

SUPPLEMENT

TO THE

SESSIONAL PAPER XXII.—1935.

THE CEYLON MALARIA EPIDEMIC,
1934–35.

MAPS AND CHARTS.

(Supplement to the Report by the Director of Medical and Sanitary Services.)

SEPTEMBER, 1935.

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1935.

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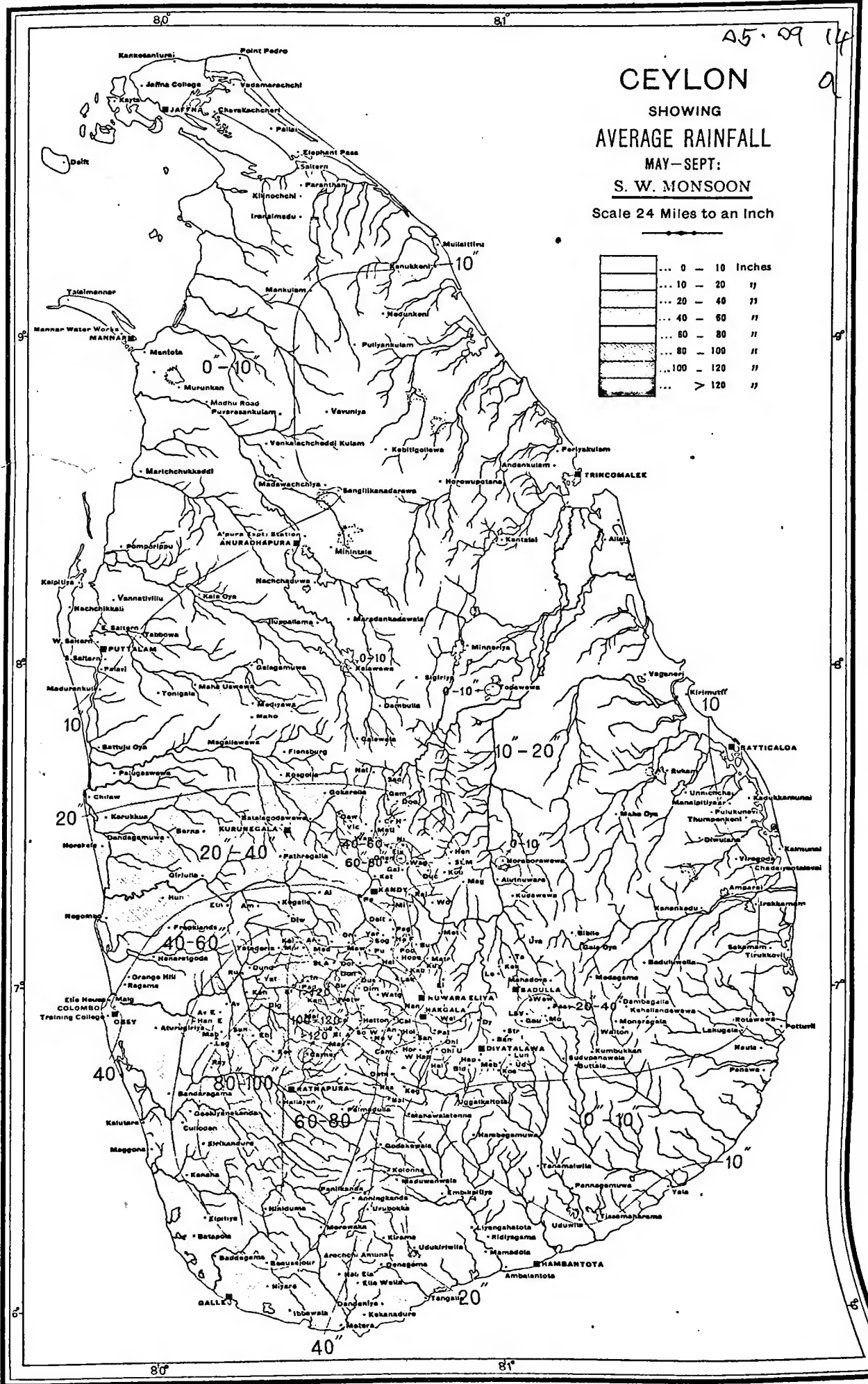
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2. The endemicity of malaria in Ceylon as indicated by spleen rates of children, 1921-23.
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a



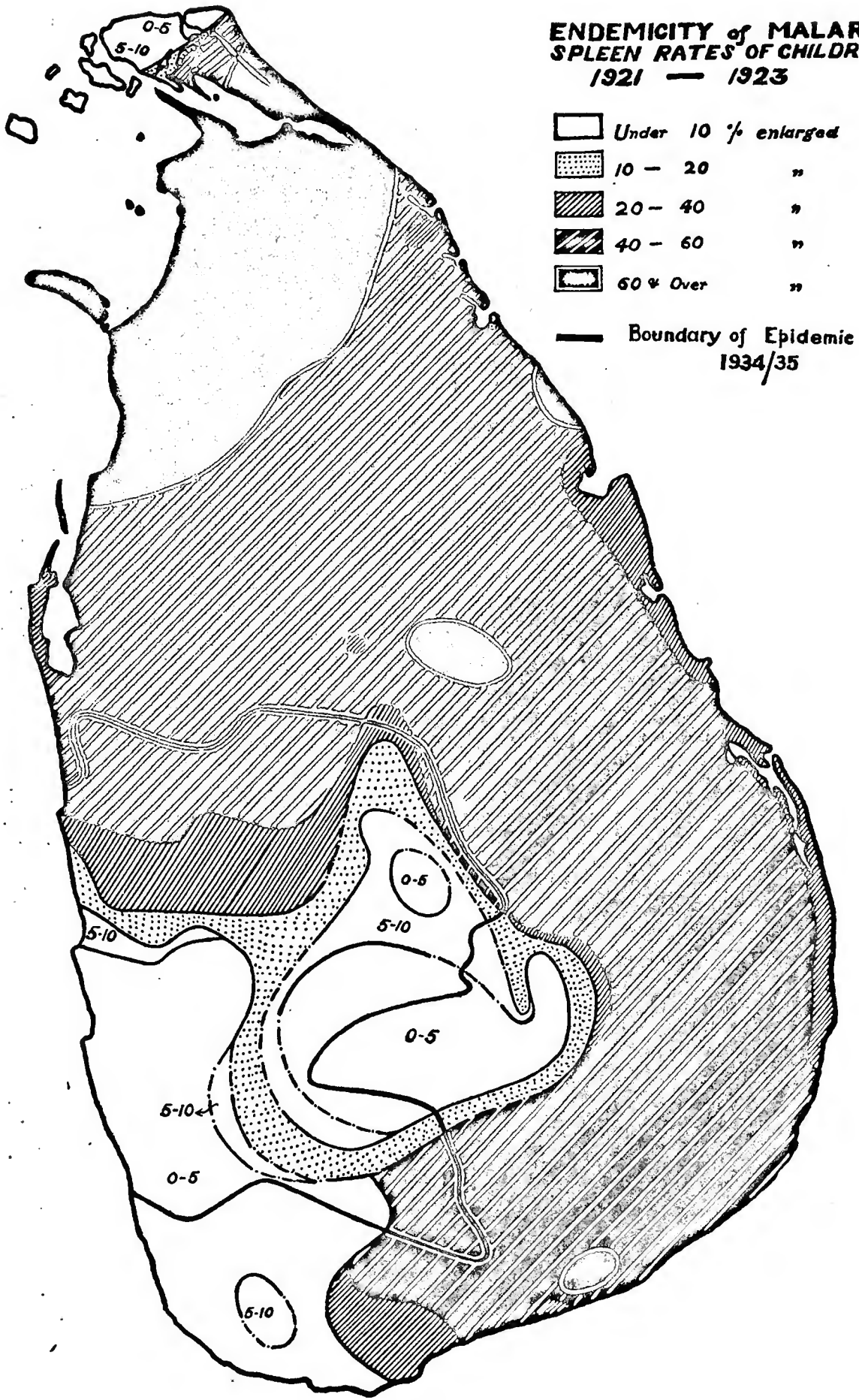
For names of stations shown in the Map by abbreviation, see Table.

Survey Dept. Ceylon. 24. S. 35.

Map 1

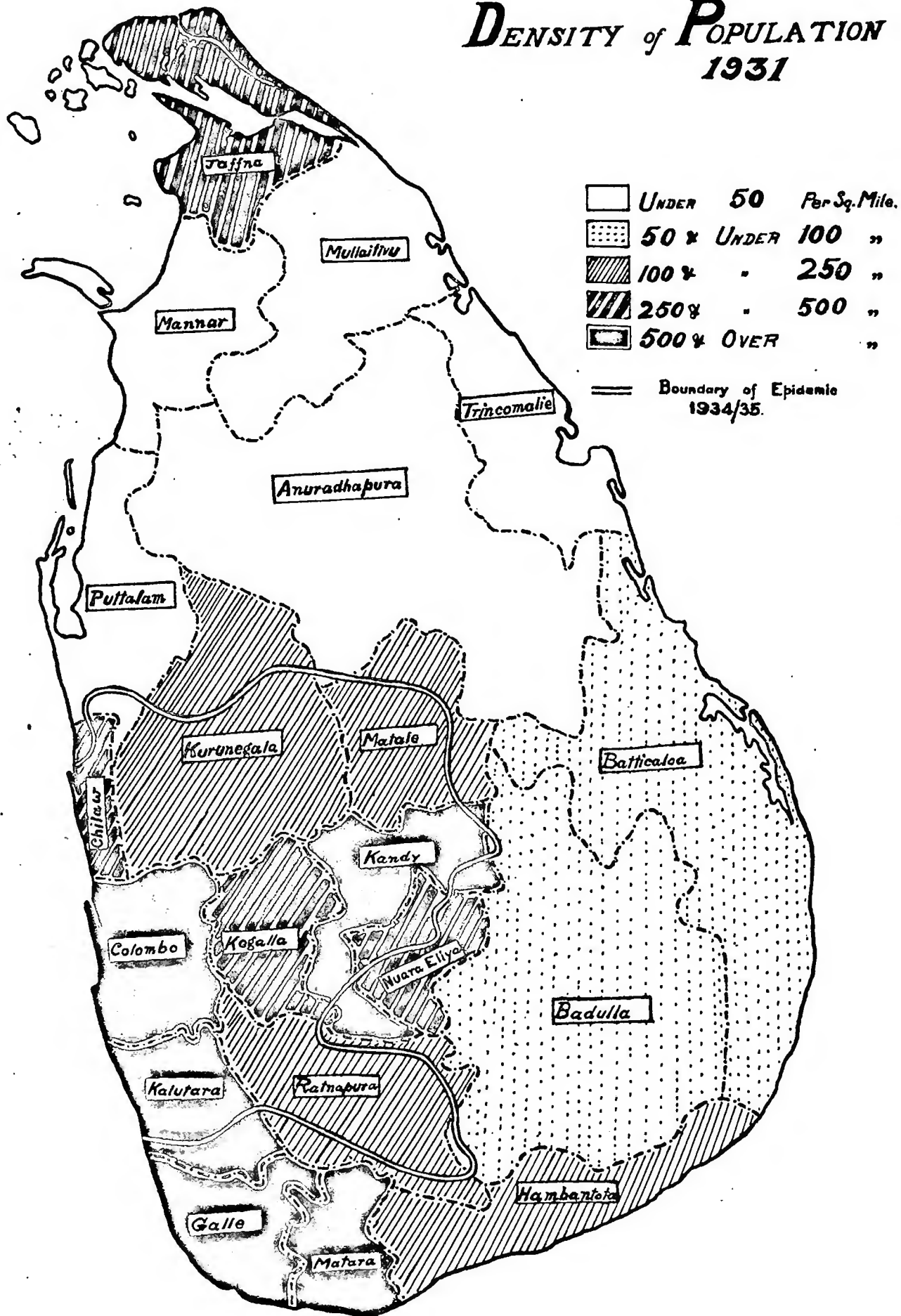
CEYLON

ENDEMICITY of MALARIA SPLEEN RATES OF CHILDREN 1921 — 1923



Map 2

DENSITY of POPULATION 1931



CEYLON

Scale, 24 Miles to an Inch

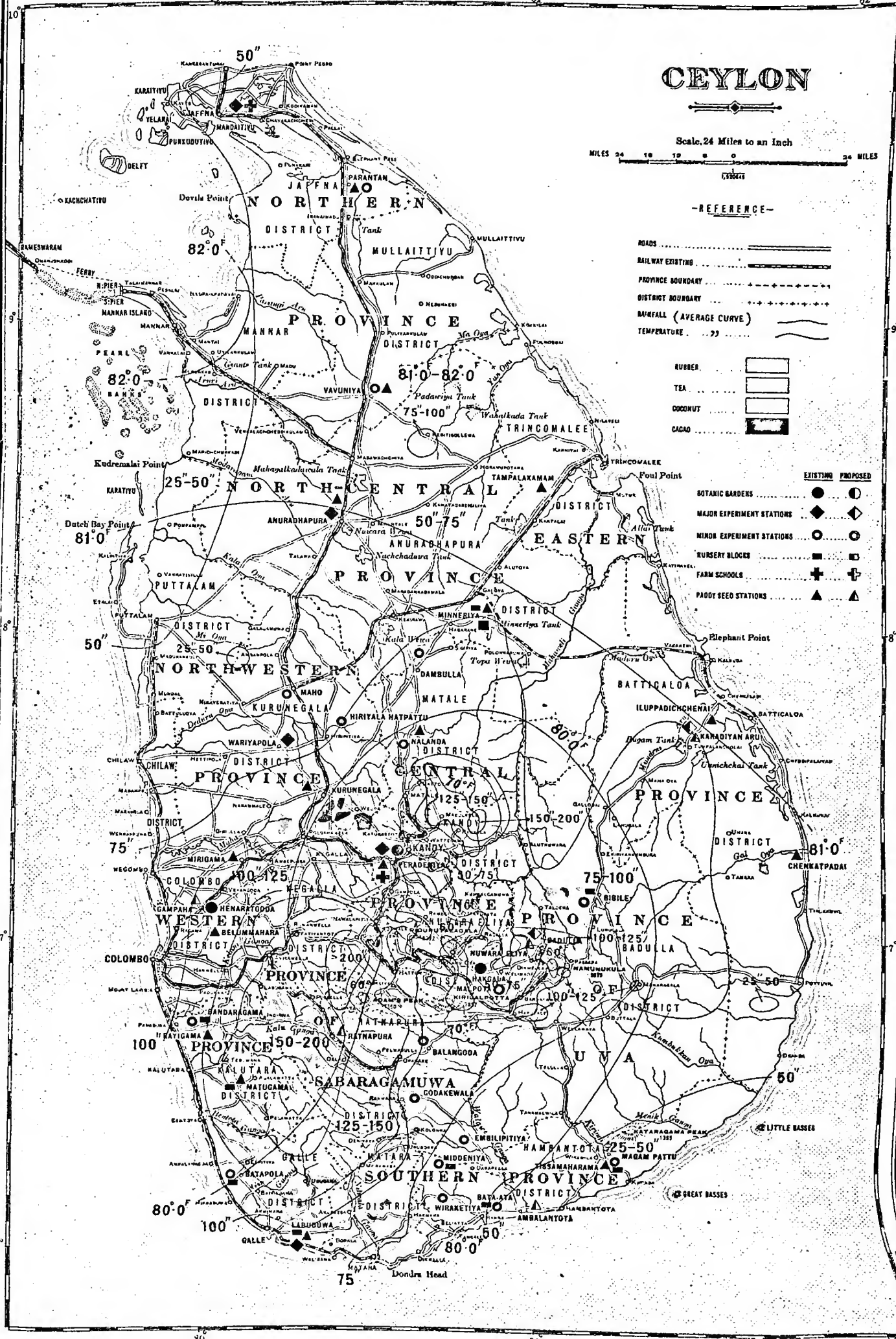
MILES 24 18 12 6 0 24

REFERENCE

- ROADS
- RAILWAY EXISTING
- PROVINCE BOUNDARY
- DISTRICT BOUNDARY
- RAINFALL (AVERAGE CURVE)
- TEMPERATURE

- RUBBER
- TEA
- COCONUT
- CACAO

- | | EXISTING | PROPOSED |
|---------------------------|----------|----------|
| BOTANIC GARDENS | ● | ○ |
| MAJOR EXPERIMENT STATIONS | ◆ | ◇ |
| MINOR EXPERIMENT STATIONS | ○ | ○ |
| NURSERY BLOCS | ■ | □ |
| FARM SCHOOLS | + | + |
| PADDY SEED STATIONS | ▲ | ▲ |

