

**Article XIII.**— LIST OF MAMMALS COLLECTED FOR THE  
 AMERICAN MUSEUM IN ECUADOR BY WILLIAM B.  
 RICHARDSON, 1912–1913.

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While collecting birds for the American Museum of Natural History in Ecuador, Mr. Richardson, under the direction of Dr. Frank M. Chapman, Curator of Ornithology, made also a considerable collection of mammals, which adds somewhat to the knowledge of the mammal fauna of that country. In working up the collection, in connection with other recent accessions of mammals from South America, the forms that seemed to be new I have already described in a series of separate papers. The present paper is therefore a summary list of the specimens, with the field data and such technical comment as seemed pertinent.

The total number of specimens obtained by Mr. Richardson in Ecuador is about 240, representing 70 species and subspecies, of which 21 have been described as new in former volumes of this Bulletin, as cited below in the 'Systematic List.' Following is a list of the new forms, with their type localities and the dates of publication:

1. *Tamandua tetradactyla punensis*, Puna Island, April 28, 1916.
2. *Pecari niger*, Manavi, Sept. 25, 1913.
3. *Mazama fuscata*, Rio de Oro, Nov. 2, 1915.
4. *Mazama gualea*, Gualea, Nov. 2, 1915.
5. *Mazama zamora*, Zamora, Nov. 2, 1915.
6. *Lepus darulensis*, Daule, Feb. 28, 1914.
7. *Dasyprocta variegata zamora*, Zamora, Dec. 30, 1915.
8. *Coendu quichua richardsoni*, Esmeraldas, Sept. 25, 1913.
9. *Melanomys caliginosus oroensis*, Rio de Oro, Manavi Province, Nov. 17, 1913.
10. *Thomasomys aureus altorum*, Mt. Pichincha, Feb. 28, 1914.
11. *Sigmodon chonensis*, Chone, Sept. 25, 1913.
12. *Sciurus hoffmanni manavi*, Manavi, Oct. 8, 1914.
13. *Sciurus igniventris zamora*, Zamora, Oct. 8, 1914.
14. *Sciurus stramineus zaruma*, Zaruma, Oct. 8, 1914.
15. *Tayra barbara senilis*, Manavi, Sept. 25, 1913.
16. *Procyon aequatorialis*, Manavi Province, Dec. 30, 1915.
17. *Dasypterus ega punensis*, Puna Island, July 9, 1914.
18. *Myotis punensis*, Puna Island, July 9, 1914.
19. *Myotis esmeraldae*, Esmeraldas, July 9, 1914.
20. *Nyctinomus aequatorialis*, Chone, July 9, 1914.
21. *Cebus aequatorialis*, Manavi, Dec. 14, 1914.

Mr. Richardson began work in Ecuador at Esmeraldas in October, 1912, passing slowly down the coast with side trips into the interior at various points, completing his reconnoissance of the country in December, 1913. The principal localities at which mammals were collected are as follows:

- Esmeraldas**, Oct. 23–Dec. 6. Near sea-level. 47 specimens.  
**Chone, Manavi**, Dec. 16–29. Near sea-level. 11 specimens.  
**Rio de Oro, Manavi**, Jan. 7–28. Alt. 1500 ft. 13 specimens.  
**Manavi, Manavi**, January. Sea-level. 20 specimens.  
**Guayaquil, Guayas**, March 16–26. Near sea-level. 4 specimens.  
**Isla de Puna, Guayas**, April 7–12. 14 specimens.  
**Daule, Guayas**, April 21–27. Alt. 2000 ft., 16 specimens.  
**Naranjo, Guayas**, May 8–11, Dec. 21–28. Alt. 2000 ft. 9 specimens.  
**Gualéa, Pichincha**, May 18–June 20. Alt. 6000–9000 ft. 18 specimens.  
**Quito and Mt. Pichincha**, May 15–June 13. 22 specimens (part purchased of native collectors).  
**Baeza** (eastern slope). Alt. 3000 ft. 5 specimens, probably purchased at Quito.  
**Antisana, Pichincha**, June 12–13. Alt. 12,000 ft. 4 specimens.  
**Mt. Chimborazo**, July 1–5. 8 specimens.  
**El Lorazon and Valle de Cumbra**, July 16–29. 6 specimens.  
**Zaruma, Azuay**, Sept. Alt. 4000–6000 ft. 10 specimens.  
**Zamora, Loja**, Oct. 20–Nov. 3. Alt. 2000 ft. 27 specimens.  
**Loja and Sta. Rosa, Loja**, Nov. 11–Dec. 2. Alt. 8000 ft. 7 specimens.

