

ADDITIONS TO THE LIST OF BIRDS KNOWN TO BE
PARASITIZED BY THE COWBIRDS.

BY HERBERT FRIEDMANN.¹

IN my book² on the Cowbirds I attempted to give a complete summary of what was then known of the host species of the various Cowbirds. Since then I have discovered a few overlooked records, and have accumulated many hundreds of unpublished cases based on material in several private collections. To the following gentlemen I take this opportunity of extending my hearty thanks for the data they have generously placed at my disposal: M. C. Badger of Santa Paula, California; J. Hooper Bowles of Tacoma, Washington; J. Parker Norris of Philadelphia, Pennsylvania; George Douglas Smooker of Trinidad, British West Indies. The present additions are not to be thought of as giving a touch of finality to the list of molothrine hosts. When the bird life of South America is as well known as that of North America, I have no doubt but that the wide-ranging neotropical *Molothrus bonariensis* will be known to parasitize many hundreds of other small passerine birds, and the list of its victims may eventually reach a total of 1,000 forms.

Molothrus bonariensis (GMELIN). SHINY COWBIRD.

To the 98 species and subspecies of birds previously listed as victims of the various races of the Shiny Cowbird, we may now add 25 others, bringing the total up to 123. The 25 additions are as follows:

- Synallaxis spixi* Sclater. Spix's Spine-tail.
Arundinicola leucocephala (Linn.). White-headed Marsh-tyrant.
Lichenops perspicillata andina Ridgway. Andean Silver-bill.
Knipolegus cyanirostris (Vieillot). Blue-billed Black Tyrant.
Myiophobus fasciatus fasciatus (Müller). Banded Brown Tyrant.
Helodytes albicilius (Bonaparte). White-faced Marsh Wren.
Troglodytes musculus bonariae Hellmayr. Uruguay House Wren.
Thryothorus rutilus Vieillot. Bar-throated Wren.

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² The Cowbirds. A Study in the Biology of Social Parasitism. 1929, C. C. Thomas, Springfield, Illinois.

Mimus gilvus gilvus (Vieillot). Graceful Mockingbird.
Thraupis ornata (Sparrman). Archbishop Tanager.
Pyrranga flava saira (Spix). Saira Red Tanager.
Ramphocelus brasilius (Linn.). Brazilian Scarlet Tanager.
Cyanocompsa cyanea minor (Cabanis). Venezuelan Blue Grosbeak.
Pitylus fuliginosus (Daudin). Gray Kernel-eater.
Sporophila minuta minuta (Linn.). Pygmy Seed-eater.
Emberizoides herbicola (Vieillot). Azara's Ground-Finch.
Sicalis flaveola flaveola (Linn.). Saffron Finch.
Sicalis flaveola holti Miller. Holt's Saffron Finch.
Coryphospingus pileatus pileatus (Wied). Pileated Finch.
Coryphospingus cucullatus araguira (Vieillot). Argentine Red-crested Finch.

Brachyspiza capensis matutina (Lichtenstein). Brazilian Chingolo.
Embernagra olivascens olivascens d'Orbigny. Olive Ground Finch.
Embernagra platensis paraguayensis Chubb. Paraguayan Ground Finch.
Amblyramphus holosericeus (Scopoli). Orange-headed Blackbird.
Agelaius icterocephalus (Linn.). Yellow-headed Marsh-bird.

Besides these a number of birds previously known as victims of one race of the Shiny Cowbird have since been found to be parasitized by other races as well. The total additions to be known hosts of the subspecies of *Molothrus bonariensis* are arranged by races of the parasite below.

M. b. bonariensis (GMELIN) SHINY COWBIRD.

Synallaxis spixi Selater. Spix's Spinetail.
Lichenops perspicillata andina Ridgway. Andean Silver-bill.
Knipolegus cyanirostris (Vieillot). Blue-billed Black Tyrant.
Troglodytes musculus bonariae Hellmayr. Uruguay House Wren.
Piranga flava saira (Spix). Saira Red Tanager.
Thraupis ornata (Sparrman). Archbishop Tanager.
Ramphocelus brasilius (Linn.). Brazilian Scarlet Tanager.
Emberizoides herbicola (Vieillot). Azara's Ground Finch.
Sicalis flaveola holti Miller. Holt's Saffron Finch.
Coryphospingus pileatus pileatus (Wied). Pileated Finch.
Coryphospingus cucullatus araguira (Vieillot). Argentine Red-crested Finch.

Brachyspiza capensis matutina (Lichtenstein). Brazilian Chingolo.
Pitylus fuliginosus (Daud.). Gray Kernel-eater.
Embernagra olivascens olivascens d'Orbigny. Olive Ground Finch.
Embernagra platensis paraguayensis Chubb. Paraguayan Ground Finch.
Amblyramphus holosericeus (Scopoli). Orange-headed Blackbird.

These 16 bring the total of host forms of *M. b. bonariensis* up to 100 species and subspecies.