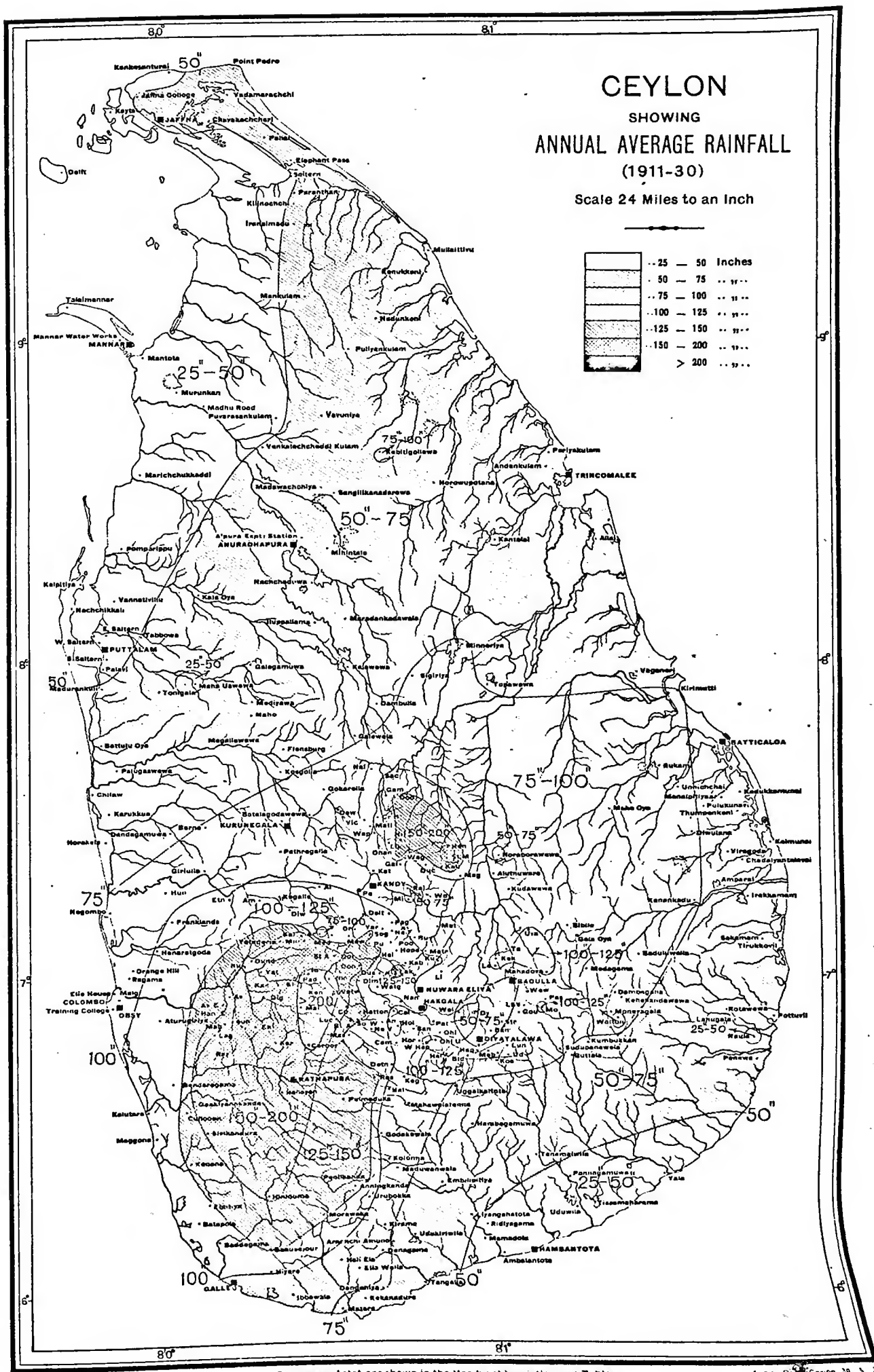


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Map 4

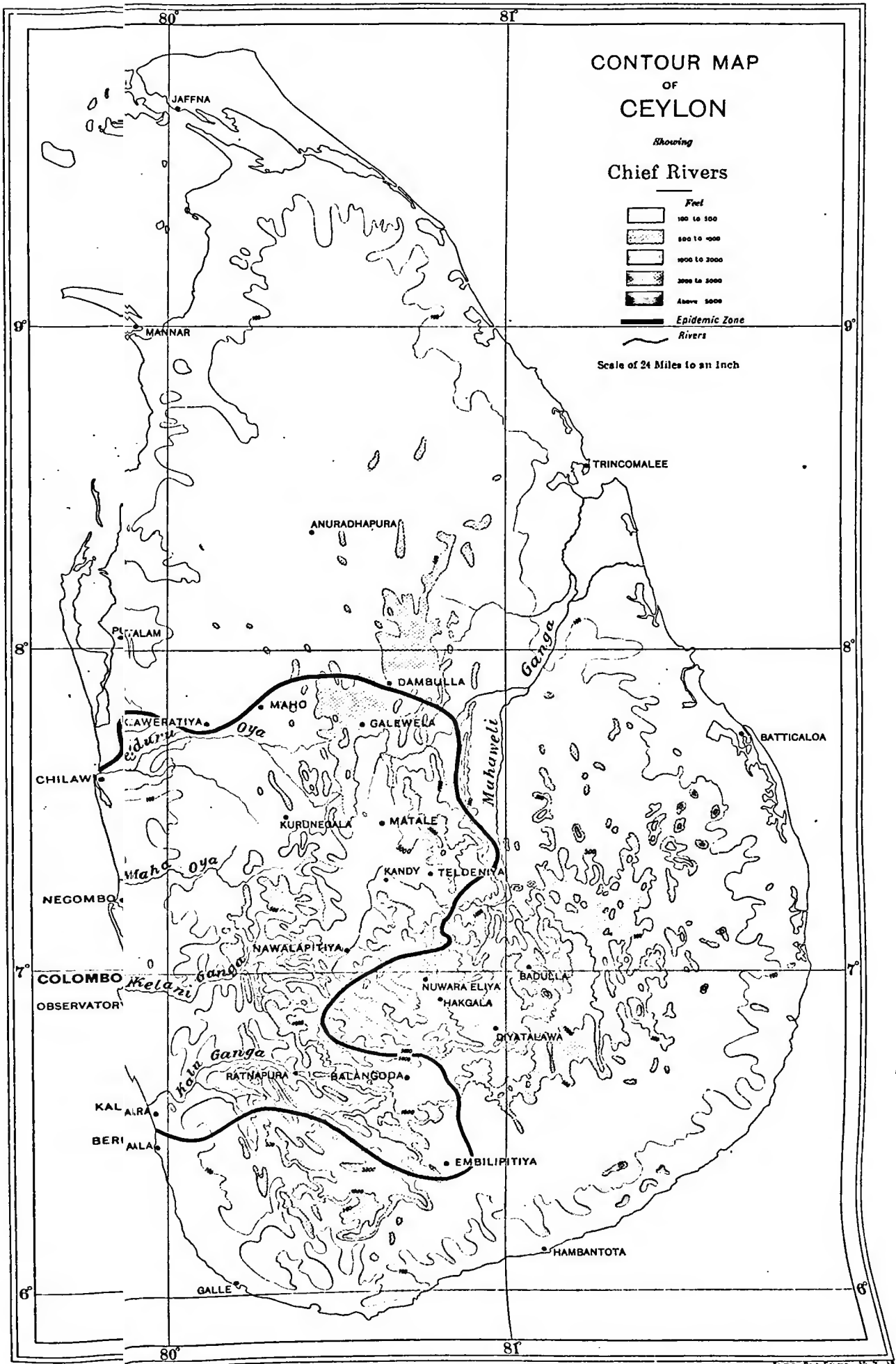
Survey Dept. Ceylon
25. 6. 35.



For names of stations shown in the Map by abbreviation, see Table.

Survey Dept. Ceylon 30. 3. 35.

Map 5



Map 6

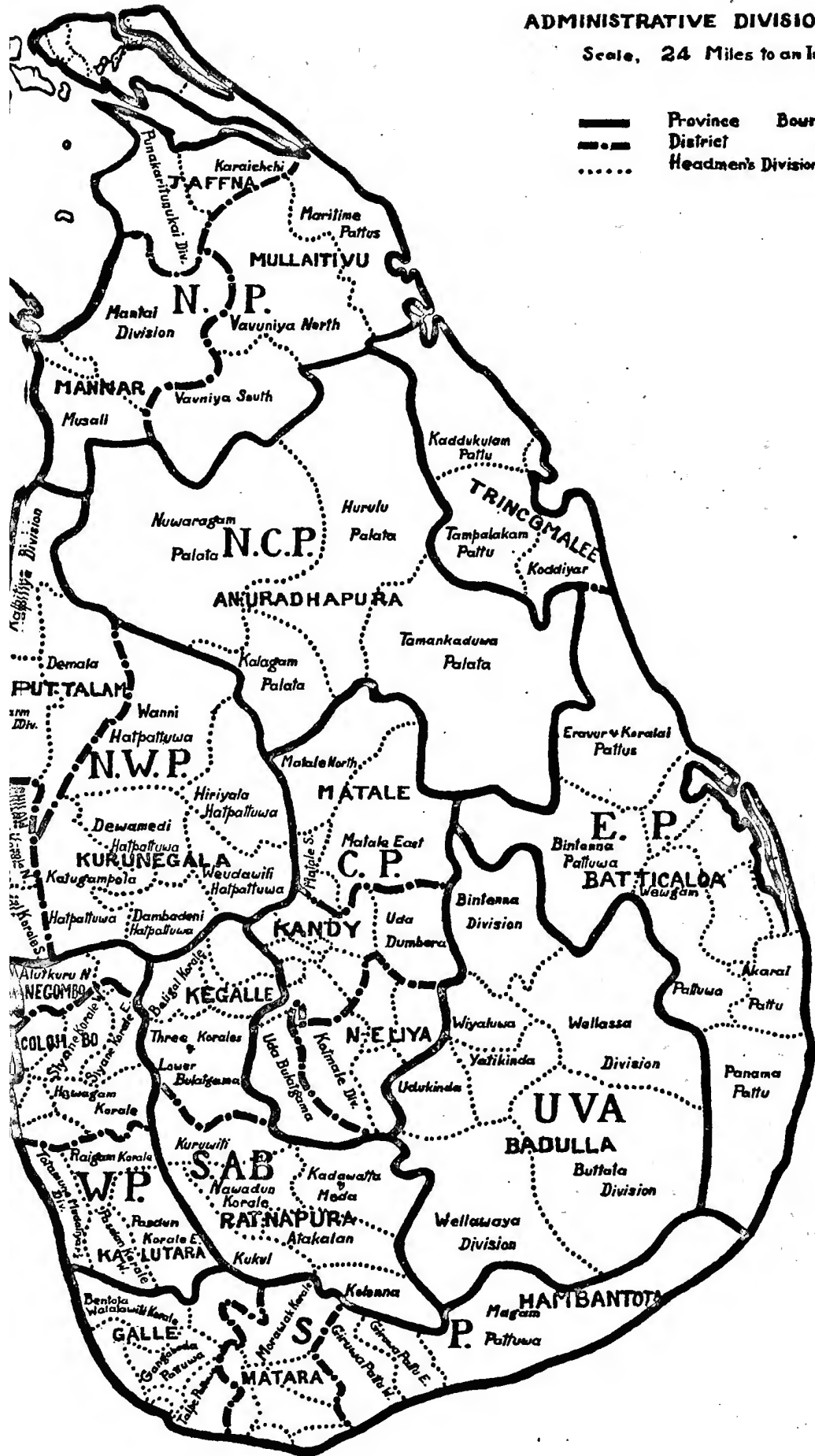
Survey Dept. Ceylon. 12. 7. 33.

CEYLON

ADMINISTRATIVE DIVISIONS

Scale, 24 Miles to an Inch.

- Province Boundaries
- - -** District " "
-** Headmen's Division " "



Map 7

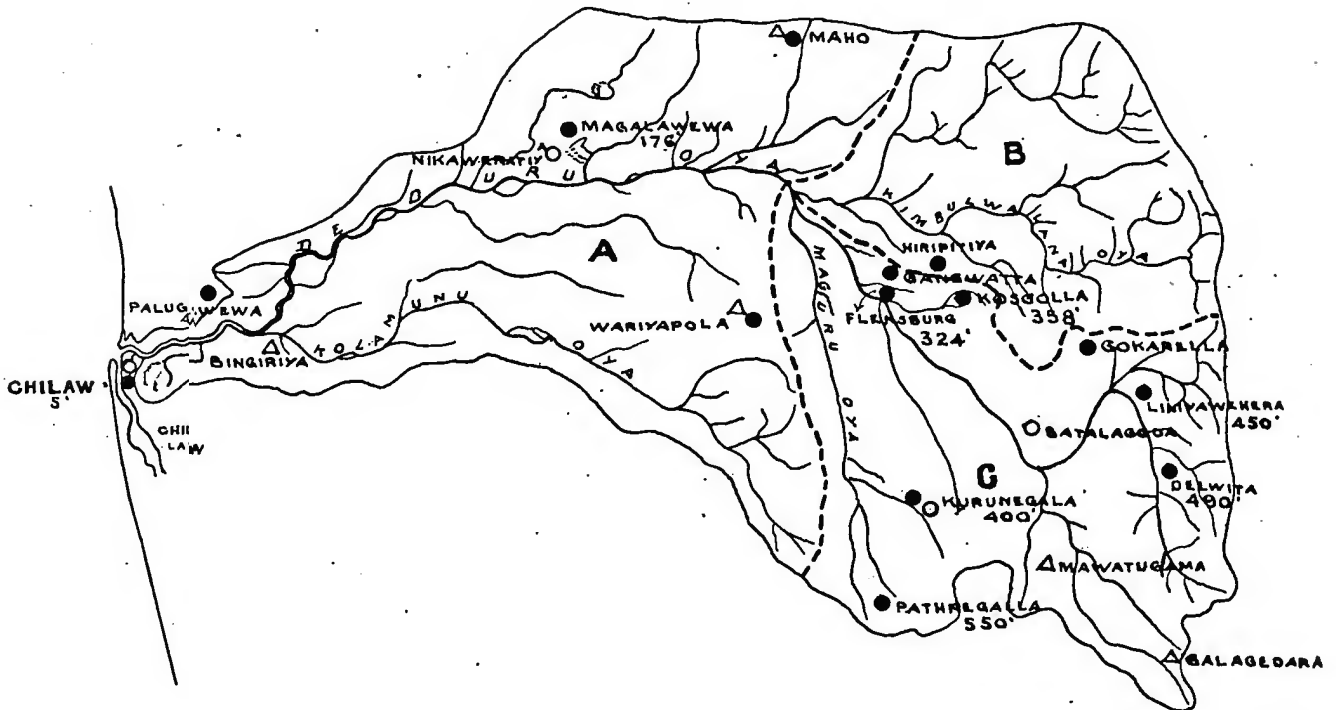
-DEDURU OYA-
-Scale 8 Miles to an Inch-

CATCHMENTS

<u>A</u>	<u>455</u>	Sq: Miles
<u>B</u>	<u>200</u>	" "
<u>C</u>	<u>320</u>	" "
<u>Total</u>	<u>975</u>	" "

REFERENCE

- Rainfall stations shown thus.....●
Hospitals.....○
Dispensaries.....△



Map 8

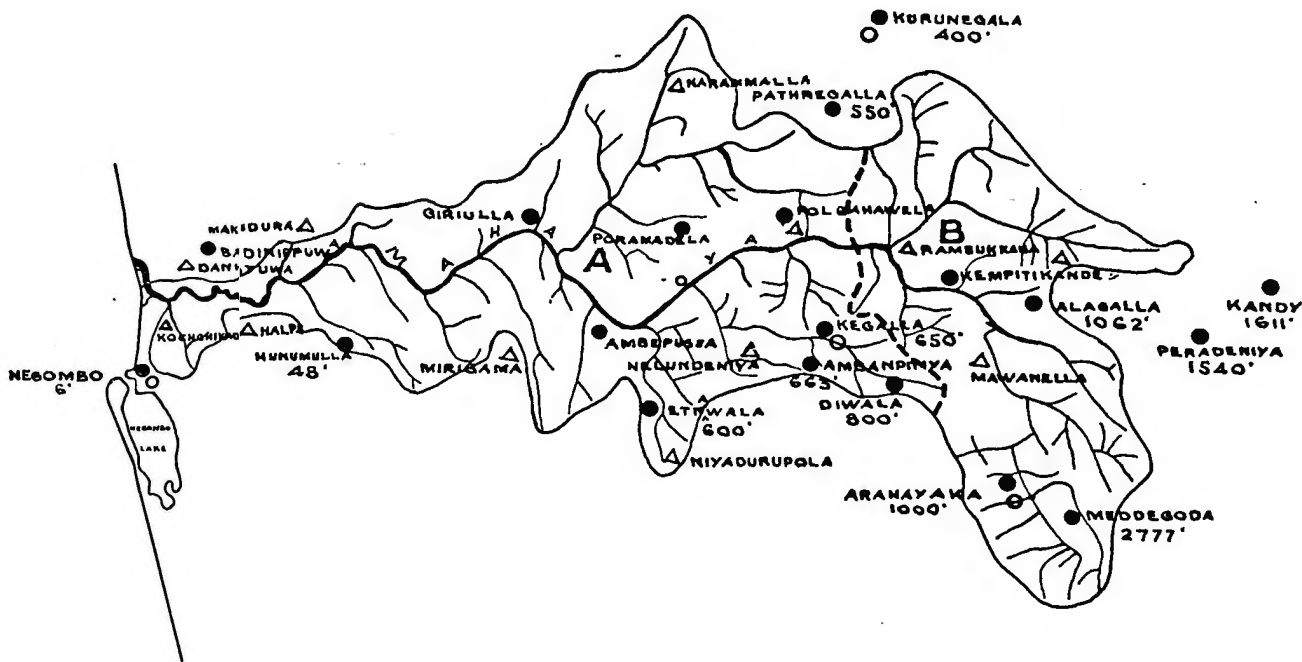
-MAHA OYA-
-Scale 8 Miles to an Inch-

CATCHMENTS

A	—	352	Sq. Miles
B	—	210	" "
Total	—	562	" "