As shown by the above, Mr. Richardson's mammal collecting was very superficial, only a few specimens having been taken at any single locality. This evidently could hardly have been otherwise in view of the great extent of country covered during about fourteen months, and of the further fact that his mammal collecting was incidental to his special work of obtaining birds. The relatively large number of new forms contained in this small collection of mammals indicates how little is yet known of the mammal fauna of Ecuador, where as yet no thoroughly systematic collecting has been undertaken.

Several papers have been published on the mammals of Ecuador, but in general the literature relating to them consists of incidental references in more general works and descriptions of new species based on Ecuador specimens. The principal special papers are the following:

1. **TOMES, ROBERT F.** Notes on a Collection of Mammalia made by Mr. [Louis] Fraser at Gualaquiza. *Proc. Zool. Soc. of London*, 1858, pp. 546–549.  
 Seventeen species are recorded but 3 of them are not identified. The number of specimens is not stated. They include 8 species of bats, 7 species of rodents (including "*Echymys cayenensis*"), and 2 species of small marsupials.
2. **TOMES, ROBERT F.** Notes on a Second Collection of Mammalia made by Mr. [Louis] Fraser in the Republic of Ecuador. *Proc. Zool. Soc. London*, 1860, pp. 211–221.

Fifteen species, 4 described as new. "The greater portion of these are believed to have been taken at Pallatanga, on the western slope of the Cordillera; but the exact locality is not certain, from the specimens having been unfortunately mixed together." The number of specimens was not stated, but was probably between 30 and 40. The following are described as new: *Hesperomys latimanus* (p. 213), *H. minutus* (p. 215), *H. bicolor* (p. 217 = *H. longicaudatus* of Tomes's previous list), *H. aureus* (p. 219).

3. TOMES, ROBERT F. Notes on a Third Collection of Mammalia made by Mr. [Louis] Fraser in the Republic of Ecuador. *Proc. Zool. Soc. of London*, 1860, pp. 260-268.

Twenty-one species, 3 of them described as new, as follows: *Hesperomys caliginosus* (p. 263, = *Akodon caliginosus* of most subsequent authors prior to 1913), *H. albigularis* (p. 264), *Echimys semispinosus* (p. 265, = *E. cayenensis* of Tomes's first paper).

4. THOMAS, OLDFIELD. On Mammals from Ecuador. *Proc. Zool. Soc. London*, 1880, pp. 393-403, text figs. 1-3, pl. xxxviii.

Forty-one species, 141 specimens, collected mainly by Clarence Buckley, partly near Quito but mainly south and southeast of Riobamba, on the upper tributaries of the Rio Pastaza. A remarkable feature of the collection is the large number of monkeys it contained — 60 specimens, representing 10 species, all but one of which (from Intac, 50 miles north of Quito) were from the Rio Copataza, a tributary of the upper Rio Pastaza, at a point "about 50 miles southeast of Sarayacu." At the Sarayacu here mentioned (not the better known Sarayacu on the Rio Ucayale in Peru), on the Rio Bobonasa, a tributary of the upper Rio Pastaza, was made the greater part of the remainder of the collection, numbering 57 specimens, representing 27 species. These include 5 species of bats, 6 species of carnivores, a tapir, 2 species of deer, 8 species of edentates, and 2 species of marsupials. The single new species is *Bassaricyon alleni* (pp. 397-400, text figs. 1-3, and pl. xxxviii (colored)). It thus appears that the bulk of the collection (117 specimens, representing 37 of the 41 recorded species) came from two neighboring points (Sarayacu and Rio Copataza) in the Amazonian drainage of the Oriente, while the greater part of the Fraser Collections came mainly from the western slope of the Cordillera at rather high altitudes, and consisted chiefly of bats and rodents, as did also the 12 specimens here recorded by Thomas from Balzar, collected by Mr. Illingworth.