M. b. minimus DALMAS. SMALL SHINY COWBIRD.

Arundinicola leucocephala (Linn.). White-headed Marsh-tyrant.
Myiophobus fasciatus fasciatus (Müller). Banded Brown Tyrant.
Thryothorus rutilus rutilus Vieillot. Bar-throated Wren.
Mimus gilvus gilvus (Vieillot). Graceful Mockingbird.
Sporophila minuta minuta (Linn.). Pygmy Seed-eater.
Agelaius icterocephalus (Linn.). Yellow-headed Marsh-bird.
Trupialis militaris militaris (Linn.). Marsh Starling.

The known victims of *M. b. minimus* now total 12 forms.

M. b. melanogyna STOLCZMANN. DARK SHINY COWBIRD.

Furnarius rufus rufus (Gmelin). Rufous Ovenbird.
Thraupis sayaca sayaca (Linn.). Blue Tanager.
Brachyospiza capensis matutina (Lichtenstein). Brazilian Chingolo.

These constitute the first and only known hosts of this cowbird.

M. b. cabanisii CASSIN. CABANIS' SHINY COWBIRD.

Heliodytes albicilius (Bonaparte). White-faced Marsh Wren.
Cyanocompsa cyanea minor (Cabanis). Venezuelan Blue Grosbeak.
Sicalis flaveola flaveola (Linn.). Saffron Finch.

Previously no victims of this Colombian race of the shiny cowbird were known.

In the following annotated list not only are all of the above host species taken up in greater detail, but also a number of others, about which a relatively great amount of new information has been compiled, are briefly treated in the light of present knowledge.

1. **Taraba major Kriegi** Laubmann. BOLIVIAN LARGE ANT-THRUSH.—I had previously listed five definite records of this bird under the name *P. m. major* as a molothrine victim in Tucuman, Argentina. Mr. J. Parker Norris writes me that he has 30 clutches of this Ant-thrush of which 19 contain eggs of *M. b. bonariensis*. All these are from Tucuman, all collected by Pablo Girard.

2. **Furnarius rufus rufus** (Gmelin). RUFIOUS OVENBIRD.—Schirch (Observações sobre a nidificação do algumas aves no Brazil, Boletim do Museu Nacional, iv, No. 4, 1928) found this bird parasitized by *M. b. melanogyna* at Rio de Janeiro. As previously recorded, the ovenbird is a common victim of the typical, Argentine race of the Shiny Cowbird.

3. **Synallaxis spixi** Selater. SPIX'S SPINETAIL.—One record. Pereyra (El Hornero, iv, 1927, p. 79) found an egg of the Shiny Cowbird (*M. b. bonariensis*) in a nest of this bird in Argentina. It is rather unusual for Cowbirds to enter one of these large domed nests, although they frequently hop around the outside and seem much interested.

4. **Arundinicola leucocephala** (Linn.). WHITE-HEADED MARSH TYRANT.—According to information sent me by Mr. G. D. Smooker this bird is a fairly common host of the small race of the Shiny Cowbird, *M. b. minimus*. He found several parasitized nests.

5. **Taenioptera irupero** (Vieillot). VIUDITA.—In the J. P. Norris collection there are two parasitized sets of this bird, both from Tucuman, Argentina, collected by Pablo Girard. I had previously found but a single record.

6. **Lichenops perspicillata andina** Ridgway. ANDEAN SILVER-BILL.—One record. Páfsler (Journ. f. Ornith., 1922, p. 480) records a nest with a Cowbird's egg (*M. b. bonariensis*) at Coronel, Chile.

7. **Knipolegus cyanostris** (Vieillot). BLUE-BILLED BLACK TYRANT—Chubb (Ibis, 1918, pp. 574-5), quoting W. Foster's field notes made at Sapucay, Paraguay, writes, ". . . a nest was taken from a banana plantation, where it had been neatly woven into one of the leaves; but even in this unusual place it was not free from the parasitic birds, as two eggs had been laid almost exactly resembling the eggs of the legitimate owner." Although it is not definitely stated that the parasitic birds were Cowbirds, they could not have been anything else, as the only other parasitic bird in Paraguay is the Rice Grackle, which would not make use of a nest of so small a bird, and whose eggs would have certainly stood out by virtue of their much greater size.

8. **Machetornis rixosa rixosa** (Vieillot). SHORT-WINGED TYRANT.—Previously known as a molothrine victim in Argentina, this Flycatcher is now also recorded in the same capacity in Paraguay.

9. **Elaenia albiceps** (Laf. et Orb.). D'ORBIGNY'S CRESTED FLYCATCHER.—One parasitized set from Tucuman, Argentina, now in the J. P. Norris collection, is the second record for this species, previously recorded in this connection only from Mendoza.

10. **Pitangus sulphuratus bolivianus** (Laf.). BIENVENTEO.—This large Tyrant Flycatcher was previously recorded as a host of the Shiny Cowbird only in Mendoza. Girard collected no fewer than six parasitized nests in Tucuman, now in the J. P. Norris collection.