REFERENCE

- Rainfall Stations shown thus.....●
- Hospitals.....○
- Dispensaries.....△



—KELANI GANGA—

—Scale 8 Miles to an Inch—

GATCHMENTS

A	= 320	Sq. Miles
B	= 425	" "
C	= 165	" "
<u>Total</u>	<u>= 910</u>	" "

REFERENCE

Rainfall Stations shown thus. ○

Hospitals △

Dispensaries □



Map 10

—KALU GANGA—

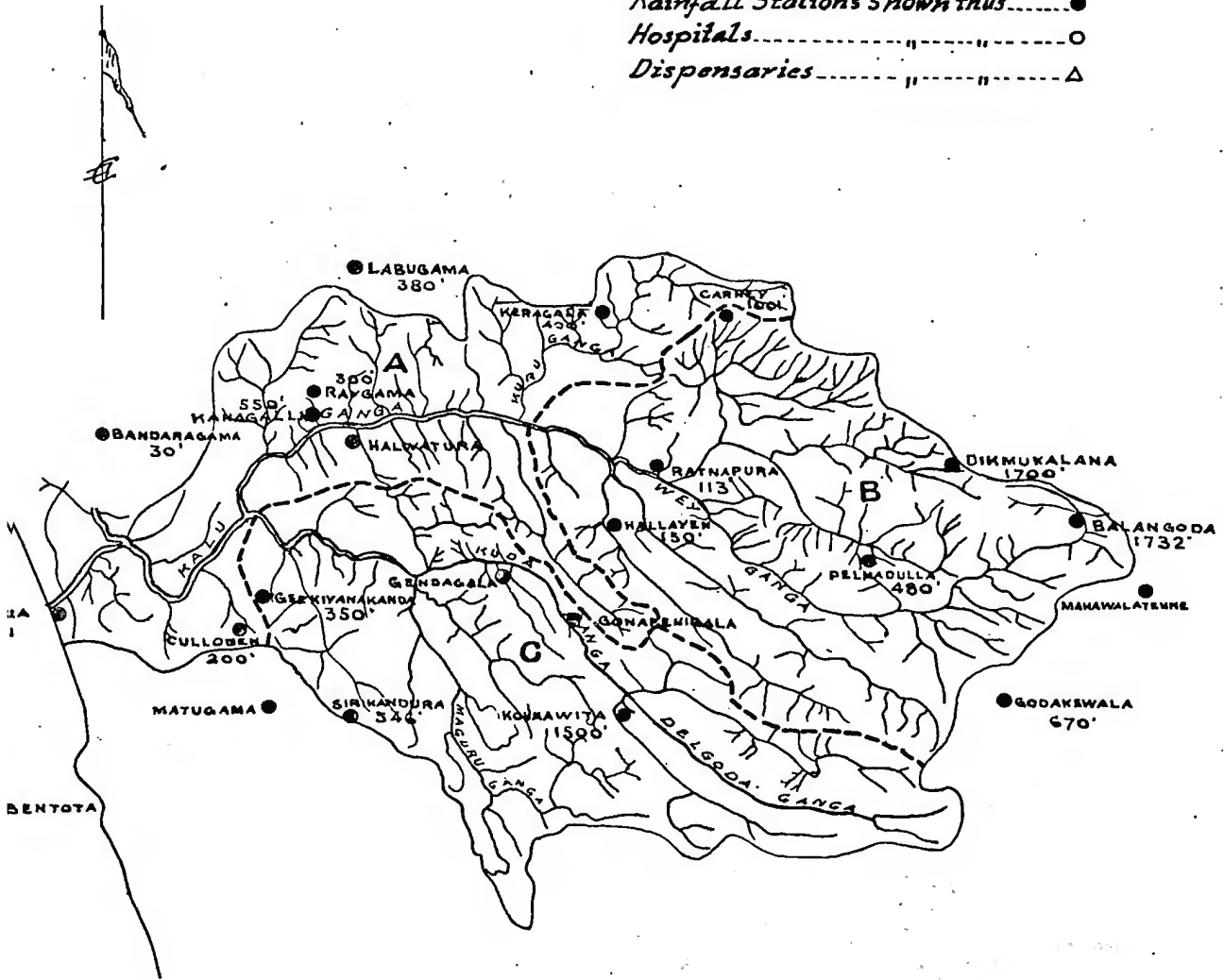
—Scale 8 Miles to an Inch—

CATCHMENTS

A	==	285	Sq. Miles
B	==	390	" "
C	==	350	" "
<u>Total</u>		<u>1025</u>	" "

REFERENCE

- Rainfall Stations shown thus.....●
 Hospitals.....".....○
 Dispensaries.....".....△



Map II

MAHAWELI GANGA

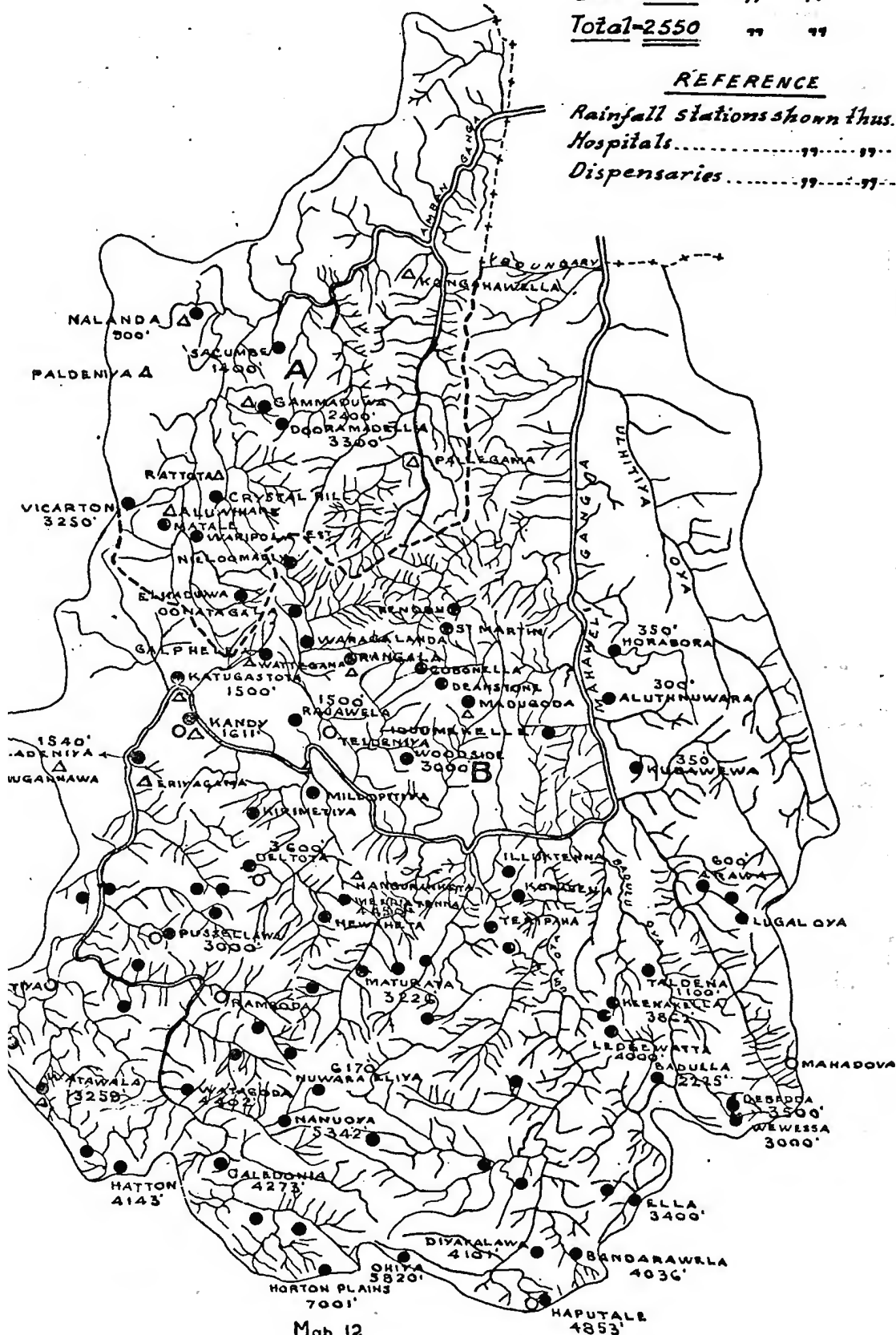
Scale 8 Miles to an Inch

CATCHMENTS

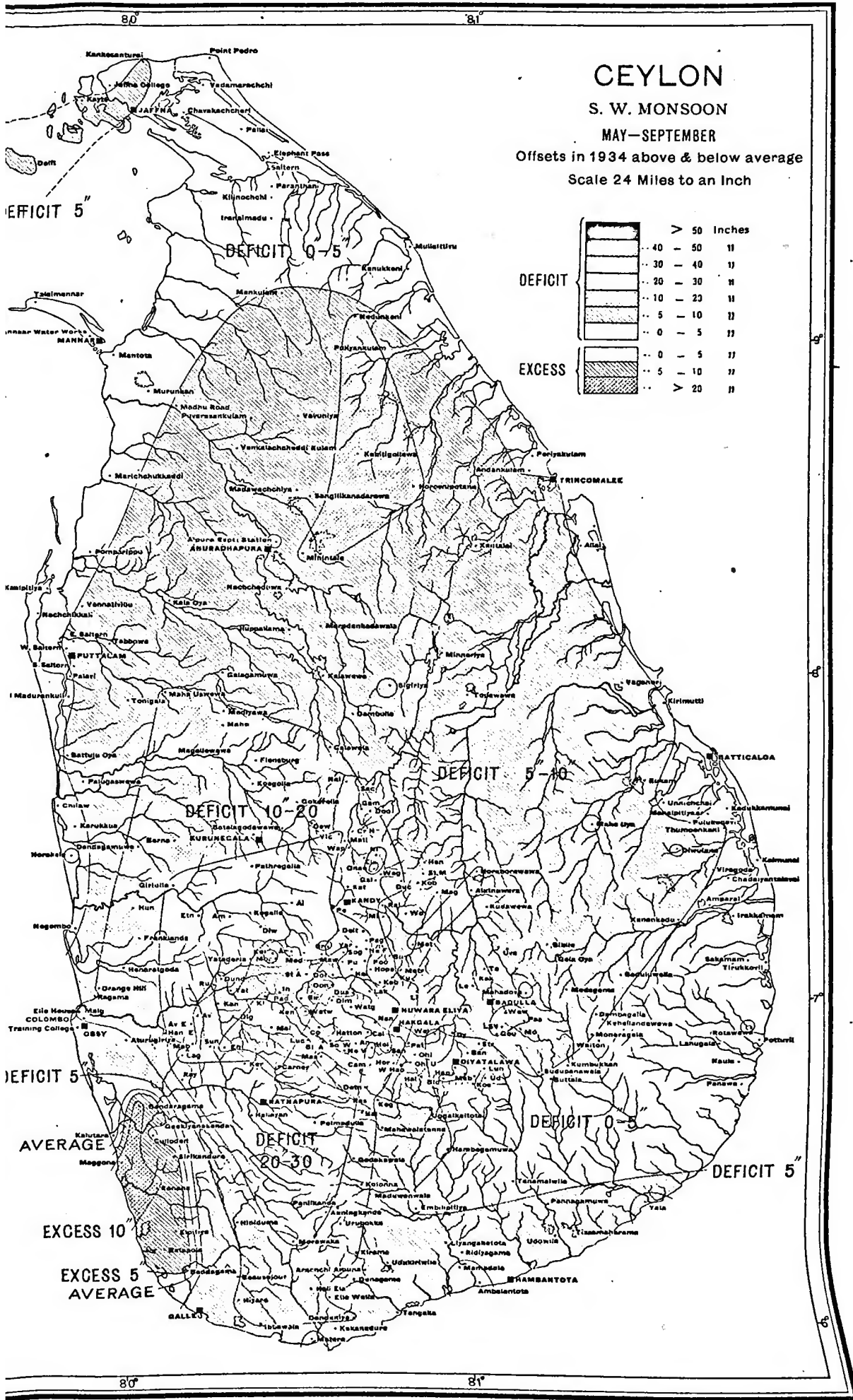
A	—	540	Sq. Miles
B	—	2010	" "
Total	—	2550	" "

REFERENCE

- Rainfall stations shown thus.....●
- Hospitals.....○
- Dispensaries.....△



Map 12



CEYLON

S. W. MONSOON

MAY-SEPTEMBER

Offsets in 1934 above & below average

Scale 24 Miles to an Inch

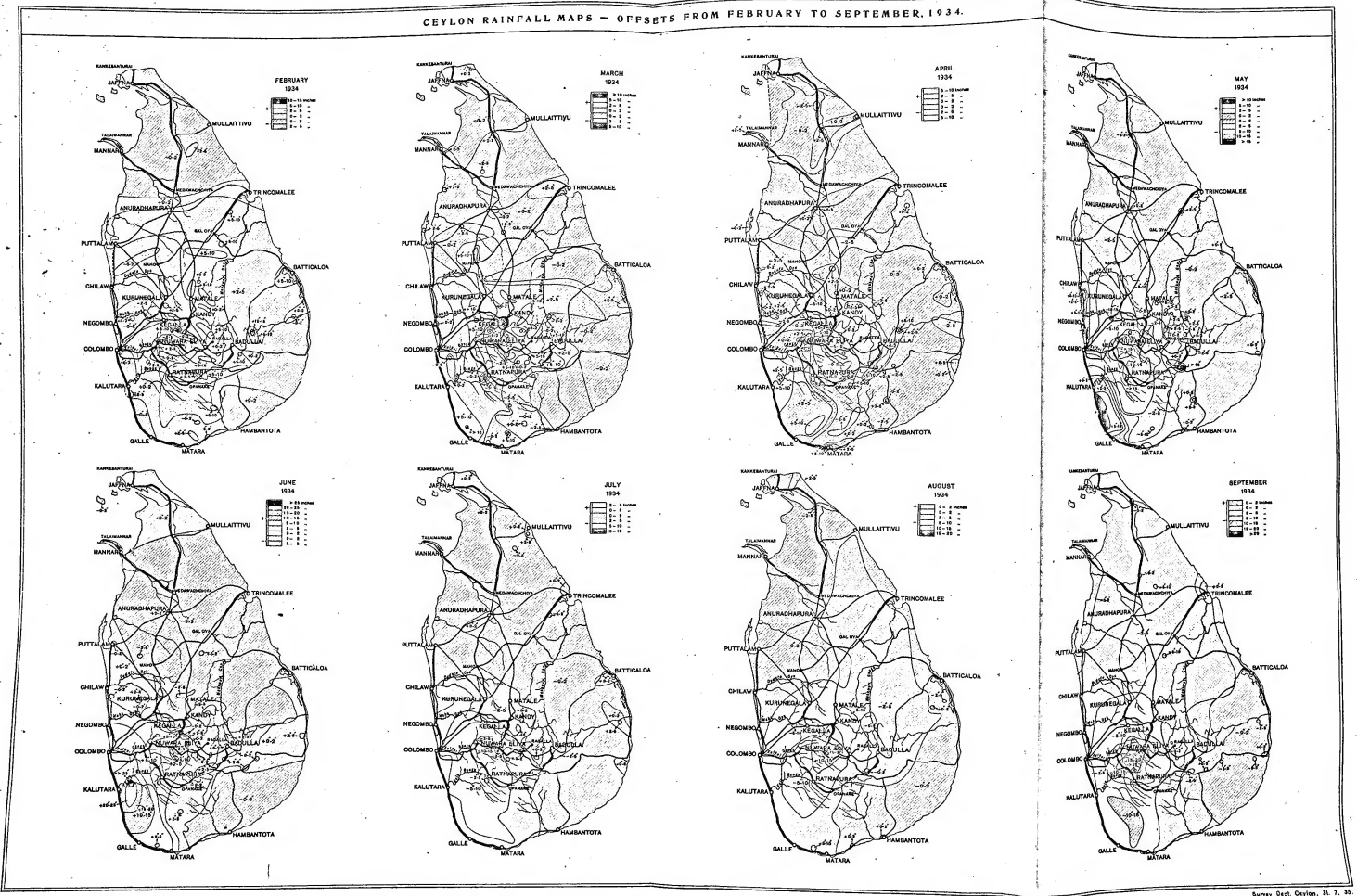
DEFICIT	[Hatched pattern]	> 50	Inches
	[Horizontal lines]	40 - 50	"
	[Vertical lines]	30 - 40	"
	[Diagonal lines /]	20 - 30	"
	[Diagonal lines \]	10 - 20	"
EXCESS	[Dotted pattern]	0 - 5	"
	[Horizontal lines]	5 - 10	"
	[Vertical lines]	10 - 20	"
	[Diagonal lines /]	> 20	"
	[Diagonal lines \]	> 20	"

For names of stations shown in the Map by abbreviation, see Table.