5. LÖNNBERG, EINAR. Mammals from Ecuador and related forms. *Arkiv för Zoologi*, VIII, No. 16, pp. 1-36, text fig. 1 (feet of *Tayra*), pl. i, colored (*Felis pajeros thomasi* sp. nov. (animal)). July 12, 1913.

Thirty-six species are recorded from Ecuador; the number of specimens is not stated. Based on a collection presented to the Natural History Museum of Stockholm by L. Söderström, for many years Swedish Consul in Quito, well known as a collector of birds and mammals in the Quito region. Most of the specimens are from the slopes of Mt. Pichincha, with a few from Gualea, Zambiza, and the vicinity of Chone in the coast region. Some twelve pages are given to a review of the genus *Tayra*, of which two forms are described as new — *Tayra barbara tucumana* (p. 14), from Tucuman, Argentina, and *T. b. madeirensis* (p. 19), from "Humaythan River, Madeira, Amazona." The following new forms are based on Ecuador specimens: *Felis concolor söderströmii* (p. 2), from Mono, northwestern slope of Mt. Pichincha; *Felis pajeros thomasi* (p. 7), Quito; *Nasua olivacea quitensis* (p. 23), Lloa, Mt. Pichincha; *Agouti sierræ andina* (p. 28), Mt. Pichincha, 9,000 to 12,000 feet; *Dasyus novemcinctus æquatorialis* (p. 34), Peruchu, 7,000-9,000 feet.

6. STONE, WITMER. On a Collection of Mammals from Ecuador. *Proc. Acad. Nat. Sci. Philadelphia*, 1914, pp. 9-19. March 31, 1914.

Based on a collection of 66 specimens made by Samuel N. Rhoads, collected February to July, 1911, representing 19 species (including 3 introduced rats), the following described as new: *Thomasomys rhoadsi* (p. 12), paramo of Mt. Pichincha; *Sciurus hoffmanni söderströmi* (p. 14), Mt. Pichincha, collected by Söderström; *Blarina osgoodi* (p. 16), Mt. Pichincha, 10,500-12,000 feet. Besides the field notes of the collector, Dr. Stone has greatly increased the value of the paper by technical comment on various species and the addition in many cases of the collector's measurements and field notes.

Although many collectors have visited Ecuador and have sent many mammals as well as birds to various European Museums since the days of Fraser and Buckley, little faunistic work based on their collections has been made public, although many new forms have been published based on these sources. Söderström, as is well known, has made extensive collections in the Quito region which have been sent to the museums of Warsaw, Stockholm, and London, and while they have furnished many new species, described by Taczanowski, Thomas, Lönnberg and others, no formal reports, with field data and measurements, have been based on this important mammal material, thus of value only to those who have personal access to it. The same is unfortunately true of the large collection of mammals made in southern Ecuador by Perry O. Simons in 1898-1899.

#### *Systematic List.*

##### DIDELPHIIDÆ.

1. ***Didelphis marsupialis etensis*** *Allen.*

Nine specimens: Esmeraldas, 5; Puna Island, 2; Daule, 1; Zaruma, 1.

2. ***Didelphis paraguayensis andina*** *Allen.*

Three specimens: Quito, 2; El Lorazon, 1.

3. ***Metachirus opossum melanurus*** *Thomas.*

Two specimens: Esmeraldas, 1; Rio de Oro, 1.

##### BRADYPODIDÆ.

4. ***Bradypus ephippiger*** *Philippi.*

One specimen, Rio de Oro.

## MYRMECOPHAGIDÆ.

5. *Myrmecophaga tridactyla* Linné.

One specimen, Baeza, east of the Andes.

6. *Tamandua tetradactyla punensis* Allen.

Three specimens: Puna Island (type); Guayaquil, 2. (This Bull., Vol. XXXV, p. 83, 1916).

7. *Cyclopes didactylus ida* Thomas.

One specimen, Manavi.

## TAYASSUIDÆ.

8. *Pecari niger* (Allen).

Two specimens, Esmeraldas. (Bull. XXXII, p. 476, 1913).

## CERVIDÆ.

9. *Mazama fuscata* Allen.

Two specimens, an old male and a young female, Rio de Oro. (Bull. XXXIV, p. 545, 1915.)

10. *Mazama gualea* Allen.

Two specimens, Gualea. (Bull. XXXIV, p. 545, 1915.)

11. *Mazama zamora* Allen.