11. **Myiophobus fasciatus fasciatus** (Müll.). BANDED BROWN FLYCATCHER.—Mr. Smooker informs me that he once found this bird victimized by *M. b. minimus* in British Guiana. I had previously recorded this bird as a victim of the Argentine race *M. b. bonariensis* on the basis of two records from Tucuman. To this may be added four more Tucuman records, now in the J. P. Norris collection. However, these Argentine records refer to the southern race of the Tyrant, *Myiophobus fasciatus flammiceps* (Temminck).

12. **Tyrannus melancholicus melancholicus** Vieillot. BELLICOSE TYRANT.—Previously known to be victimized by *M. b. bonariensis* in Argentina, it is now recorded in this capacity in Paraguay as well.

13. **Heleodytes albicillus** (Bonaparte). WHITE-FACED MARSH

WREN.—Mr. J. P. Norris has a set of three eggs of this wren with one of Cabanis' Cowbird (*M. b. cabanisi*) collected at Rio Frio, Dept. Magdalena, Colombia, May 26, 1927, by M. A. Carriker, Jr.

14. **Troglodytes musculus clarus** (Berlepsch & Hartert). TRINIDAD WREN.—I had previously listed this bird as a victim of *M. b. minimus* in Trinidad on the basis of Leotaud's account. It may be added that Mr. G. D. Smooker writes me that it is a very common victim in that island. Quelch (*Animal Life in British Guiana*, 1901, pp. 135-136) found it to be similarly frequently imposed upon in British Guiana.

15. **Troglodytes musculus bonariae** Hellmayr.—The records from near Buenos Aires previously listed as *T. musculus* refer to this race.

16. **Thryothorus rutilus rutilus** Vieillot. BAR-THROATED WREN.—G. D. Smooker writes me that this is a rather uncommon species in Trinidad, but that of four nests found with eggs, three were parasitized. Addled eggs of the Cowbird (*M. b. minimus*) only were found in five other nests. Another nest, possibly a false one, contained two fresh Cowbird's eggs before it was completed.

17. **Mimus gilvus gilvus** (Vieillot). GRACEFUL MOCKINGBIRD.—Smooker found a nest of this bird containing an egg of the Small Shiny Cowbird (*M. b. minimus*) in British Guiana.

18. **Geothlypis aequinoctialis velatus** (Vieillot). BRAZILIAN YELLOW-THROAT.—Snethlage and Schreiner (*Verh. vi, Inter. Ornith. Kongr.* 1926, publ. in 1929, p. 601) record an egg of *M. b. bonariensis* in a nest of this warbler in Brazil on December 14. (They refer to it as *Trichas canicapilla*.) Previously it was known as a host in Argentina (under the name *G. a. cucullata*).

19. **Thraupis ornata** (Sparman). ARCHBISHOP TANAGER.—Snethlage and Schreiner (*loc. cit.*, p. 601) found a parasitized nest on November 25, 1881, in Brazil. (They call this bird *Tachyphonus archiepiscopus* in their paper.)

20. **Piranga flava saira** (Spix). SAIRA RED TANAGER.—Skinner (*Oologists' Record*, iv, no. 1, 1924, p. 20) records this Tanager as a molothrine victim in Minas Geraes, Brazil.

21. **Ramphocelus brasilius** (Linn.). BRAZILIAN SCARLET TANAGER.—Snethlage and Schreiner (*loc. cit.*, p. 601) record this bird as a host of *M. b. bonariensis* in Brazil.

22. **Thraupis sayaca sayaca** (Linn.). BLUE TANAGER.—The Blue Tanager was previously known as a victim of the typical race of the Shiny Cowbird. Harrison (*Oologists' Record*, viii, no. 1, 1928) records a nest with two eggs of the tanager and one of the Cowbird at Rio de Janeiro. By locality, this record must refer to *M. b. melanogyna*.

23. **Cyanocompsa cyanea minor** (Cabanis). VENEZUELAN BLUE GROSBEEK.—One record—a set in the collection J. P. Norris, collected by M. A. Carriker, Jr., at Daldas, Colombia, June 9, 1918. It contains two eggs of the Grosbeak and one of Cabanis' Cowbird (*M. b. cabanisi*).

24. **Pitylus fuliginosus** (Daudin). GRAY KERNEL-EATER.—One record. Skinner (Oologists' Record, iv, no. 1, 1924, p. 20) lists this bird as a victim of *M. b. bonariensis* in Minas Geraes, Brazil.

25. **Sporophila caerulescens** (Bonn. et Vieill.). SCREAMING FINCH.—This little bird was previously known as a molothrine victim in Argentina. Devincenzi (Annales del Museo de Hist. Nat. de Montevideo, Serie ii, Tomo ii, Entrega i, pp. 95—96) has found it to be imposed upon in Uruguay as well.

26. **Sporophila minuta minuta** (Linn.). PYGMY SEED-EATER.—Smooker writes that he once found a nest of this finch with an egg of the Small Shiny Cowbird (*M. b. minimus*).