Survey Dept. Ceylon, 24. 6. 35

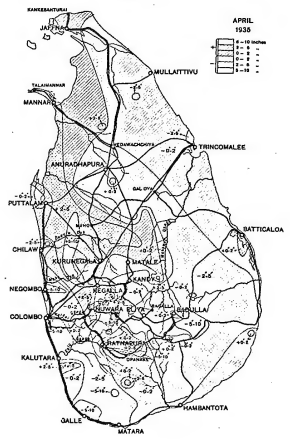
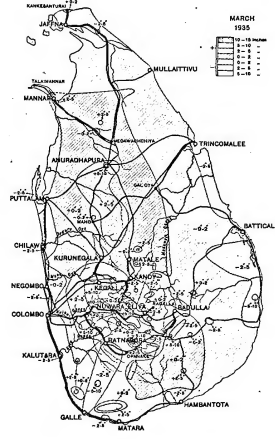
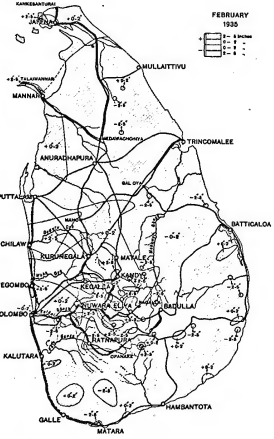
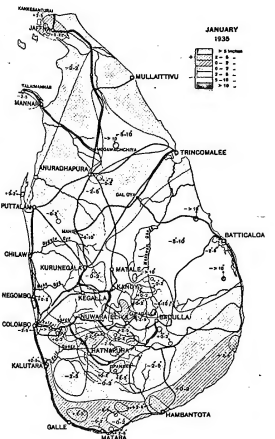
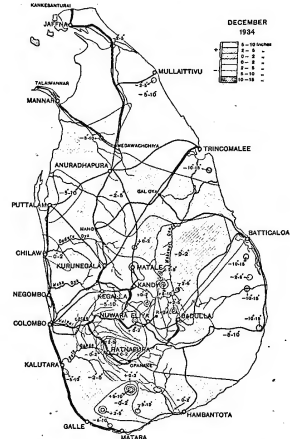
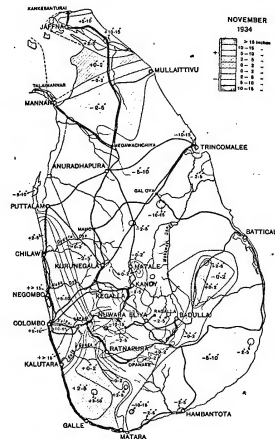
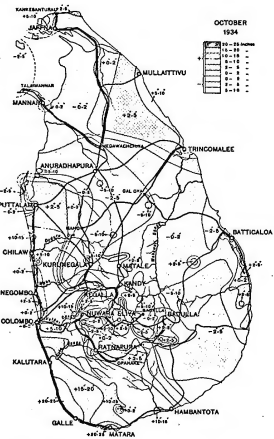
Map 13

CEYLON RAINFALL MAPS - OFFSETS FROM FEBRUARY TO SEPTEMBER, 1934.



Map 14a

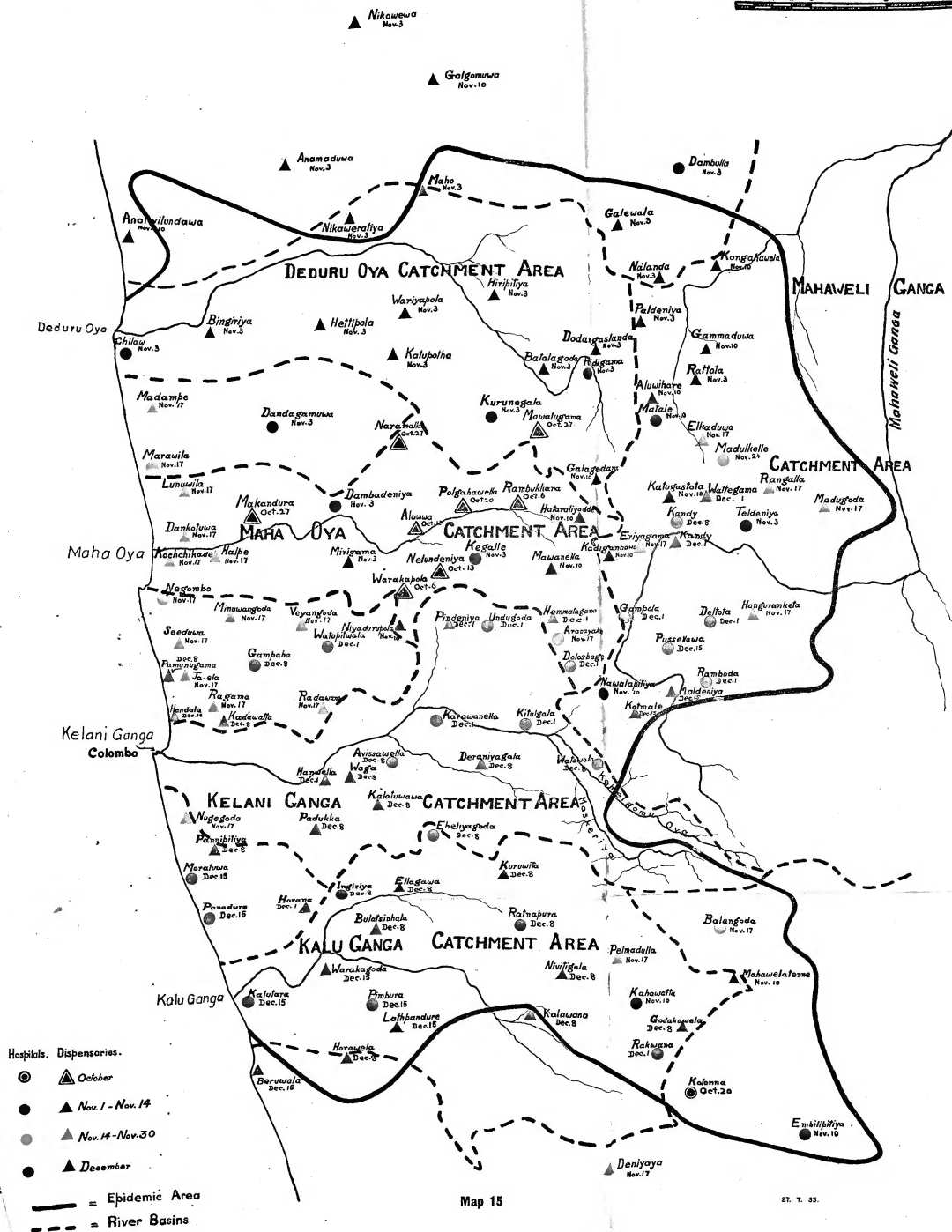
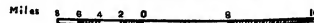
CEYLON RAINFALL MAPS — OFFSETS FROM OCTOBER, 1934 TO MAY, 1935.



Map 14b

START OF EPIDEMIC AS SHOWN BY INCREASED ATTENDANCES
AT DISPENSARIES AND HOSPITALS IN THE RIVER BASINS.

Scale 8 miles to an Inch.

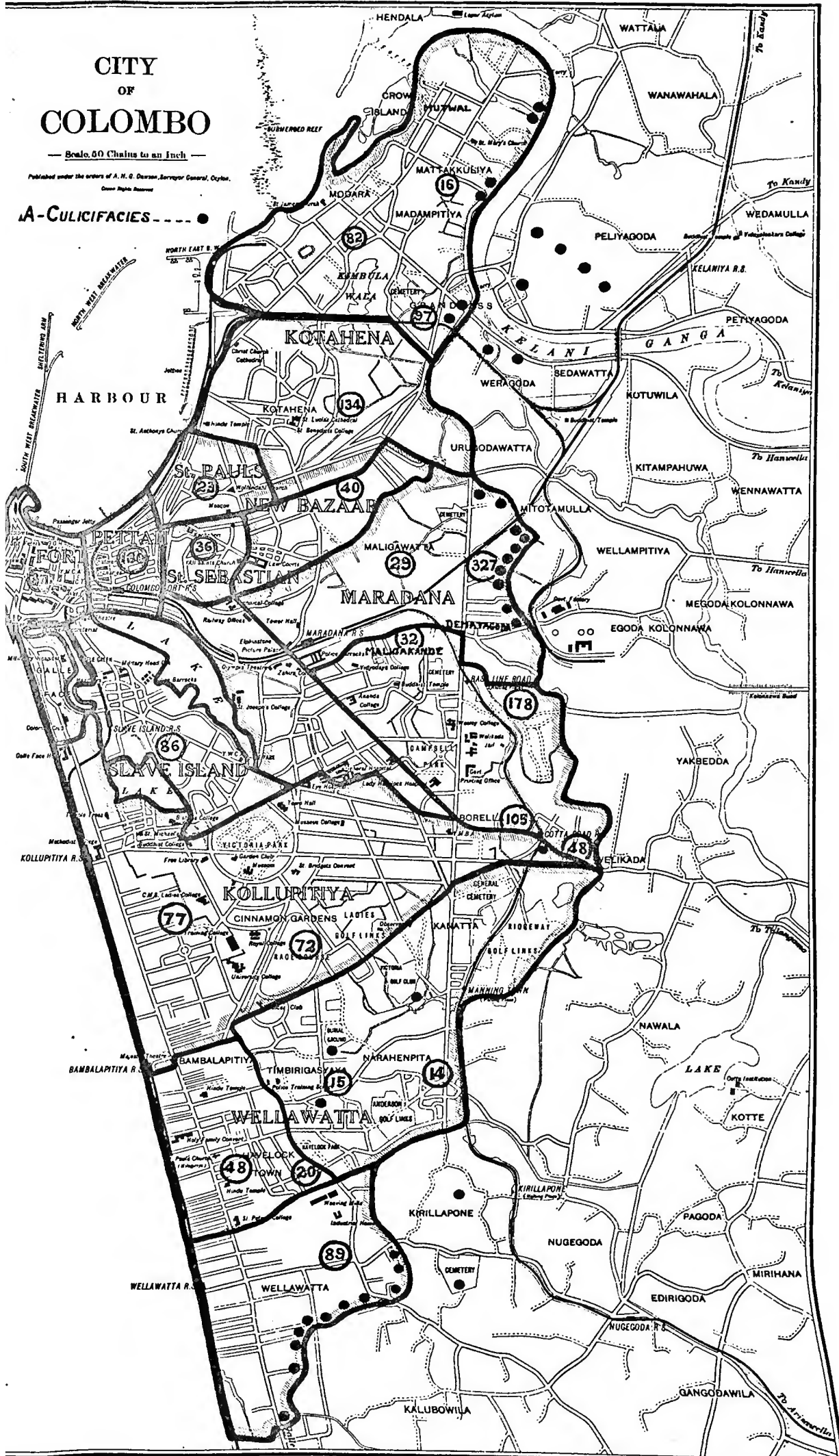


CITY OF COLOMBO

Scale 80 Chains to an Inch

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A-CULICIFACIES



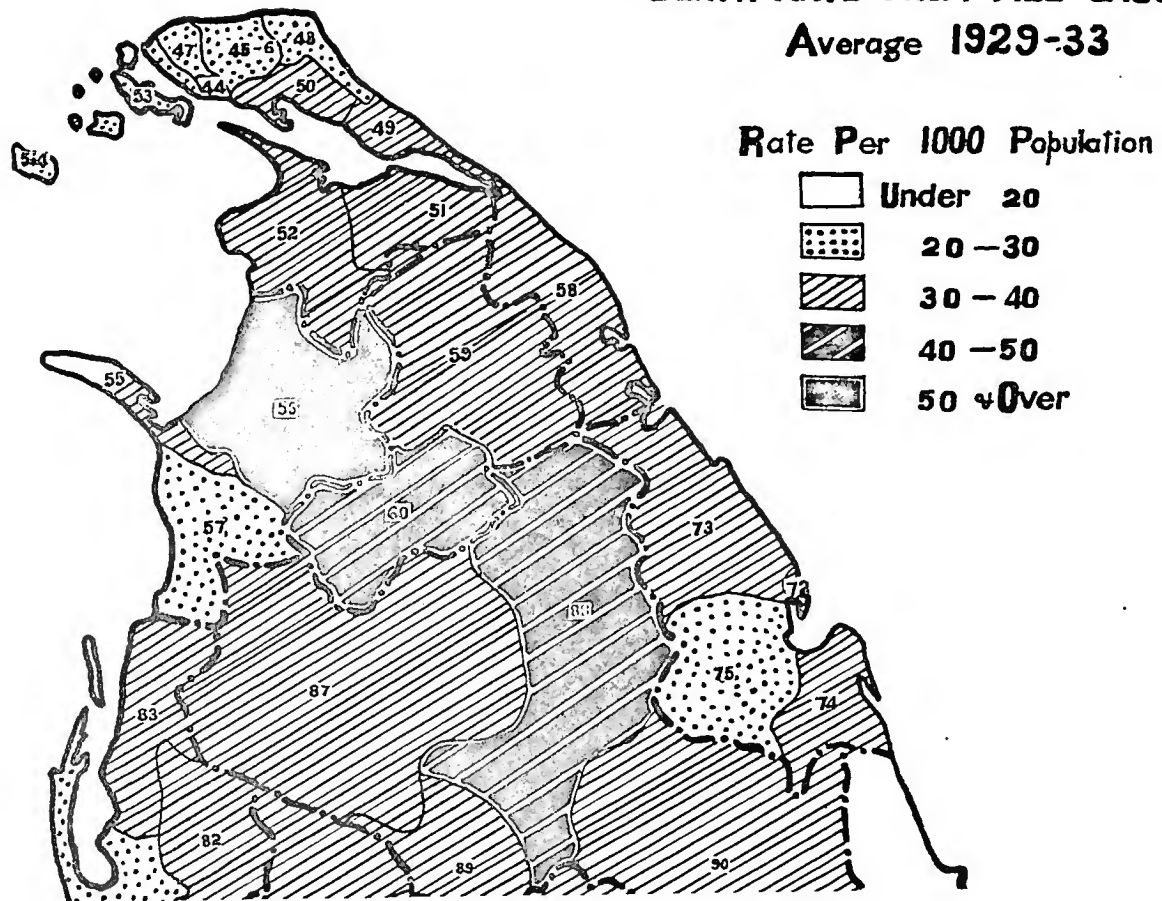
Map 16

Survey Dept. Ceylon

CEYLON

DEATH RATE FROM ALL CAUSES

Average 1929-33



Key to Numbers Given in Maps 17, 18, and 19.

Chief Headman's Divisions.

Colombo District.

- 1. Colombo Mudaliyar's Division
- 2. Alutkuru korale south
- 3. Hewagam korale
- 4. Salpiti korale
- 5. Siyane korale east
- 6. Siyane korale west

Negombo District.

- 7. Alutkuru korale north
- 8. Hapitigam korale

Kalutara District.

- 9. Kalutara and Panadure totamuno
- 10. Pasdun korale east
- 11. Pasdun korale west
- 12. Raigam korale

Kandy District.

- 13. Harispattu
- 14. Pata Dumbara
- 15. Pata Hewaheta
- 16. Tumpane
- 17. Uda Bulatgama
- 18. Uda Dumbara
- 19. Udunuwara
- 20. Udapalata
- 21. Yatinuwara

Matale District.

