bill Williams fork, Baboquivari mountains, Tucson.
Trimerotropis bruneri McNeill. Baboquivari mountains.
 cyanipennis Brun. Oak Creek canyon.
 fascicula McNeill. Oak Creek canyon, Humphrey's Peak, at base, Baboquivari mountains.
 laticincta Sauss. San Bernardino ranch, Flagstaff.
 modesta Brun. Oak Creek canyon.
 snowi Rehn. New species. (Trans. Kan. Acad. Sci., vol. XIX, p. 223.) Congress Junction.
 strenua McNeill. San Bernardino ranch.
 vinclata Scudd. Oak Creek canyon, San Bernardino ranch, Tucson, Baboquivari mountains.
Circotettix undulatus Thom. Oak Creek canyon, Humphrey's Peak, at base.

Family ACRIDIIDÆ.

- Anconia integra Scudd. Bill Williams fork.
 Heliastes aridus Brun. Bill Williams fork, San Bernardino ranch, Congress Junction, Baboquivari mountains.
 benjamini Caud. Baboquivari mountains.
 minimus Scudd. Bill Williams fork.
 Tytthotyle maculata Brun. Bill Williams fork.
 Brachystola intermedia Brun. San Bernardino ranch.
 Phrynotettix magnus Thom. San Bernardino ranch, Baboquivari mountains.
 Paropomala cylindrica Brun. San Bernardino ranch.
 Leptysma marginicollis Serv. Bill Williams fork.
 Schistocerca shoshone Thom. Bill Williams fork, San Bernardino ranch.
 vaga Scudd. Bill Williams fork, San Bernardino ranch, Tucson, Baboquivari mountains.
 venusta Scudd. Oak Creek canyon.
 Conalcoea huachucana Rehn. Baboquivari mountains.
 Hesperotettix festivus Scudd. Tucson, Baboquivari mountains.
 Æoloplus tenuipennis Scudd. Bill Williams fork.
 Melanoplus aridus Scudd. San Bernardino ranch.
 atlantis Riley. San Bernardino ranch, Baboquivari mountains.
 brownii Caud. Baboquivari mountains.
 canonicus Scudd. Bill Williams fork, Tucson.
 differentialis Uhl. San Bernardino ranch.
 femur-rubrum De G. San Bernardino ranch.
 flavescens Scudd. Bill Williams fork.
 flavidus Scudd. Oak Creek canyon, Bill Williams fork, San Bernardino ranch.
 olivaceus Scudd. Oak Creek canyon.
 spretus Uhl. Tucson, Baboquivari mountains.
 thomasi Scudd. San Bernardino ranch.
 yarrowi Thom. Bill Williams fork.
 Phœtaliothes nebrascensis Thom. San Bernardino ranch.
 Pœcilotettix sanguineus Scudd. Bill Williams fork.
 Dactylotum pictum Thom. Baboquivari mountains.

Family LOCUSTIDÆ.

- Hormilia elegans Scudd. San Bernardino ranch.
 Arethæa constricta Brun. Baboquivari mountains, Tucson.
 Scudderia furcifera Scudd. Oak Creek canyon.
 mexicana Sauss. Tucson, Baboquivari mountains.
 Amblycorypha huasteca Sauss. Oak Creek canyon.
 Microcentrum laurifolium Linn. Oak Creek canyon.
 Conocephalus mexicanus Sauss. Bill Williams fork.
 Xiphidium fasciatum De G. San Bernardino ranch.
 Capnobotes fuliginosus Thom. Congress Junction, San Bernardino ranch, Baboquivari mountains.
 Eremopedes ballii Caud. Oak Creek canyon, Baboquivari mountains.
 unicolor Scudd. San Bernardino ranch, Baboquivari mountains.
 Plagiostira gracilis Rehn. New species. (Trans. Kan. Acad. Sci., vol. XIX, p. 227.) Bill Williams fork.

Family LOCUSTIDÆ.

- Ateloplus notatus* Scudd. Bill Williams fork, Baboquivari mountains, Tucson.
Stenopelmatus oculatus Scudd. Oak Creek canyon, Humphrey's Peak, at base.
Ceuthophilus paucispinosus Rehn. New species. (Trans. Kan. Acad. Sci., vol. XIX, p. 227.) Oak Creek canyon.
Phrixocnemis franciscanus Rehn. New species. (Trans. Kan. Acad. Sci., vol. XIX, p. 228.) Humphrey's Peak, at base.
socorrensis Rehn. New species. (Trans. Kan. Acad. Sci., vol. XIX, p. 229.) Humphrey's Peak, at base.
Udeopsylla serrata Rehn. New species. (Trans. Kan. Acad. Sci., vol. XIX, p. 230.) Oak Creek canyon.

Family GRYLLIDÆ.

- Ellipes minuta* Scudd. San Bernardino ranch.
Tridactylus apicalis Say. Bill Williams fork.
Nemobius neomexicanus Scudd. San Bernardino ranch.
Gryllus armatus Scudd. San Bernardino ranch, Baboquivari mountains, Tucson.
pennsylvanicus Burm. Bill Williams fork.
personatus Uhl. San Bernardino ranch.
Miogryllus lineatus Scudd. Baboquivari mountains.
Œcanthus californicus Sauss.? Tucson, Baboquivari mountains.
quadripunctatus Reut. Bill Williams fork, Oak Creek canyon, San Bernardino ranch.

SUMMARY OF FAMILIES AND SPECIES OF ORTHOPTERA.

Forficulidæ.....	1	Acridiidæ.....	90
Blattidæ.....	4	Locustidæ.....	18
Mantidæ.....	4	Gryllidæ.....	9
Phasmidæ.....	2		

Totals: Families, 7; species 128.



Huntington, Snow Francis. 1906. "Results of the entomological collecting expedition of the University of Kansas to Pima County, Arizona in June and July, 1906." *Transactions of the Kansas Academy of Science* 20, 140–164.

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