27. **Emberizoides herbicola** (Vieillot). AZARA'S GROUND FINCH.—Chubb (Ibis, 1918, pp. 641—2), quoting W. Foster's Paraguayan field notes, writes “. . . nest placed in thick clumps of matted grass, but is frequently discovered by parasitic birds, as most nests contain one or more of their eggs . . .”

28. **Sicalis flaveola holti** Miller. HOLT'S SAFFRON FINCH.—Snethlage and Schreiner (*loc. cit.*, p. 601) list this Finch as a victim of the Cowbird (*M. b. bonariensis*) in Brazil.

29. **Sicalis flaveola flaveola** (Linn.). SAFFRON FINCH.—A set of two eggs of the Finch and one of Cabanis' Cowbird (*M. b. cabanisi*) from Mamatoco, Colombia, March 31, 1924, now in the J. P. Norris collection, is the only record of this bird as a victim of that race of the Shiny Cowbird.

30. **Pseudochloris aureiventris** (Phil. et Landb.). YELLOW-BELLIED GROUND FINCH.—I had previously known of this bird as a molothrine host only on the basis of Reed's Mendoza record. It may therefore be added that Mr. J. P. Norris has two parasitized clutches from Tucuman.

31. **Coryphospingus pileatus** (Wied.). PILEATED FINCH.—Skinner (Oologists' Record, viii, 1928, p. 64) records several sets of eggs of this Finch from near Arcos, Minas Geraes, Brazil; every set being parasitized. “In two cases one egg of the *Coryphospingus* has three Cowbirds' eggs with it.”

32. **Coryphospingus cucullatus araguira** (Vieillot). ARGENTINE RED-CRESTED FINCH.—Two records—both collected in Tucuman by Pablo Girard and now in the J. Parker Norris collection.

33. **Brachypiza capensis matutina**. (Lichtenstein). BRAZILIAN CHINGOLO.—Snethlage and Schreiner (*loc. cit.* p. 601) and Schirch (Boletim do Museu Nacional Brasil, iv, no. 4, 1928) record this race of the ubiquitous chingolo as a victim of the Shiny Cowbird (*M. b. bonariensis*) in Minas Geraes, Brazil.

Harrison (Oologists' Record, viii, no. 1, 1928) found that at Rio de Janeiro it was imposed upon by the local race of the cowbird (*M. b. melanogyna*).

34. **Poospiza melanoleuca melanoleuca** (Orb. et Lafr.). WHITE-

BREASTED WARBLING FINCH.—In addition to the two records mentioned in my book (p. 115) may be added thirteen others from Argentina in the J. P. Norris collection.

35. **Embernagra olivascens olivascens** d'Orbigny. OLIVE GROUND FINCH.—One record,—a set containing one egg of the finch and two of the Cowbird (*M. b. bonariensis*) taken by Pablo Girard at Manchala, Tucuman, Dec. 5, 1921, now in the J. P. Norris collection.

36. **Embernagra platensis paraguayensis** Chubb. PARAGUAYAN GROUND FINCH.—W. Foster is quoted by Chubb (Ibis, 1918, p. 641) to the effect that “. . . the nest is built in a tuft of grass but even there the parasitic birds find it out . . .” Foster's observations were made near Sapucay, Paraguay.

The status of *paraguayensis* as a valid race is open to question.

37. **Amblyramphus holosericeus** (Scopoli) ORANGE-HEADED BLACKBIRD.—One record a—set of one egg of this bird and one of the Shiny Cowbird (*M. b. bonariensis*) taken near Buenos Aires, Dec. 8, 1909, now in the collection of J. Parker Norris.

38. **Agelaius icterocephalus** (Linn.). YELLOW-HEADED MARSH-BIRD.—G. D. Smooker writes me that this Blackbird is frequently victimized by the Small Shiny Cowbird (*M. b. minimus*).

39. **Agelaius thilius** (Mol.). YELLOW-SHOULDERED BLACKBIRD.—Päfsler (Journ. f. Ornith., 1922, p. 480) records this bird as a molothrine victim at Coronel, Chile. It had been previously reported as such in Argentina.

40. **Agelaius ruficapillus** Vieillot. RED-HEADED MARSH-BIRD.—In addition to the 16 records given in my book (p. 120) may be added the following statement. In the J. P. Norris collection there are 46 sets of eggs of this bird, all from Argentina, and no fewer than 34 of these contain eggs of the Cowbird (*M. b. bonariensis*) as well.

41. **Trupialis militaris militaris** (Linn.). MARSH STARLING.—G. D. Smooker found this bird to be commonly parasitized by the Small Shiny Cowbird (*M. b. minimus*) in British Guiana and Trinidad. Previously it was known as a host of the typical race (*M. b. bonariensis*) in Argentina.

Hypothetical (but probably accurate).

Dendroica ruficapilla capitalis (Lawrence). BARBADOS YELLOW WARBLER.

Wood (Auk, 1923, p. 128-129) quotes H. P. Bascom of Bridgetown, Barbados, to the effect that, “. . . several people . . . have seen the Yellowbird (*Dendroica capitalis*) feeding the young of these birds.” (*Molothrus b. minimus*.)