- 22. Matale South
- 23. Matale East
- 24. Matale North

Nuwara Eliya District.

- 25. Nuwara Eliya Gravets exclusive of Town
- 26. Kotmale
- 27. Uda Hewaheta
- 28. Walapane

Galle District.

Gravets beyond Municipal limits

Matara District.

- 35. Four Gravets beyond U. D. C. limits
- 36. Wellaboda pattu
- 37. Weligam korale
- 38. Morawak korale
- 39. Kandaboda pattu
- 40. Gangaboda pattu

Hambantota District.

- 41. Magam pattu
- 42. Giruwa pattu east
- 43. Giruwa pattu west

Jaffna District.

- 44. Jaffna Division
- 45. Vallkamam East
- 46. Vallkamam North
- 47. Vallkamam West
- 48. Vadamaradchi
- 49. Pachchilalpallai
- 50. Tenmaradchi
- 51. Karachchi
- 52. Punakari-Tunukkal
- 53. Islands
- 54. Delft

Mannar District.

- 55. Mannar Island Division
- 56. Mantal Division
- 57. Musali Division

Mullaitivu District.

- 58. Maritime pattus
- 59. Vavuniya North
- 60. Vavuniya South

Batticaloa District.

- 61. Manmunai pattu north
- 62. Manmunai pattu south
- 63. Eravur pattu
- 64. Korala pattu
- 65. Eruvill and Porativu pattus
- 66. Karalvaku and Nintavur pattus
- 67. Sammanturai pattu
- 68. Akkarai pattu
- 69. Panawa pattu
- 70. Bintenna pattu
- 71. Wewagam pattu

Trincomalee District.

- 72. Trincomalee Town and Gravets
- 73. Kaddukulam pattu
- 74. Koddliyar pattu
- 75. Kaddukulam pattu

Kurunegala District.

- 76. Hiriyala hatpattu
- 77. Weudawili hatpattu
- 78. Dambadeni hatpattu
- 79. Dewamedhi hatpattu
- 80. Katugampola hatpattu
- 81. Wannai hatpattu

Puttalam District.

- 82. Demala hatpattu
- 83. Kalpitiya division
- 84. Puttalam pattu division

Chilaw District.

- 85. Pitigal korale north
- 86. Pitigal korale south

Anuradhapura District.

- 87. Nuwaragam palata
- 88. Hurulu palata
- 89. Kalagam palata
- 90. Tamankaduwa palata

Badulla District.

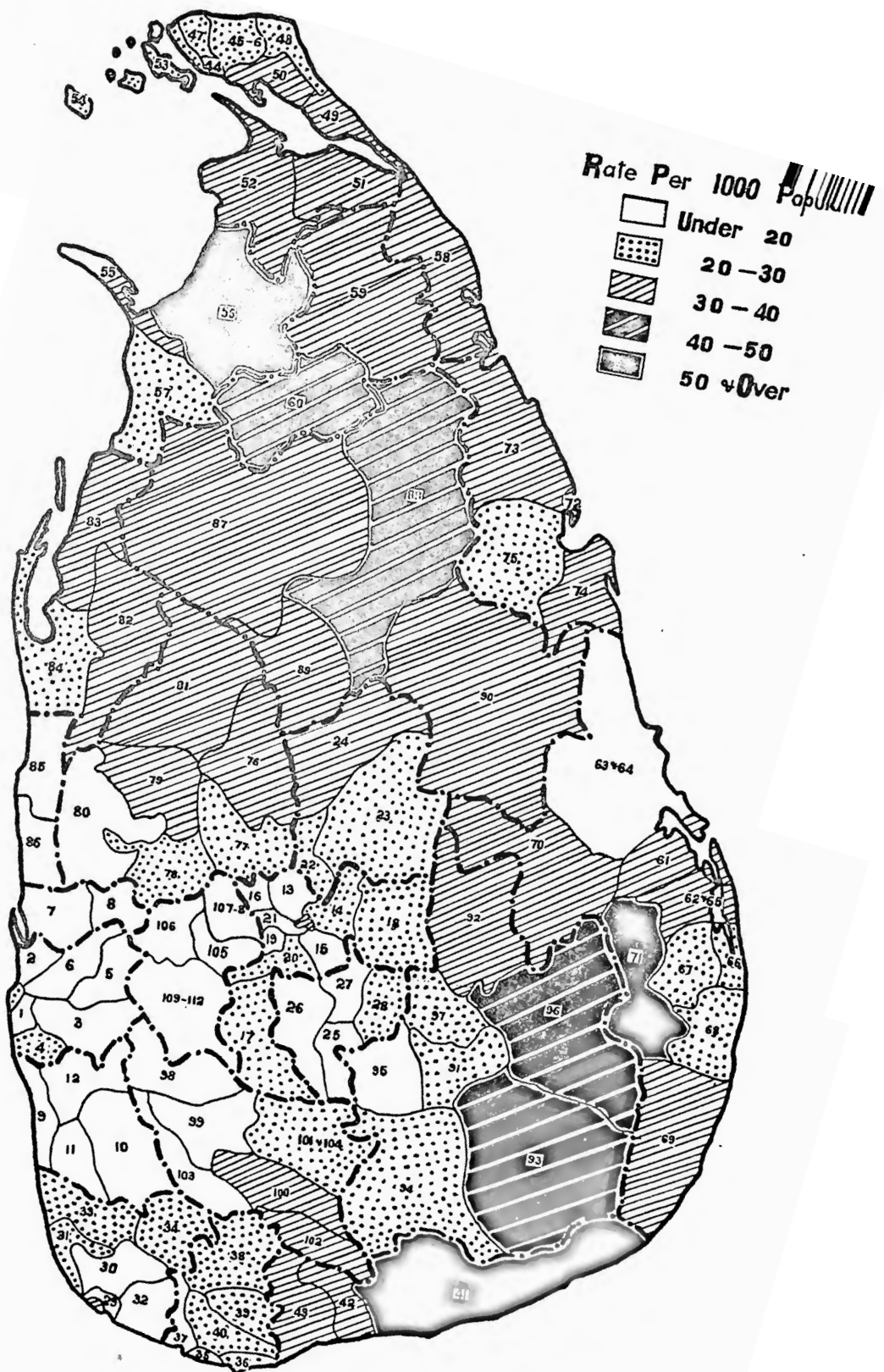
- 91. Yatikinda division
- 92. Bintenna division
- 93. Buttala division
- 94. Wellawaya division
- 95. Udukinda division
- 96. Wellasa division
- 97. Wiyaluwa division

Ratnapura District.

- 98. Kuruwita korale
- 99. Nawadun korale
- 100. Atakalan korale
- 101. Kadawata korale
- 102. Kolonna korale
- 103. Kukulu korale
- 104. Meda korale

Kegalla District.

- 105. Paranakuru korale
- 106. Belligal korale
- 107. Galboda korale
- 108. Kinigoda korale
- 109. Dehigampal korale
- 110. Atulugam korale
- 111. Panawal korale
- 112. Lower Bulatgam



Map 17

Key to Numbers Given in Maps 17, 18, and 19.

Chief Headman's Divisions.

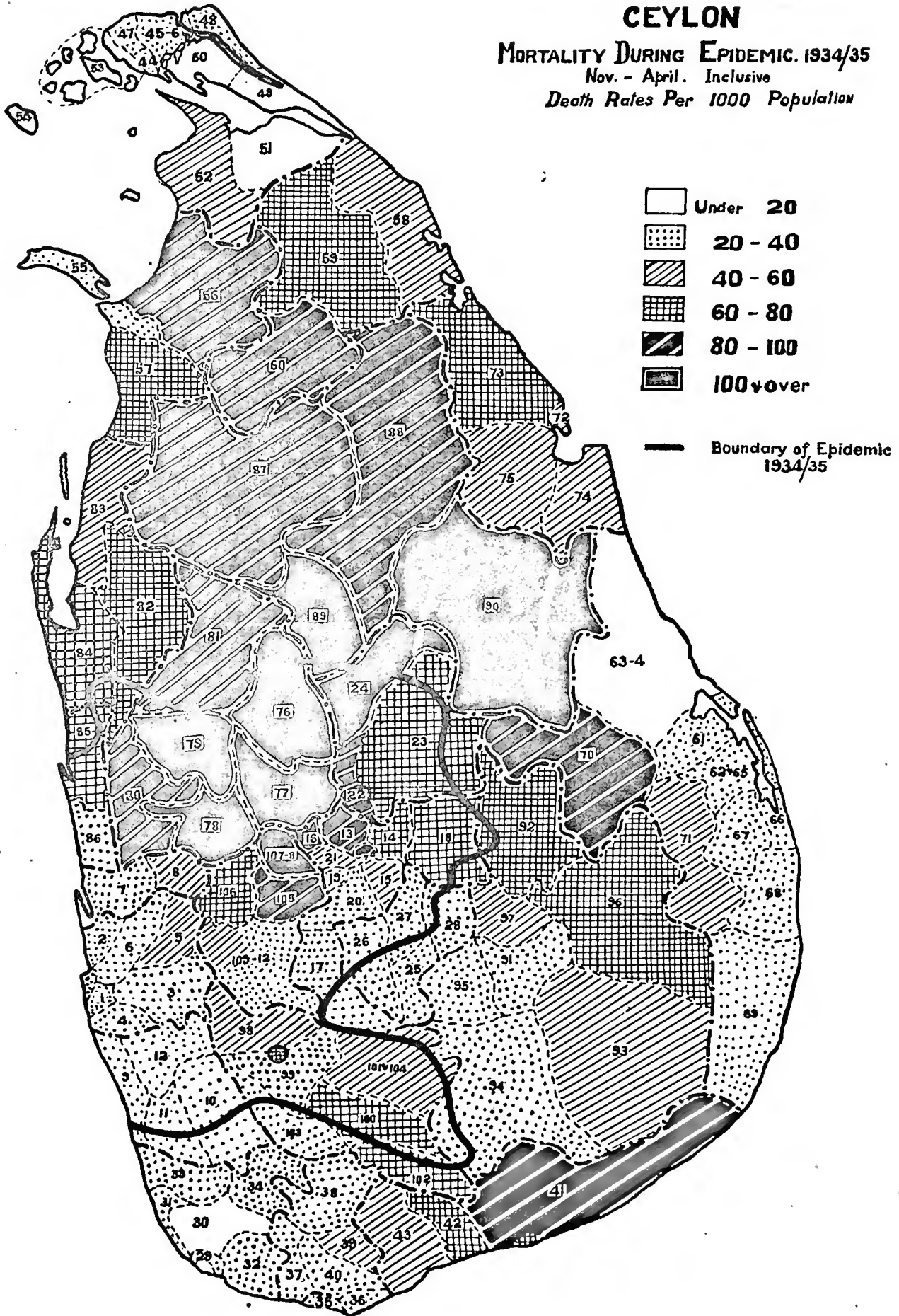
- | | | |
|--|--|---|
| <p><i>Colombo District.</i></p> <ol style="list-style-type: none"> 1. Colombo Mudaliyar's Division 2. Alutkuru korale south 3. Hewagama korale 4. Salpiti korale 5. Siyane korale east 6. Siyane korale west <p><i>Negombo District.</i></p> <ol style="list-style-type: none"> 7. Alutkuru korale north 8. Hapitigam korale <p><i>Kalutara District.</i></p> <ol style="list-style-type: none"> 9. Kalutara and Panadure totaimune 10. Pasdun korale east 11. Pasdun korale west 12. Rnigam korale <p><i>Kandy District.</i></p> <ol style="list-style-type: none"> 13. Harispattu 14. Pata Dumbara 15. Pata Hewaheta 16. Tumpane 17. Uda Bulatgama 18. Uda Dumbara 19. Udunuwara 20. Udapalata 21. Yathuwara <p><i>Matale District.</i></p> <ol style="list-style-type: none"> 22. Matale South 23. Matale East 24. Matale North <p><i>Nuwara Eliya District.</i></p> <ol style="list-style-type: none"> 25. Nuwara Eliya Gravets exclusive of Town 26. Kotmale 27. Uda Hewaheta 28. Walapane <p><i>Galle District.</i></p> <ol style="list-style-type: none"> 29. Four Gravets beyond Municipal limits 30. Gangaboda pattu 31. Wellaboda pattu 32. Talpe pattu 33. Bentota-Walallawiti korale 34. Hitudum pattu | <p><i>Matara District.</i></p> <ol style="list-style-type: none"> 35. Four Gravets beyond U. D. C. limits 36. Wellaboda pattu 37. Wellgam korale 38. Morawak korale 39. Kandaboda pattu 40. Gangaboda pattu <p><i>Hambantota District.</i></p> <ol style="list-style-type: none"> 41. Magam pattu 42. Giruwa pattu east 43. Giruwa pattu west <p><i>Jaffna District.</i></p> <ol style="list-style-type: none"> 44. Jaffna Division 45. Vallkaman East 46. Vallkaman North 47. Vallkaman West 48. Vadamaradehi 49. Pachchilalpallai 50. Tenmaradehi 51. Karachehi 52. Punakari-Tunukkal 53. Islands 54. Delft <p><i>Mannar District.</i></p> <ol style="list-style-type: none"> 55. Mannar Island Division 56. Mantai Division 57. Musali Division <p><i>Mullaiteivu District.</i></p> <ol style="list-style-type: none"> 58. Maritime pattus 59. Vavuniya North 60. Vavuniya South <p><i>Batticaloa District.</i></p> <ol style="list-style-type: none"> 61. Maumunai pattu north 62. Maumunai pattu south 63. Eravur pattu 64. Korakal pattu 65. Eruvil and Porativu pattus 66. Karalvaku and Nintavur pattus 67. Sammanturai pattu 68. Akkarai pattu 69. Panawa pattu 70. Bintenna pattu 71. Wewagam pattu <p><i>Trincomalee District.</i></p> <ol style="list-style-type: none"> 72. Trincomalee Town and Gravets 73. Kaddukulam pattu 74. Koddilyar pattu 75. Tampalakamam pattu | <p><i>Kurunegala District.</i></p> <ol style="list-style-type: none"> 76. Hiriyala hatpattu 77. Weudawili hatpattu 78. Dambadeni hatpattu 79. Dewannedi hatpattu 80. Katukampola hatpattu 81. Wannl hatpattu <p><i>Puttalam District.</i></p> <ol style="list-style-type: none"> 82. Demala hatpattu 83. Kalpitlya division 84. Puttalam pattu division <p><i>Chilae District.</i></p> <ol style="list-style-type: none"> 85. Pitigal korale north 86. Pitigal korale south <p><i>Anuradhapura District.</i></p> <ol style="list-style-type: none"> 87. Nuwaragam palata 88. Hurulu palata 89. Kalagam palata 90. Tamankaduwa palata <p><i>Badulla District.</i></p> <ol style="list-style-type: none"> 91. Yatikinda division 92. Bintenna division 93. Buttala division 94. Wellawaya division 95. Udukinda division 96. Wellassa division 97. Wiyaluwa division <p><i>Ratnapura District.</i></p> <ol style="list-style-type: none"> 98. Kuruwita korale 99. Nawadun korale 100. Atakalan korale 101. Kadawata korale 102. Kolonna korale 103. Kukulu korale 104. Meda korale <p><i>Kegalla District.</i></p> <ol style="list-style-type: none"> 105. Parakkuru korale 106. Belical korale 107. Galboda korale 108. Kingoda korale 109. Dehigampal korale 110. Atulugam korale 111. Panawal korale 112. Lower Bulatgama |
|--|--|---|