One specimen, Zamora. (Bull. XXXIV, p. 546, 1915.)

12. *Mazama rufina* (Pucheran).

One specimen, Mt. Pichincha, practically a topotype. (Bull. XXXV, p. 540, 1915.)

## LEPORIDÆ.

13. *Lepus andinus* Thomas.

Four specimens, two from Quito and two from Mt. Pichincha. May and June.

14. **Lepus daulensis** *Allen*.

One specimen, Daulea. (Bull. XXXIII, p. 199, 1914.)

## OCTODONTIDÆ.

15. **Proechimys semispinosus calidior** *Thomas*.

Esmeraldas, 2 adult and 1 young.

## DASYPROCTIDÆ.

16. **Dasyprocta variegata zamoræ** *Allen*.

Four specimens, Zamora and Naranjo. (Bull. XXXIV, p. 627, 1915.)

## ERETHIZONTIDÆ.

17. **Coendu quichua richardsoni** *Allen*.

One specimen, Esmeraldas. (Bull. XXXII, p. 478, 1913.)

## MURIDÆ.

18. **Epimys rattus rattus** (*Linné*).

One specimen, Naranjo. Typical.

19. **Epimys rattus alexandrinus** (*Geoffroy*).

Two specimens, 1 each from Esmeraldas and Daule. Very light-colored above and clear white below.

20. **Oryzomys aureus** (*Tomes*).

Six specimens, Esmeraldas.

21. **Oryzomys auriventer** *Thomas*.

Four specimens, Zamora.

22. **Oryzomys longicaudatus** (*Bennett*).

One specimen, immature male, Gualea, altitude 6000 feet.

23. **Oryzomys dryas** *Thomas.*

Two specimens, Zamora.

24. **Oryzomys nitidus** (*Thomas*).

Thirteen specimens: Gualea, 1; Zamora, 12.

25. **Oryzomys (Oligoryzomys) stolzmanni** *Thomas.*

Seven specimens: Gualea, 6; Valle de Cumbra, 1.

26. **Melanomys caliginosus caliginosus** (*Tomes*).

Eight specimens; Esmeraldas, 7; Chone, 1. (Bull. XXXII, p. 537, 1913.)

27. **Melanomys caliginosus oroensis** *Allen.*

Three specimens, Rio de Oro. (Bull. XXXII, p. 538, 1913.)

28. **Melanomys phæopus phæopus** (*Tomes*).

Two specimens, Gualea. (Bull. XXXII, p. 541, 1913.)

29. **Melanomys phæopus olivinus** (*Thomas*).

One specimen, Rio de Oro. (Bull. XXXII, p. 543, 1913.)

30. **Comomys bicolor** (*Tomes*).

Two specimens, both young, Mt. Pichincha.

31. **Thomasomys aureus aureus** (*Tomes*).

One specimen, Gualea.

32. **Thomasomys aureus altorum** *Allen.*

Two specimens, Mt. Pichincha, alt. 11,000 ft. (Bull. XXXIII, p. 200, 1914.)

33. **Thomasomys paramorum** *Thomas.*

Seven specimens, Mount Chimborazo, altitude 14,000–15,000 ft. These specimens, all males, are shown by the skulls to be fully adult.

The collector's measurements give, total length, 222 (210-235); head and body, 93.6 (85-100); tail, 128.6 (125-135); hind foot, 25.

The type locality is given as "Paramo, south of Chimborazo." The type was a spirit specimen, in which the color of the upperparts had doubtless been changed by the preservative from fulvous brown to "rufous brown." Otherwise the present specimens, practically topotypes of the species, agree with the description of *paramorum*.

34. **Akodon mollis altorum** *Thomas*.

Two specimens, Mt. Chimborazo, altitude 14,000 feet.

35. **Phyllotis haggardi** *Thomas*.

Four specimens, Antisana, altitude, 12,000 feet.

36. **Sigmodon chonensis** *Allen*.

Eleven specimens, Chone and Rio de Oro. (Bull. XXXII, p. 479, 1913.)

SCIURIDÆ.

37. **Mesosciurus hoffmanni hoffmanni** (*Peters*).

Fourteen specimens: Gualea, 5; Zaruma, 4; Santa Rosa, 3; Loja, 2. (Bull. XXXIV, p. 217, 1915.)