Molothrus ater (Bodd.). NORTH AMERICAN COWBIRD.

The following are additions to the list of known victims of the North American Cowbird (all races). They bring the total of

host species and subspecies up to 209, comprising an increase of 14 over the list given in my book.

Bartramia longicauda (Bechstein). Upland Plover.
Myiarchus crinitus (Linnaeus). Crested Flycatcher.
Sayornis sayus sayus (Bonaparte). Say's Phoebe.
Agelaius phoeniceus sonoriensis Ridgway. Sonora Red-wing.
Astragalinus psaltria hesperophilus (Oberholser). Green-backed Goldfinch.

Spinus pinus pinus (Wilson). Pine Siskin.
Richmondia cardinalis superba (Ridgway). Arizona Cardinal.
Passerina versicolor versicolor (Bonaparte). Varied Bunting.
Lanius solitarius plumbeus (Coues). Plumbeous Vireo.
Dendroica aestiva morcomi Coale. Western Yellow Warbler.
Dendroica graciae Baird. Grace's Warbler.
Geothlypis trichas sinuosa Grinnell. Salt Marsh Yellowthroat.
Chamaea fasciata henshawi Ridgway. Pallid Wren-tit.
Poliophtila californica Brewster. Black-tailed Gnatcatcher.

In addition to these, a number of forms, previously listed as victims of one race of the Cowbird, have since been found to be parasitized by another race as well. Therefore, if we list the victims according to the subspecies of Cowbird, we get the following additions (including the 14 mentioned above).

a. *Molothrus ater ater* (Bodd.). EASTERN COWBIRD.

Bartramia longicauda (Bechstein). Upland Plover.
Myiarchus crinitus (Linnaeus). Crested Flycatcher.
Sayornis sayus sayus (Bonaparte). Say's Phoebe.
Agelaius phoeniceus fortis Ridgway. Thick-billed Red-wing.
Spinus pinus pinus (Wilson). Pine Siskin.
Ammodramus savaanarum bimaculatus Swain. Western Grasshopper Sparrow.
Chondestes grammacus strigatus Swainson. Western Lark Sparrow.
Spizella passerina arizonae Coues. Western Chipping Sparrow.
Spizella breweri Cassin. Brewer's Sparrow.
Peucaea cassinii (Woodhouse). Cassin's Sparrow.
Richmondia cardinalis canicauda (Chapman). Gray-tailed Cardinal.
Lanius solitarius plumbeus (Coues). Plumbeous Vireo.
Dendroica aestiva morcomi Coale. Western Yellow Warbler.

This brings the list of hosts of the eastern cowbird from 114 up to 127 forms.

b. ***Molothrus ater artemisiae*** GRINNELL. SAGEBRUSH COWBIRD.

Empidonax traillii brewsteri Oberholser. Traill's Flycatcher.

Dolichonyx oryzivorus (Linn.). Bobolink.

Chondestes grammacus grammacus (Say). Lark Sparrow.

The hosts of the Sagebrush Cowbird now total 55 forms.

c. ***Molothrus ater obscurus*** (GMELIN). DWARF COWBIRD.

Agelaius phoeniceus sonoriensis Ridgway. Sonora Red-wing.

Astragalinus psaltria hesperophilus (Oberholser). Green-backed Goldfinch.

Richmondia cardinalis superba (Ridgway). Arizona Cardinal.

Passerina versicolor versicolor (Bonaparte). Varied Bunting.

Vireosylva gilva swainsonii (Baird). Western Warbling Vireo.

Dendroica graciae Baird. Grace's Warbler.

Geothlypis trichas sinuosa Grinnell. Salt Marsh Yellowthroat.

Chamaea fasciata henshawi Ridgway. Pallid Wren-tit.

Polioptila californica Brewster. Black-tailed Gnatcatcher.

The Dwarf Cowbird's known victims accordingly reach the total of 74 forms (an increase of 9 over the list given in my book).

In the following annotated list I have included only forms the status of which (with respect to the Cowbirds) has been altered by recent discoveries. The majority of victims are not affected by the new data and are not discussed below.

1. ***Bartramia longicauda*** (Bechstein). UPLAND PLOVER.—An accidental victim. One record. Mr. J. Hooper Bowles, writes me that he has a set of four eggs of this bird with a cowbird's egg. It was collected in Minnesota. The Cowbird's egg was almost buried in the bottom of the nest.

2. ***Myiarchus crinitus*** (Linn.). CRESTED FLYCATCHER.—One record; a nest found but not collected, by Mr. J. Hooper Bowles, about 30 years ago in Massachusetts.

3. ***Sayornis sayus sayus*** (Bonaparte). SAY'S PHOEBE.—Two records, both in the collection of J. Parker Norris. Both were collected in Decatur County, Kansas, by Guy C. Love. One contains four eggs of the Say's Phoebe and one of the Cowbird; the other, three of the victim and two of the parasite. The former set was found on June 19, 1915; the latter, on May 30, 1915.

4. ***Myiochanes richardsonii richardsonii*** (Swainson). WESTERN WOOD PEWEE.—In addition to the few data previously recorded, there may be added a record from California (set preserved in the U. S. National Museum).