CEYLON

MORTALITY DURING EPIDEMIC. 1934/35

Nov. - April. Inclusive

Death Rates Per 1000 Population



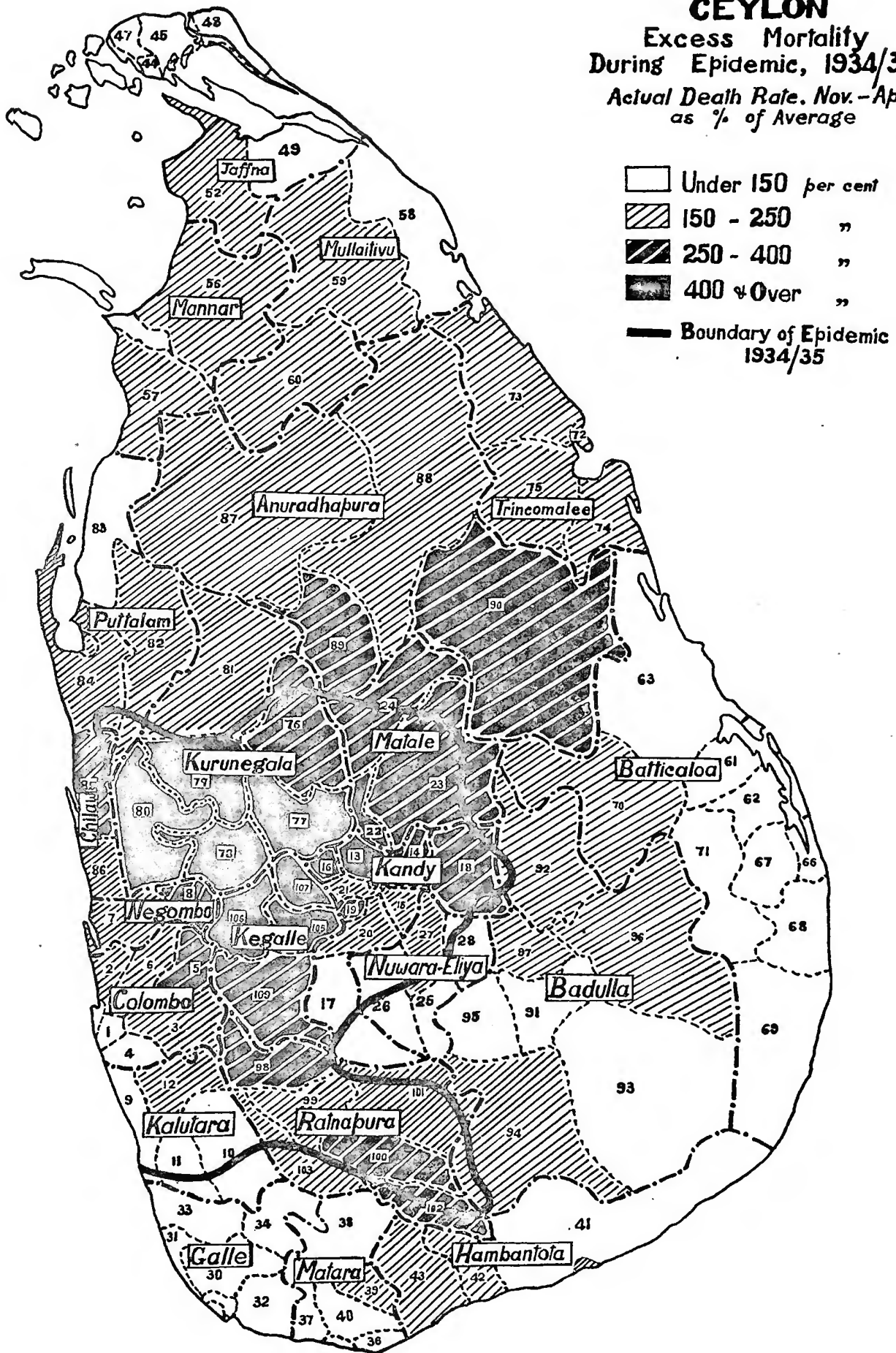
Key to Numbers Given in Maps 17, 18, and 19.

Chief Headman's Divisions.

<i>Colombo District.</i>		
1. Colombo Mudaliyar's Division		
2. Alutkuru korale south		
3. Hewagam korale		
4. Salpiti korale		
5. Siyane korale east		
6. Siyane korale west		
<i>Negombo District.</i>		
7. Alutkuru korale north		
8. Hapitigam korale		
<i>Kalutara District.</i>		
9. Kalutara and Panadure totamuno		
10. Pasdun korale east		
11. Pasdun korale west		
12. Raigam korale		
<i>Kandy District.</i>		
13. Harispattu		
14. Pata Dumbara		
15. Pata Hewaheta		
16. Tumpane		
17. Uda Bulatgama		
18. Uda Dumbara		
19. Udunuwara		
20. Udupalata		
21. Yatibuwara		
<i>Matale District.</i>		
22. Matale South		
23. Matale East		
24. Matale North		
<i>Nuwara Eliya District.</i>		
25. Nuwara Eliya Gravets exclusive of Town		
26. Kotmale		
27. Uda Hewaheta		
28. Walapane		
<i>Galle District.</i>		
29. Four Gravets beyond Municipal limits		
30. Gangaboda pattu		
31. Wellaboda pattu		
32. Enlpe pattu		
33. Bentota-Walialawiti korale		
34. Hindum pattu		
<i>Matara District.</i>		
35. Four Gravets beyond U. D. C. limits		
36. Wellaboda pattu		
37. Wellgam korale		
38. Morawak korale		
39. Kandaboda pattu		
40. Gangaboda pattu		
<i>Hambantota District.</i>		
41. Magam pattu		
42. Giruwa pattu east		
43. Giruwa pattu west		
<i>Jaffna District.</i>		
44. Jaffna Division		
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46. Valikamam North		
47. Valikamam West		
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49. Pachchilalpallai		
50. Tenmaradchi		
51. Karachchi		
52. Punakari-Tunukkal		
53. Islands		
54. Delft		
<i>Mannar District.</i>		
55. Mannar Island Division		
56. Mantal Division		
57. Musall Division		
<i>Mullaitivu District.</i>		
58. Maritime pattus		
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64. Koralai pattu		
65. Eravil and Porativu pattus		
66. Karalvaku and Nintavur pattus		
67. Sammantural pattu		
68. Akkarai pattu		
69. Panawa pattu		
70. Bintenna pattu		
71. Wewagam pattu		
<i>Trincomalee District.</i>		
72. Trincomalee Town and Gravets		
73. Kaddukulam pattu		
74. Koddiyar pattu		
75. Tavpalakamam pattu		
<i>Kurunegala District.</i>		
76. Hiriyala hatpattu		
77. Weudawili hatpattu		
78. Dambadeni hatpattu		
79. Dewamedhi hatpattu		
80. Katugampola hatpattu		
81. Wannil hatpattu		
<i>Puttalam District.</i>		
82. Demala hatpattu		
83. Kalpitiya division		
84. Puttalam pattu division		
<i>Chilavo District.</i>		
85. Pitigal korale north		
86. Pitigal korale south		
<i>Anuradhapura District.</i>		
87. Nuwaragam palata		
88. Hurulu palata		
89. Kalagam palata		
90. Tamankaduwa palata		
<i>Badulla District.</i>		
91. Yatikinda division		
92. Bintenna division		
93. Buttala division		
94. Wellawaya division		
95. Udukinda division		
96. Wellissa division		
97. Wiyaluwa division		
<i>Ratnapura District.</i>		
98. Kuruwita korale		
99. Xawadun korale		
100. Atakalan korale		
101. Kadawata korale		
102. Kolonna korale		
103. Kukulu korale		
104. Meda korale		
<i>Kegalla District.</i>		
105. Paranakuru korale		
106. Beligal korale		
107. Galboda korale		
108. Kinigoda korale		
109. Dehigampal korale		
110. Atulgama korale		
111. Panawal korale		
112. Lower Bulatgama		

CEYLON

Excess Mortality
During Epidemic, 1934/35
Actual Death Rate, Nov. - Apr.
as % of Average

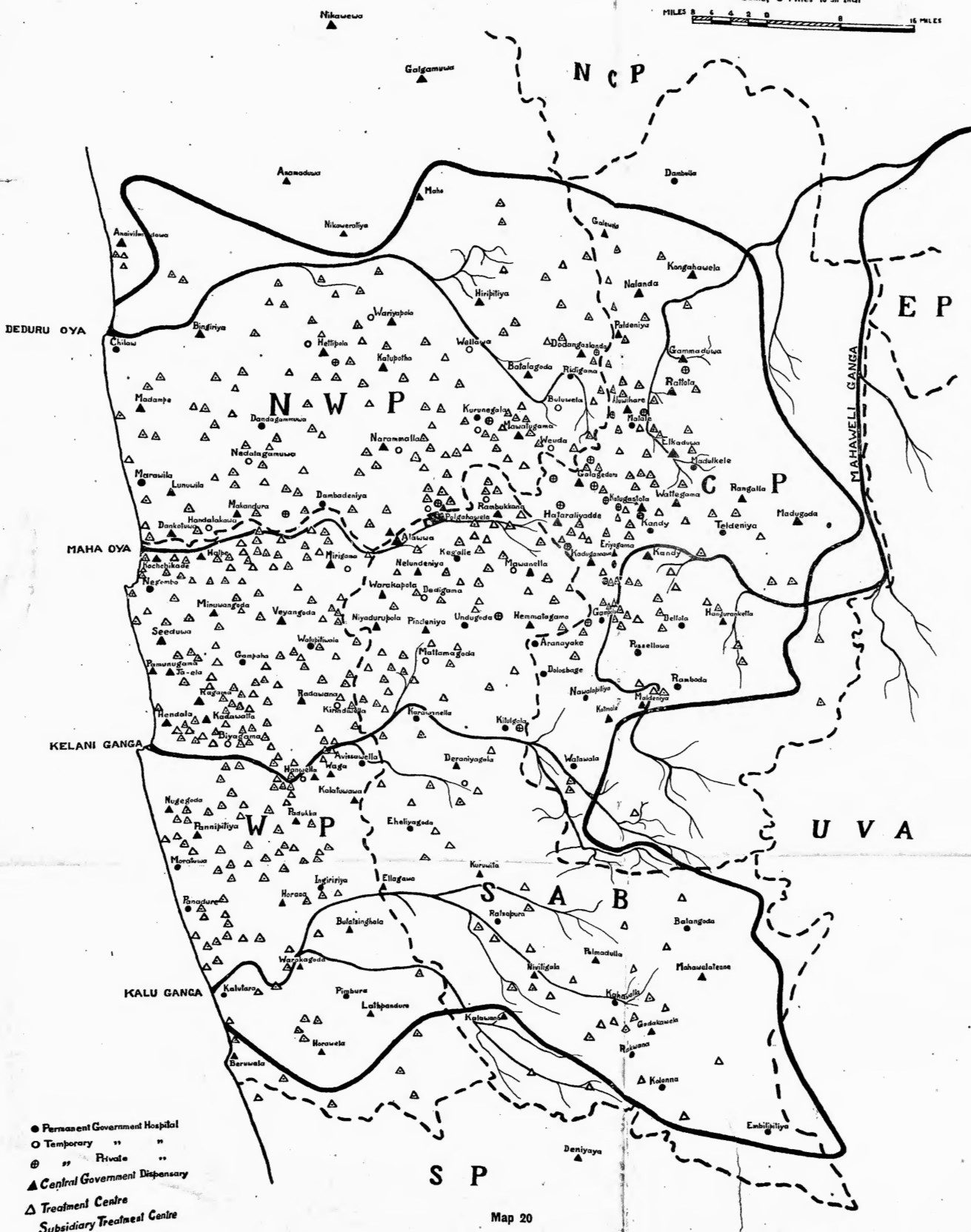
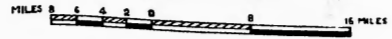


Map 19

MALARIA EPIDEMIC 1934-35.

Permanent & Temporary Medical Institutions

Scale, 8 Miles to an Inch



- Permanent Government Hospital
- Temporary " "
- ⊙ " Private " "
- ▲ Central Government Dispensary
- △ Treatment Centre
- △ Subsidiary Treatment Centre

Map 20

chart 1a

SEASONAL CURVES OF MORBIDITY (Dec.-Jan, Peak) & MORTALITY
 Based on Average Attendances at Institutions 1927-34, &
 Average Deaths for Five Years 1927-33 (1929, 30 omitted)

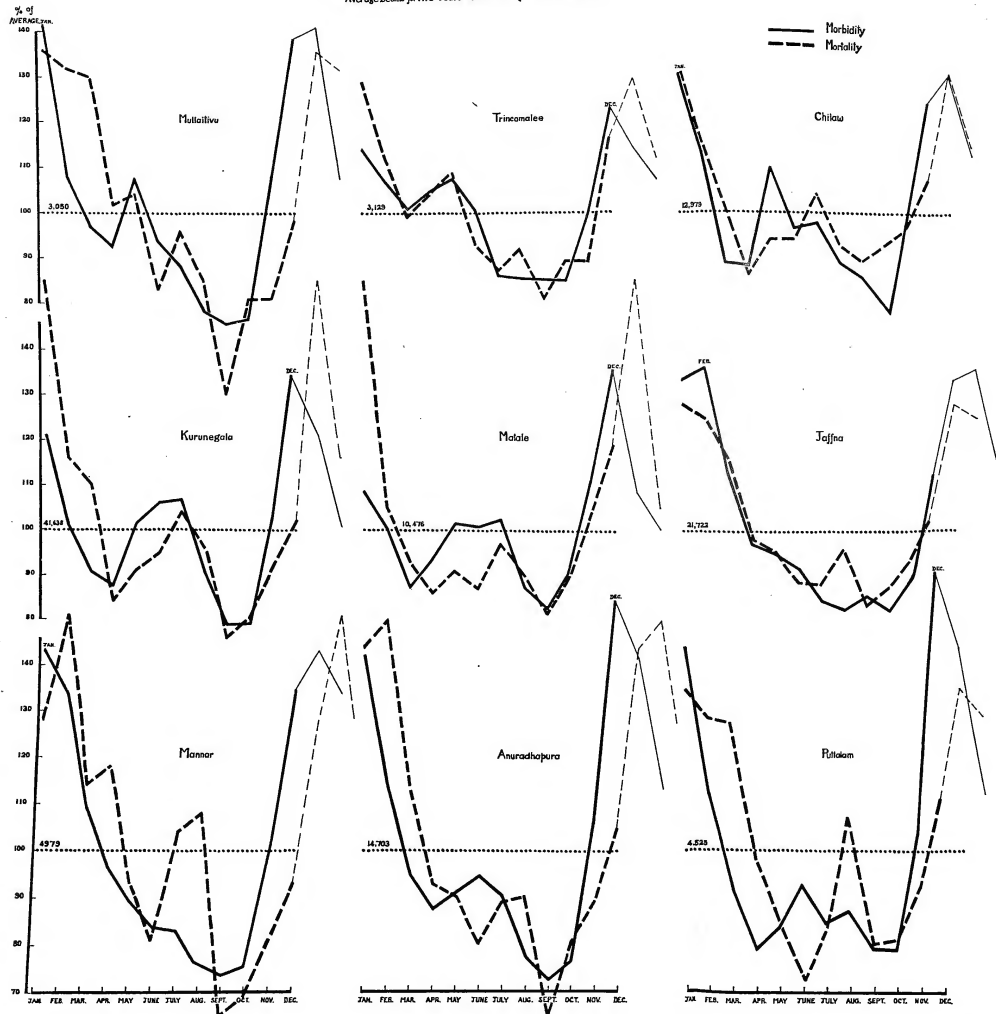


Chart 1b

SEASONAL CURVES OF MORBIDITY, (May-June Peak) & MORTALITY.
 Based on Average Attendances of Institutions 1927-34. *
 Average Deaths for Five Years 1927-33 (1929,30 omitted)

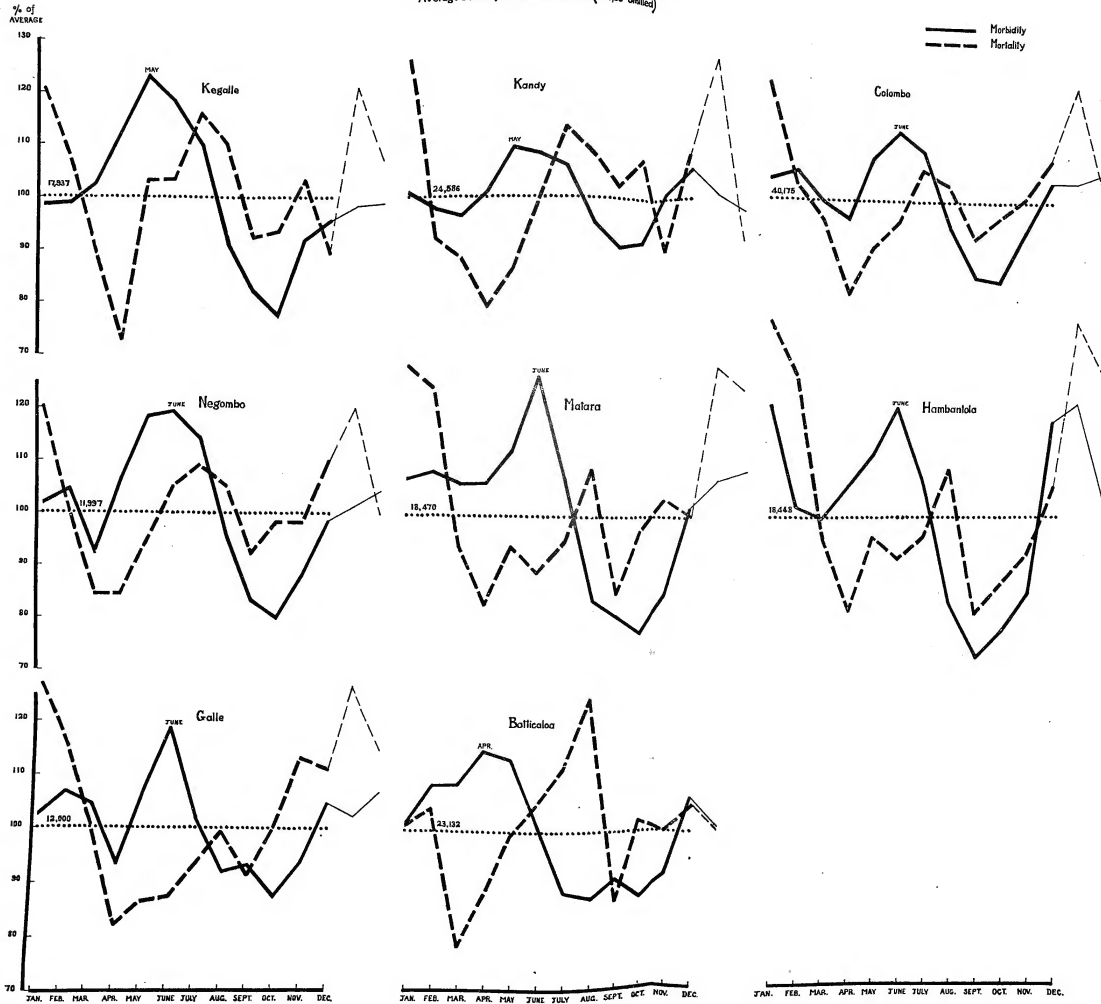


chart 1c SEASONAL CURVES OF MORBIDITY (Exceptions) & MORTALITY

Based on Average Attendances of Institutions 1927-34, &
Average Deaths for Five Years 1927-33 (1929,30 omitted)