38. **Mesosciurus hoffmanni manavi** (*Allen*).

Twelve specimens: Manavi, 5; Esmeraldas, 3; Naranjo, 4. (Bull. XXXIII, p. 589, 1914; XXXIV, p. 221, 1915.)

39. **Mesosciurus gerrardi versicolor** (*Thomas*).

Two specimens, Esmeraldas. (Bull. XXXIV, p. 242, 1915.)

40. **Urosciurus igniventris zamoræ** (*Allen*).

One specimen, Zamora. (Bull. XXXIII, p. 594, 1914; XXXIV, p. 274, 1915.)



41. **Simosciurus stramineus zarumæ** (*Allen*).

One specimen, Zaruma. (Bull. XXXIII, p. 597, 1914; XXXIV, p. 284, 1915.)

## MUSTELIDÆ.

42. **Lutra** sp.

A hunter's pelt, without skull, Esmeraldas.

43. **Tayra barbara senilis** (*Allen*).

*Tayra barbara irara* LONNBERG (not of Allen), Ark. för Zool., VIII, No. 16, p. 13, July 12, 1913. Camino de Chone, Manavi Province, Ecuador.

Two specimens, Manavi. (Bull. XXXII, p. 484, 1913).

A second specimen from Naranjo, Dec. 25, 1913, also is an old female, like the type, which it resembles in every way except that it is in fresher pelage and the colors are of a deeper tone, the nape being distinctly pale golden and the large throat patch deep yellow.

Collector's measurements of the second specimen, total length, 1040; head and body, 630; tail vertebræ, 410; hind foot, 100. Skull, total length, 124; condylobasal length, 118; zygomatic breadth, 65; inter-orbital breadth, 24; postorbital breadth, 23.3; breadth of braincase, 46; mastoid breadth, 52; length of maxillary tooththrow, outer border, 24.5.

44. **Conepatus quitensis** (*Humboldt*).

Five specimens, 3 adult, 2 young, Mt. Pichincha, near Quito.

No external measurements. The skulls of an old adult male and an old adult female, both with the sagittal crest strongly developed, measure as follows: Total length, ♂ 93, ♀ 86; condylobasal length, ♂ 86, ♀ 61; zygomatic breadth, ♂ 55.6, ♀ 51; mastoid breadth, ♂ 48, ♀ 44; maxillary tooththrow, ♂ 19, ♀ 19.

## PROCYONIDÆ.

45. **Procyon (Euprocyon) æquatorialis** *Allen*.

One specimen, Manavi. (Bull. XXXIV, p. 630, 1915.)

46. **Nasua nasua manium** *Thomas*.

Two specimens: Zaruma, 1, adult male, Oct. 2, 1913; Naranjo, 1, old male, Dec. 28, 1913.

47. ***Nasua nasua quichua*** Thomas.

Four specimens: Zamora, 3 males, one adult, one very old, and a young one in first pelage; Baeza, 1, adult male. These localities are on the eastern slope, at altitudes respectively of 2000 and 3000 feet, but the specimens agree satisfactorily with the description of *quichua*, of the central region of the Cordilleras, both in size and coloration.

It is probable that the Baeza specimen is referable to Thomas's recently described *Nasua quichua jivaro*, if separable from *quichua*.

48. ***Nasua olivacea quitensis*** Lönnberg.

One specimen (skin only), adult female, Gualea, June 1, 1913.

49. ***Potos flavus modestus*** Thomas.

Two specimens (skins only), Esmeraldas.

## CANIDÆ.

50. ***Cerdocyon thous*** (subsp. indet.).

One skull (skin mislaid), Quito.

51. ***Pseudalopex sechuræ*** (Thomas).

One skin, with imperfect skull, Manta, Manavi.

This specimen closely agrees in all respects with the description of *Canis sechuræ* Thomas, from the Sechura desert of northwestern Peru.

52. ***Pseudalopex culpæus reissii*** (Hilzheimer).

Two adult males, skins and skulls, and an additional skull, Quito.