5. ***Empidonax traillii brewsteri*** Oberholser. TRAILL'S FLYCATCHER.—Previously known to me as a victim of *M. a. ater* and *M. a. obscurus*. Mr. J. Parker Norris informs me that he has a set of four eggs of this Flycatcher plus one of the Sage-brush Cowbird, taken at Salt Lake, Utah, on June 29, 1906.

6. ***Dolichonyx oryzivorus*** (Linn.). BOBOLINK.—The record from Judith Basin, Montana, recorded by me as referring to *M. a. ater* is really referable to *M. a. artemisiae*.

7. ***Agelaius phoeniceus fortis*** Ridgway. THICK-BILLED RED-WING.—On June 16, 1914, Guy C. Love collected a set of four eggs of this Red-wing with one of the Eastern Cowbird in Decatur County, Kansas. This set is now in the collection of J. Parker Norris and is the only instance known to me of this bird as a host of *M. a. ater*.

8. ***Agelaius phoeniceus sonoriensis*** Ridgway. SONORA RED-WING.—Mr. J. Hooper Bowles informs me that he has a parasitized clutch of this Red-wing in his collection. The Cowbird in question is the dwarf race *obscurus*.

9. ***Quiscalus quiscula aeneus*** Ridgway. BRONZED GRACKLE.—Strecker (The Ornithology of McLennon County, Texas, Baylor Univ. Mus., Spec. Bull. no. 1, 1927, p. 47) found the Bronzed Grackle parasitized by *M. a. ater* in McLennon Co., Texas. This is the fourth known record, the other three being one from North Dakota and two from Illinois.

10. ***Astragalinus psaltria hesperophilus*** (Oberholser). GREEN-BACKED GOLDFINCH.—Two records—1. A set in the collection of J. Hooper Bowles, collected by M. C. Badger at Santa Paula, California, June 12, 1918. The set contains four eggs of the Finch and one of the Dwarf Cowbird. In response to an inquiry of mine, Mr. Badger wrote me that this Goldfinch is an occasional molothrine victim but not nearly so commonly affected as the Willow Goldfinch, *Astragalinus tristis salicamans*. A second record, from Azusa, California, is reported by Woods (Condor, 1930, p. 126).

11. ***Spinus pinus pinus*** (Wilson) PINE SISKIN.—Dales and Bennett (Wilson Bull., 1929, pp. 74–77) record a nest of the Pine Siskin in Iowa, with three eggs of the Siskin and one of the Cowbird. The young Cowbird hatched out and was the sole survivor of the brood.

Swenk (*ibid.*, pp. 79, 82) records two parasitized nests in Nebraska. One, at Child's Point, south of Omaha, May 13, with three eggs of the Siskin and one of the Cowbird; another at Lincoln, May 16, with one young Siskin in it and a young Cowbird on the ground under the nest. "Both old Siskins were about and were observed to feed both the Siskin in the nest and the Cowbird on the ground." The last record is not too certain as birds often feed the young of other birds when caring for their own.

12. ***Passerculus sandwichensis savanna*** (Wilson). SAVANNAH SPARROW.—Three more records of this rarely imposed upon bird have come to my attention,—a set now in the collection of Mr. J. Hooper Bowles,

a second set found in Ontario, and one in the J. Parker Norris collection. The last was taken at Grand Menan, New Brunswick, July 2, 1883, and is one of the northernmost records for the Cowbird in the east. This nest contained four eggs of the Sparrow and one of the Cowbird.

13. **Ammodramus savannarum bimaculatus** Swainson. WESTERN GRASSHOPPER SPARROW.—Strecker (Baylor Univ. Mus. Spec. Bull. No. 1, 1927, p. 47) records this bird as a victim of the Eastern Cowbird in McLennon County, Texas. It is the second record for *M. a. ater*. In my book (p. 219) I mentioned Bruner's Nebraska record, but forgot to include this Sparrow in the list of victims of the Eastern Cowbird.

14. **Passerherbulus henslowii sussurans** Brewster. HENSLow's SPARROW.—Two additional records have come to my notice, making three in all. E. J. Court collected a nest with three eggs of the Sparrow and one of the Cowbird in Prince George County, Maryland, on May 28, 1917. This set is now in the J. P. Norris collection. Mr. J. Hooper Bowles writes me that he has a parasitized set in his collection as well.

15. **Chondestes grammacus grammacus** (Say) LARK SPARROW.—H. D. Johnson collected a nest with three eggs of the Lark Sparrow and one of the Cowbird in the Black Hills, North Dakota, on May 20, 1904. This set is now in the collection of J. P. Norris, and is of interest in that the Cowbird in question is the race of the great basin, *M. a. artemisiae*. This is the only record I know of for the Sagebrush Cowbird.

16. **Chondestes grammacus strigatus** Swainson. WESTERN LARK SPARROW.—Strecker (Baylor Univ. Mus., spec. Bull. no. 1, 1927, p. 47) found this race of the Lark Sparrow victimized by the Eastern Cowbird in McLennon County, Texas. This is the only record for *M. a. ater*.