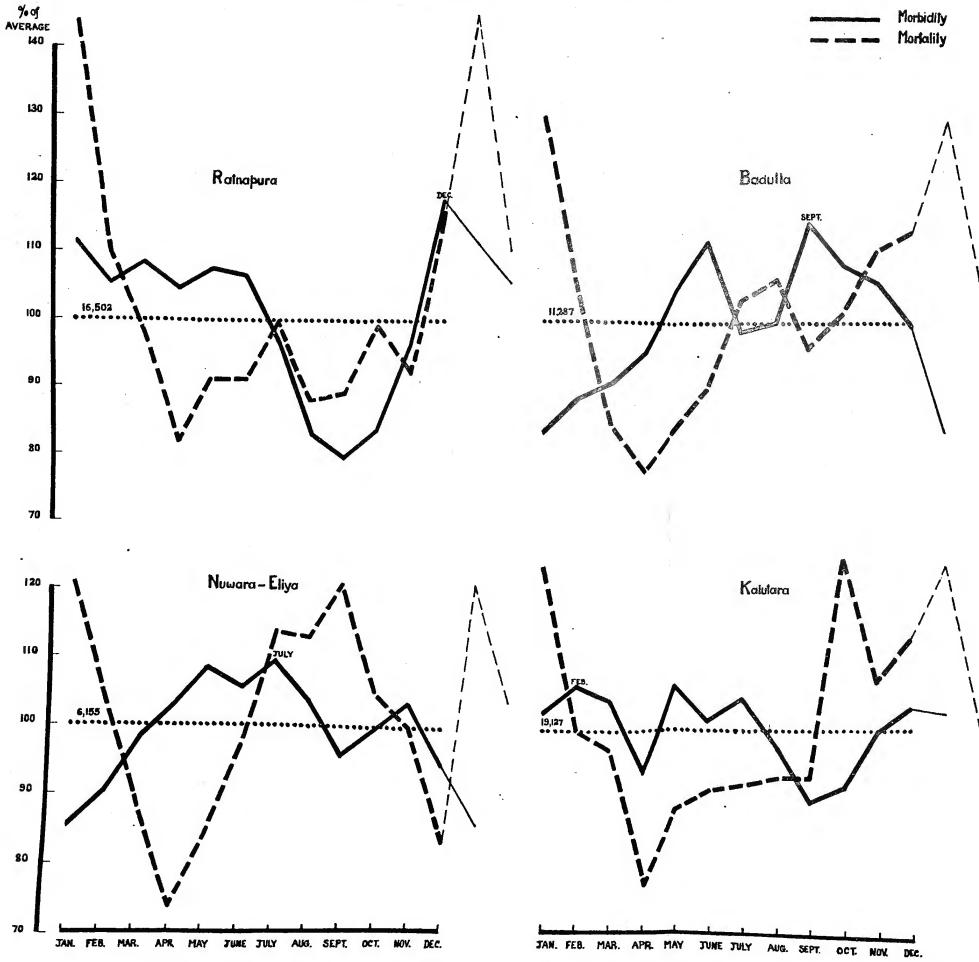
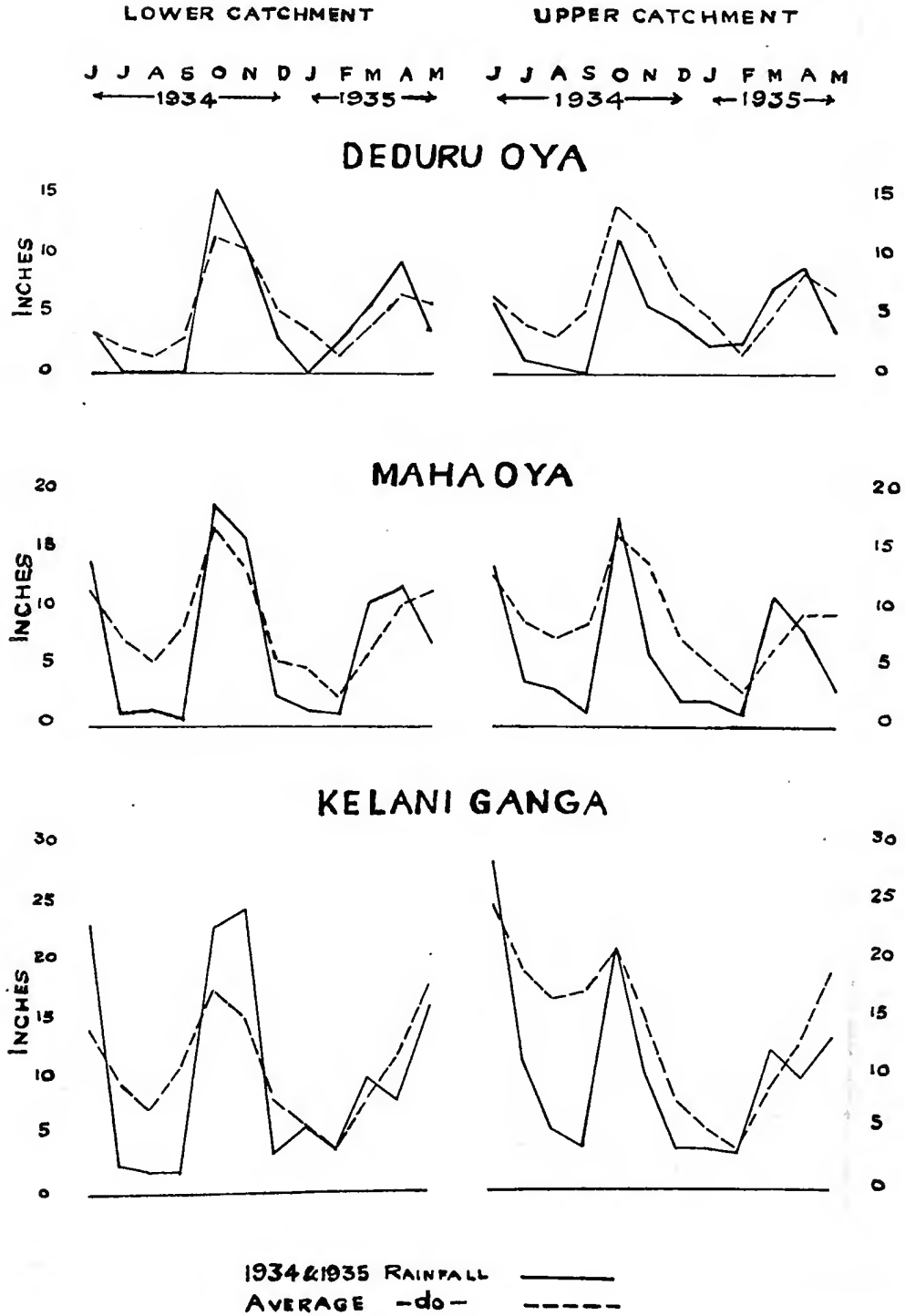


chart 2

MONTHLY RAINFALLS DURING JUNE 1934 - MAY 1935 AND AVERAGE RAINFALLS IN THE CATCHMENTS OF THE EPIDEMIC AREA.



CEYLON ANNUAL EXPORTS of TEA, RUBBER & COCONUT

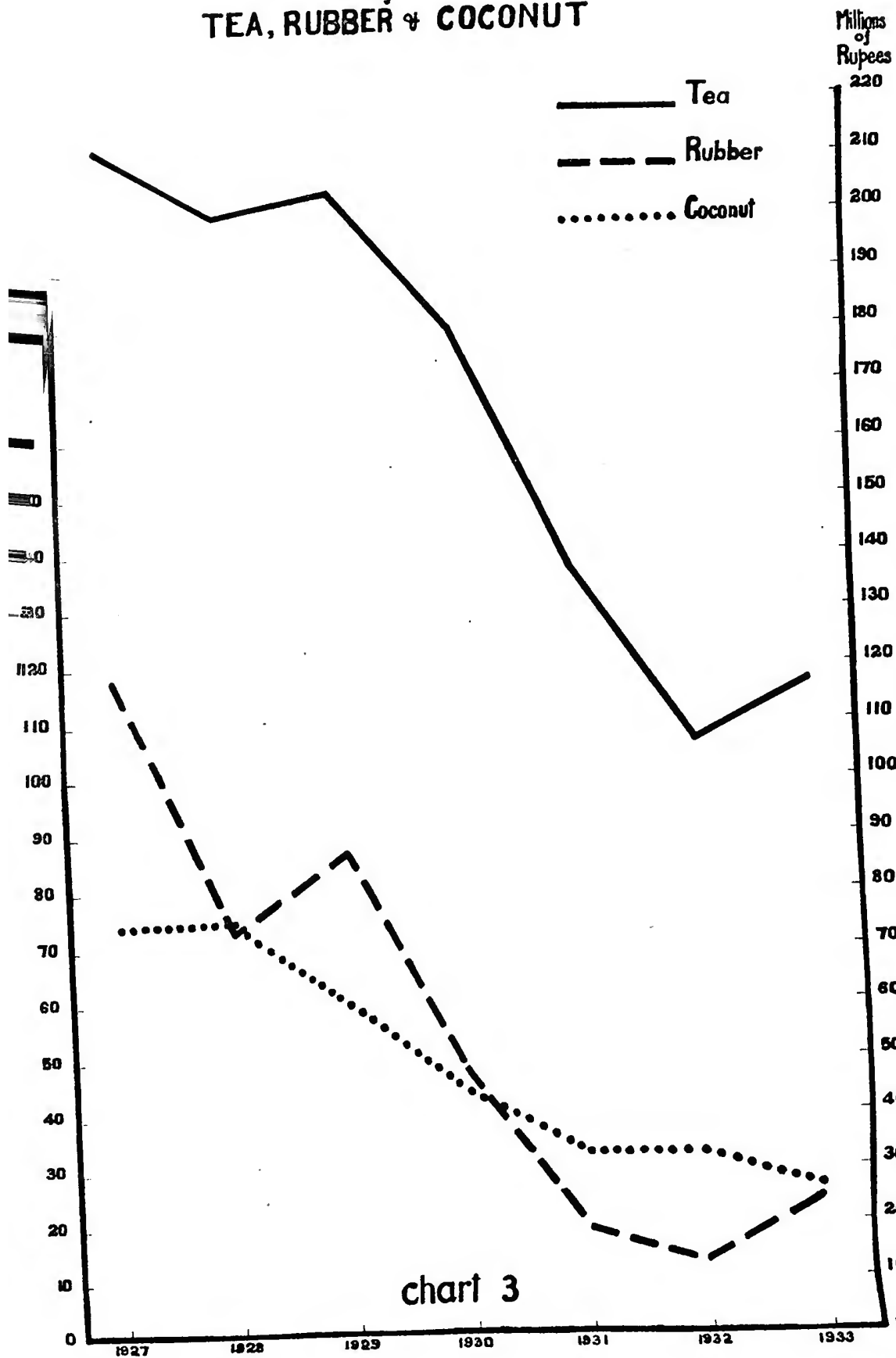


chart 3

chart 4

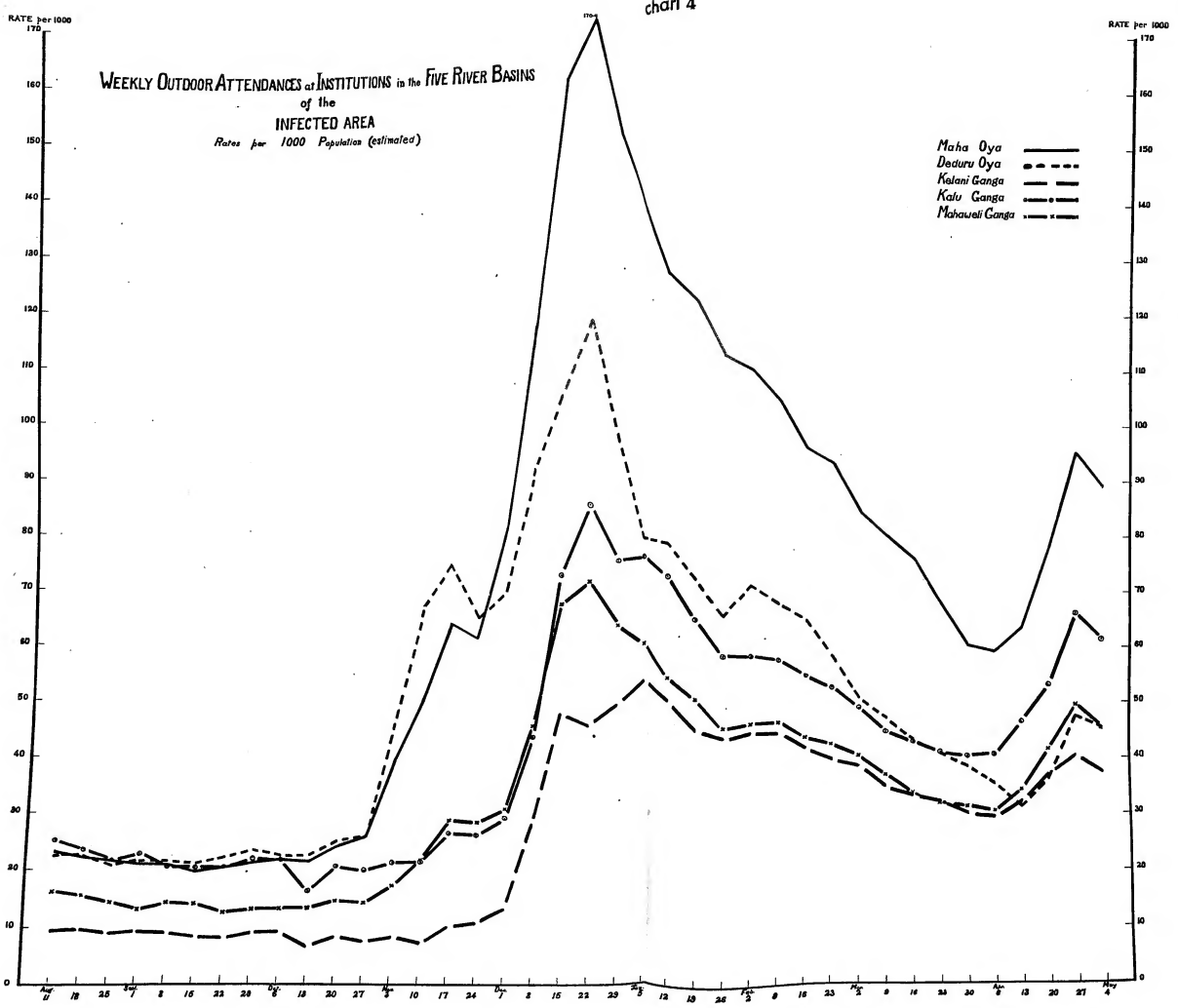
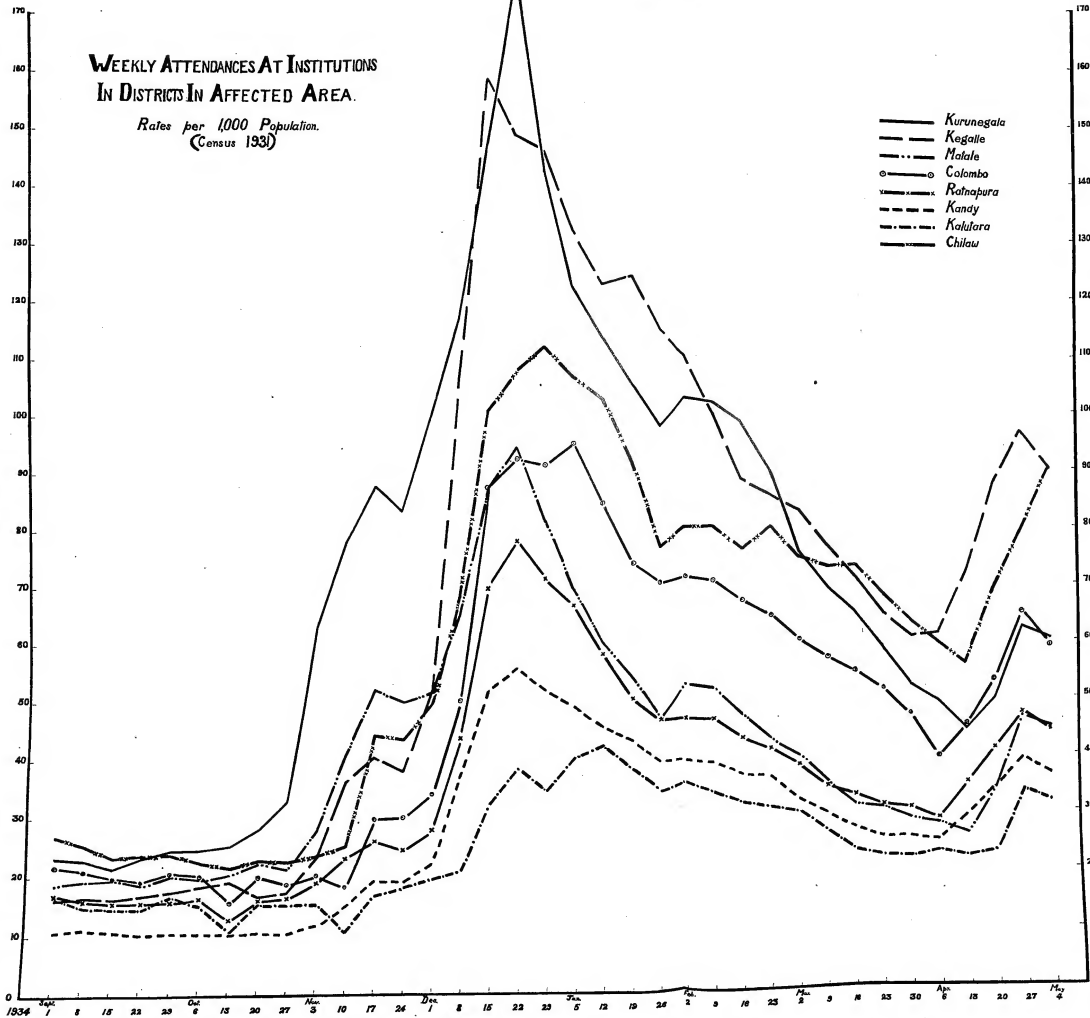