These two skins differ in coloration, one being much more strongly suffused with red and yellow than the other; in one the top of the head is grizzled pale ochraceous buff and black only as far back as the ears, while in the other the upper surface of the entire head and nape is deep ochraceous rufous; in the dark-headed one the terminal portion of the dorsal underfur is dingy pale buff, while in the other it is bright ochraceous buff. This would seem to show that the color characters alleged to distinguish *P. culpæus andina* Thomas (Ann. and Mag. Nat. Hist. (8), XIII, p. 358,

March, 1914) are not wholly trustworthy. The three skulls are larger, however, than the measurements given for the type of *andina*. Their principal dimensions are as follows: Total length (No. 36454 ♂) 174, (No. 36455 ♂) 169, (No. 36455a ♀ ?) 160; condylobasal length, 164, 156, 152; zygomatic breadth, 94, 88, 89.5; length of nasals on midline, 62, 54, 51; palatal length, 89, 89.4, 80.5; length of  $p^4$ , 16.2, 16, 15; combined length of  $m^1$  and  $m^2$ , 19, 16.2, 15.

#### FELIDÆ.

##### 53. *Oncoides pardalis æquatorialis* (Mearns).

*Felis æquatorialis* MEARN'S, Proc. U. S. Nat. Mus., XXV, No. 1286, p. 246, Sept. 17, 1903. Type locality, Paramba, northern Ecuador; altitude 3,500 ft.

One specimen, adult female, skin and skull, Daule.

The collector's measurements are, total length, 1190 mm.; tail vertebræ, 420; hind foot, 170. The skull measures, total length, 131; condylobasal length, 121.5; zygomatic breadth, 88; interorbital breadth, 23.5; post-orbital breadth, 34; breadth of braincase, 51; length of nasals on midline, 27, on outer border, 33.5; length of maxillary toothrow, 31; upper carnassial,  $16 \times 7.8$ .

##### 54. *Margay wiedi andina* (Thomas).

*Felis pardinoides andina*, Ann. and Mag. Nat. Hist. (7), XII, p. 238, Aug. 1903. Jima, Azuay, Ecuador; alt. 2400 m.

One specimen, adult female, skin only, Loja (alt. 8000 ft.). Taken not far from the type locality of *andina*. Collector's measurements: Total length, 1160 mm.; tail vertebræ, 470; hind foot, 110.

#### EMBALLONURIDÆ.

##### 55. *Saccopteryx bilineata* (Temminck).

Two specimens, Esmeraldas.

#### PHYLLOSTOMIDÆ.

##### 56. *Glossophaga soricina valens* Miller.

Seven specimens: Manavi, 1; Daule, 6.

57. **Hemiderma perspicillatum** (*Linné*).

Two specimens, Manavi.

58. **Sturnira liliium** (*Geoffroy*).

Two specimens, Zamora.

59. **Uroderma bilobatum** *Peters*.

Six specimens, Esmeraldas.

60. **Artibeus toltecus ravus** *Miller*.

Four specimens, Esmeraldas.

61. **Artibeus lituratus** (*Illiger*).

One specimen, Duran.

## FURIPTERIDÆ.

62. **Amorphochilus schnablii schnablii** *Peters*.

Three specimens, Puna Island. (Bull. XXXIII, p. 381, 1914.)

## VESPERTILIONIDÆ.

63. **Dasypterus ega punensis** *Allen*.

Five specimens, Puna Island. (Bull. XXXIII, p. 382, 1914.)

64. **Myotis punensis** *Allen*.

Three specimens: Puna Island, 2; Daule, 1. (Bull. XXXIII, p. 382, 1914.)

65. **Myotis esmeraldæ** *Allen*.

Four specimens: Esmeraldas, 2; Manavi, 1; Naranjo, 1. (Bull. XXXIII, p. 385, 1914.)

## MOLOSSIDÆ.

66. **Nyctinomus æquatorialis** *Allen.*

One specimen, Chone, Manavi Province. (Bull. XXXIII, p. 386, 1914.)

67. **Promops fosteri** (*Thomas*).

Two specimens, Manavi.

68. **Molossus pygmæus** *Miller.*

Six specimens: Puna Island, 1; Daule, 5.

## CEBIDÆ.

69. **Pithecia monachus** *E. Geoffroy.*

One specimen, adult male, Baeza, Ecuador, eastern slope of the Andes at 3000 feet. A skin, without skull or measurements, purchased from a native collector.

70. **Cebus æquatorialis** *Allen.*

Five specimens, Manavi. (Bull. XXXIII, p. 654, 1913.)