17. **Spizella passerina arizonae** Coues. WESTERN CHIPPING SPARROW.—Inasmuch as Mrs. Bailey has found that the breeding Cowbird of northern New Mexico is typical *ater* and not *artemisiae*, Jensen's record (Auk, 1923, p. 461) of the Western Chipping Sparrow as a molothrine victim must be referred to *M. a. ater*.

18. **Spizella breweri** Cassin. BREWER'S SPARROW.—In my book (p. 223) I recorded Jensen's note ('The Auk,' 1923, p. 461) on a victimized nest of this bird in northern Santa Fe county, New Mexico, as referring to the Sagebrush Cowbird. However, this is incorrect, as the breeding Cowbird of northern New Mexico is the typical race, *M. a. ater*. Brewer's Sparrow is known as a victim of *M. a. artemisiae* in Wyoming.

19. **Peucaea cassinii** (Woodhouse). CASSIN'S SPARROW.—Mr. J. Hooper Bowles writes me that he has a set of eggs of the Cassin's Sparrow with three eggs of the Sparrow and one of the Dwarf Cowbird, taken at San Antonio, Texas, June 12, 1927.

Strecker (Baylor Univ. Mus. spec. Bull. no. 1, 1927, p. 47) records this Sparrow as a victim of the Eastern Cowbird in McLennon County, Texas.

20. **Melospiza lincolni lincolni** (Audubon). LINCOLN'S SPARROW.—Previously known to be victimized only on the basis of a single Alberta

record sent me by Mr. S. S. S. Stansell, the status of Lincoln's Sparrow as a molothrine host assumes more definite form with a second record kindly supplied me by Mr. J. Hooper Bowles who has in his collection a parasitized set from Kalevala, Manitoba, June 6, 1920. (Four eggs of Sparrow plus one of the Sage-brush Cowbird.)

21. *Passerella iliaca schistacea* Baird. SLATE-COLORED FOX SPARROW.—Previously I knew of one record from Utah and others from Montana. It may therefore be worth noting that several parasitized nests have been found near Spokane, Washington, according to information sent me by Mr. J. Hooper Bowles.

22. *Pipilo maculatus arcticus* (Swainson). ARCTIC TOWHEE.—In addition to the two cases cited in my book (p. 228) a third one has since come to my notice. Mr. J. Parker Norris informs me that he has a set of three eggs of this Towhee with one of a Sagebrush Cowbird, taken in Platte County, Wyoming, June 21, 1891, by James A. Nelson.

23. *Pipilo maculatus megalonyx* (Baird). SAN DIEGO TOWHEE.—Previously known from one record (Hanna, Condor, 1928, p. 161). Mr. J. Hooper Bowles has a set of four eggs of the Towhee plus one of the Dwarf Cowbird from San Bernardino, California, July 10, 1921.

24. *Pipilo aberti* Baird. ABERT'S TOWHEE.—Two more records, making four in all, have come to my attention. Both are in the J. Hooper Bowles collection. One, containing two eggs of the Towhee and two of the Dwarf Cowbird, was collected at Mesa, Arizona, May 14, 1919; the other, with three eggs of each, was taken in the same place on June 19, 1919.

25. *Richmondena cardinalis canicauda* (Chapman). GRAY-TAILED CARDINAL.—Previously recorded as a victim of the Dwarf Cowbird, this race of the Cardinal has been found to be parasitized by the typical race (*M. a. ater*) as well, in McLennon County, Texas, by Strecker (Baylor Univ. Mus. spec. Bull. no. 1, 1917, p. 47).

26. *Richmondena cardinalis superba* Ridgway. ARIZONA CARDINAL.—One record, a set in the J. Hooper Bowles collection.

27. *Guiraca caerulea lazula* (Lesson). WESTERN BLUE GROSBEAK.—Previously I knew of one record from southern California (Hanna, Condor, 1928, p. 161). Mr. J. Hooper Bowles informs me that he has a parasitized set in his collection, and Mr. M. C. Badger writes me that at Santa Paula, California, he has found two nests of this bird with eggs of the Dwarf Cowbird.

28. *Passerina versicolor versicolor* (Bonaparte). VARIED BUNTING.—One record, now in the J. Hooper Bowles collection.

29. *Petrochelidon albifrons* (Rafinesque) CLIFF SWALLOW.—Previously recorded as a molothrine victim only a single time. Mr. J. Hooper Bowles informs me that he has a parasitized set of four eggs of the Swallow and one of the Cowbird from La Anna, Pennsylvania, June 30, 1914, and that three nests of this Swallow at that place contained Cowbirds' eggs.

30. ***Hirundo rustica erythrogaster*** Boddaert. BARN SWALLOW.—A second record, a clutch of four eggs of the Swallow and one of the Cowbird, taken at La Anna, Pennsylvania, June 30, 1914, is in the J. Hooper Bowles collection.