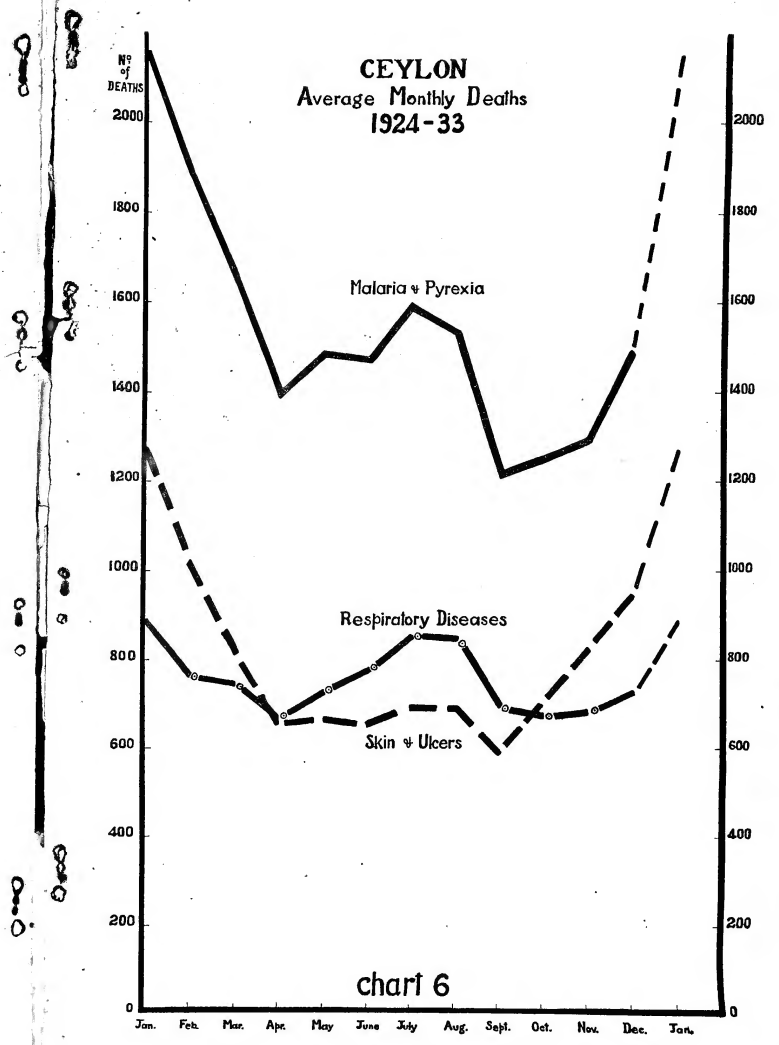
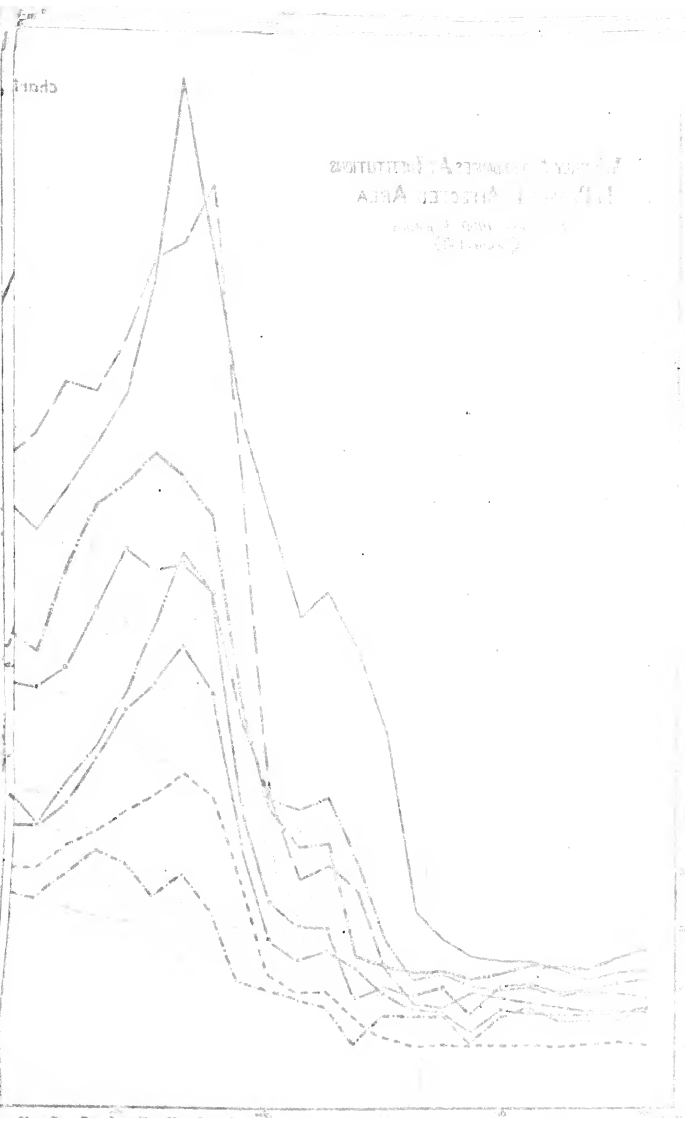
chart 5

**WEEKLY ATTENDANCES AT INSTITUTIONS
IN DISTRICTS IN AFFECTED AREA.**

Rate per 1,000 Population.
(Census 1931)

- Kurunegala
- Kegalle
- Matala
- Colombo
- Ratnapura
- Kandy
- Kalutara
- Chilaw





CEYLON

Average Monthly Deaths 1924-33

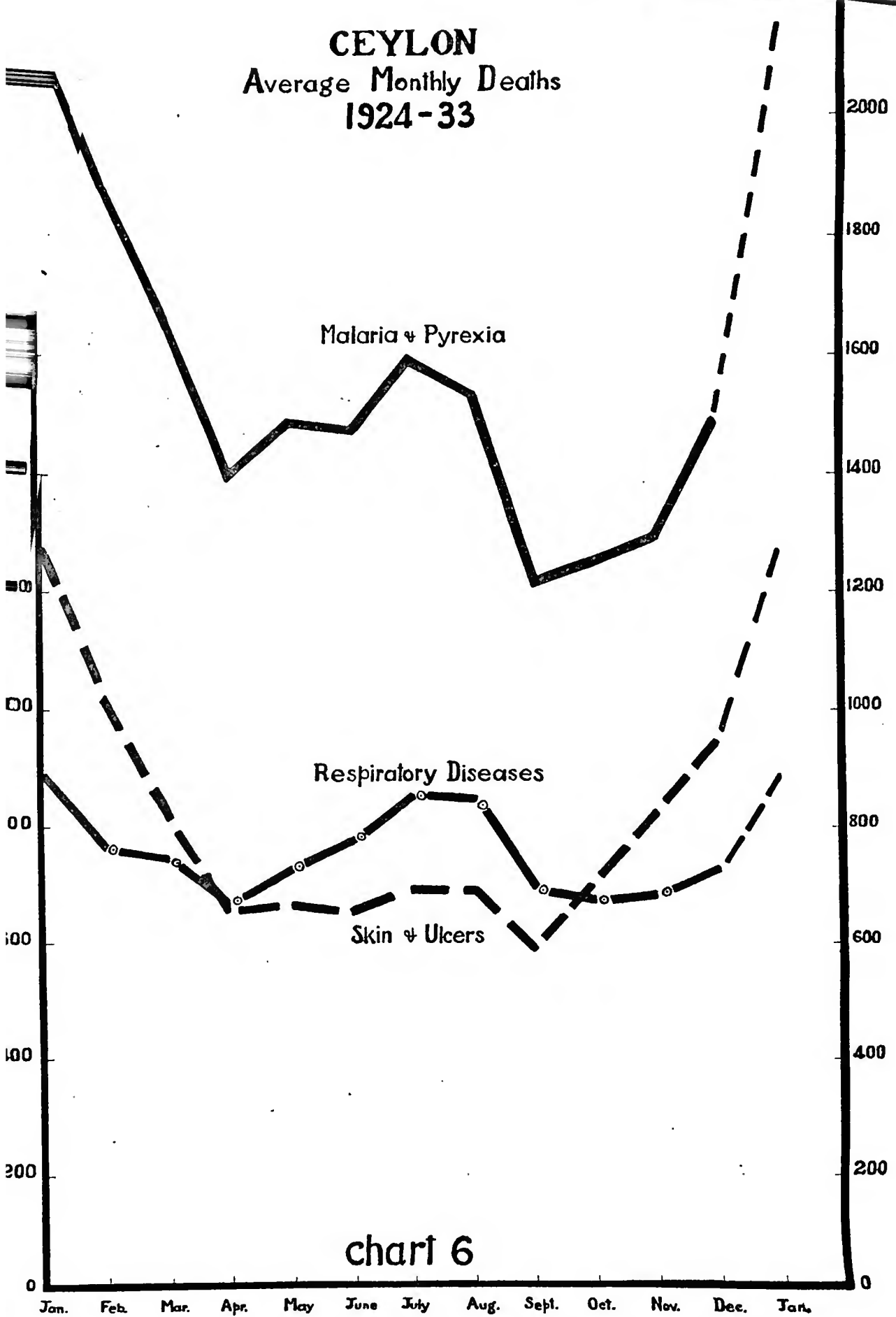
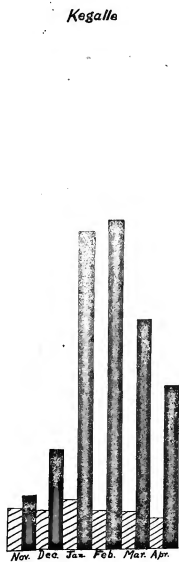
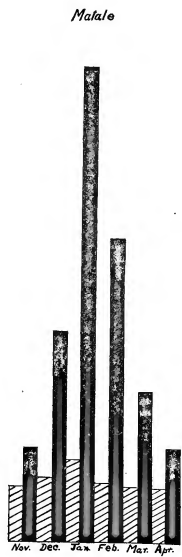
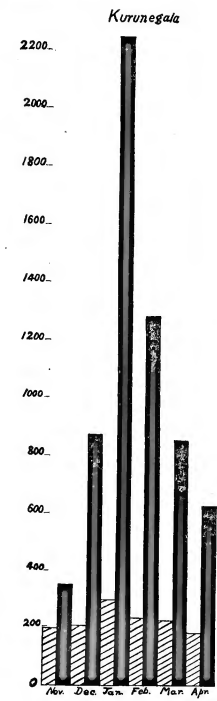


chart 6

RATES PER
100,000 POP.
2400.

chart 7 a
DISTRICTS IN AFFECTED AREA
MORTALITY RATES DURING MONTHS OF EPIDEMIC.
Monthly Rates Per 100,000 Population.



Mean Death Rate 1939/40
Death Rate During Epidemic

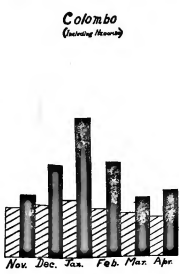
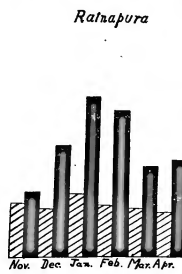
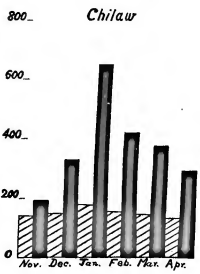
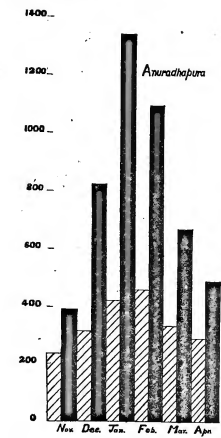
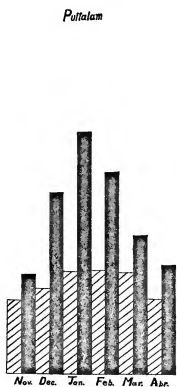


chart 7b
 DISTRICTS OUTSIDE AFFECTED AREA
 MORTALITY RATES DURING MONTHS OF EPIDEMIC
 Monthly Rates Per 100,000 Population

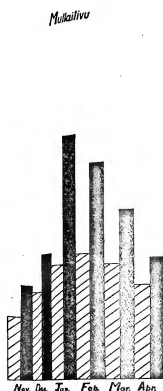
RATES PER
 100,000 FOR



Patalam



Mulkativu



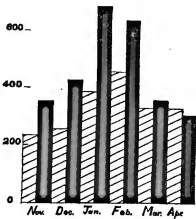
Hambantota



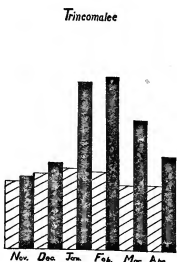
Mean
 Death Rate
 1932-34

Death Rate
 During
 Epidemic

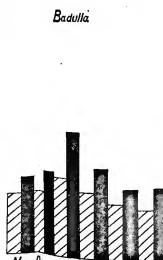
Mannar



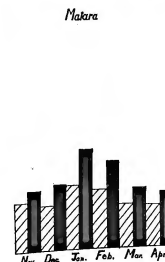
Trincomlee



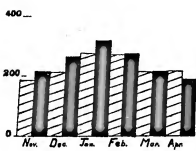
Baculla



Makara



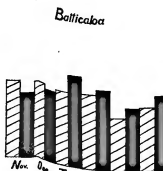
Jaffna



Galle



Batticaloa



Nuwara-Eliya

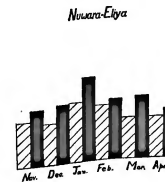


chart 8