31. ***Phainopepla nitens*** (Swainson). PHAINOPEPLA.—Rowley (Condor, 1930, pp. 130–131) found a nest of this bird containing a young Dwarf Cowbird as well as a young Phainopepla. This constitutes the second record for this bird as a molothrine host.

32. ***Vireosylva gilva swainsonii*** (Baird). WESTERN WARBLING VIREO.—Sherwood (Oologist, 1929, p. 8) lists this Vireo as a victim of the Dwarf Cowbird in California. Previously it was known only as a victim of Eastern Cowbird.

33. ***Lanivireo solitarius plumbeus*** (Coues). PLUMBEOUS VIREO.—Stokley Ligon found this Vireo parasitized by the Eastern Cowbird in New Mexico, according to Mrs. Bailey (Birds N. Mex., p. 661).

34. ***Vireo huttoni huttoni*** Cassin. HUTTON'S VIREO.—Previously known from one record (Hanna, Condor, 1928, p. 161) from California.

M. C. Badger writes me that he has once found this bird to be parasitized by the Dwarf Cowbird at Santa Paula, California.

Grinnell and Wythe (Pacific Coast Avifauna, no. 18, 1927, p. 104) also record this Vireo as a molothrine victim in California, possibly on the basis of the above records, possibly of others.

35. ***Vermivora ruficapilla ruficapilla*** (Wilson). NASHVILLE WARBLER.—Mr. J. Parker Norris has in his collection a parasitized set of this Warbler from Farmington, Massachusetts, June 8, 1888. This is the fifth record known to me.

36. ***Compsothlypis americana americana*** (Linn.). PARULA WARBLER.—Mr. J. Parker Norris informs me that he has a set of three eggs of this Warbler with three of the Cowbird, taken in Northampton County, Virginia, May 27, 1890, by G. B. Benners. This is the only definite record I know of this Warbler as a molothrine victim. I included it in my previous list on the basis of a list compiled by Dr. Oberholser.

37. ***Dendroica aestiva morcomi*** Coale. WESTERN YELLOW WARBLER.—According to Mrs. Bailey (Birds N. Mex., p. 614) this race of the Yellow Warbler is often parasitized by the Eastern Cowbird.

38. ***Dendroica cerulea*** (Wilson). CERULEAN WARBLER.—Mr. J. Parker Norris has three parasitized sets of eggs of this bird, all from Ontario. This makes seven records in all, as far as I know.

39. ***Dendroica graciae*** Baird. GRACE'S WARBLER.—One record—a set of three eggs of the Warbler and one of the Dwarf Cowbird, collected by O. W. Howard in the Chiracahua Mountains, Cochise County, Arizona, on June 23, 1900, and now in the J. P. Norris collection.

40. ***Oporornis philadelphia*** (Wilson). MOURNING WARBLER.—Mr. J. Hooper Bowles informs me that he has a set of this species with a Cowbird's egg. This is the third definite record I know of.

41. *Geothlypis trichas sinuosa* Grinnell. SALT MARSH YELLOW-THROAT.—Grinnell and Wythe (Pacific Coast Avif. no. 18, 1927, p. 104) list this bird as a victim of the Dwarf Cowbird in California.

42. *Chamaea fasciata henshawi* Ridgway. PALLID WREN-TIT.—Two records: a set containing one egg of the victim and one of the Dwarf Cowbird, collected by M. C. Badger at Santa Paula, California, on June 13, 1917, is now in the collection of Mr. J. Hooper Bowles. Mr. Badger writes me that he has found this bird parasitized but a single time. Rowley (Condor, 1930, p. 131) records another instance of the Cowbird using a nest of this bird.

43. *Polioptila californica* Brewster. BLACK-TAILED GNATCATCHER.—One record. Woods (Condor, 1930, p. 126) observed an almost full-grown Dwarf Cowbird following, and being fed by a pair of Black-tailed Gnatcatchers at Azusa, California, in June 1928. He writes that this Gnatcatcher, " . . . is one of the very smallest birds known to be successfully parasitized by the Cowbird." While the record is very probably a perfectly good one, it should be remembered that birds not infrequently feed young of other birds when they have nestlings of their own and therefore it is possible that the young Cowbird may have been raised by birds other than the Gnatcatchers. This, however, is not a very serious possibility.

Tangavius aeneus (WAGLER). RED-EYED COWBIRD.

The list of victims of this cowbird is now known to include 22 forms, an increase of 5 over my previous list. The five additions are as follows:

- Chaemepelia passerina pallescens* (Baird). Mexican Ground Dove.
- Agelaius phoeniceus richmondi* Nelson. Rio Grande Red-wing.
- Icterus pustulatus* (Wagler). Scarlet-headed Oriole.
- Pipilo rutilus* (Lichtenstein). Sclater's Towhee.
- Pheugopedius felix pallidus* (Nelson). Durango Wren.

Of these, two—*Icterus pustulatus* and *Pheugopedius felix pallidus*—are victims of the typical race of this Cowbird—*T. aeneus aeneus* (Wagler); the other three being hosts of the eastern form *T. a. involucratus* Lesson.

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