

ZOOLOGICAL SURVEY OF THE UNION OF SOUTH AFRICA.
TICK SURVEY: PART X—DISTRIBUTION OF *MARGAROPUS*
WINTHEMI, THE WINTER HORSE TICK.

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INTRODUCTION.

Margaropus winthemi, like the closely related species *Boophilus decoloratus*, is a one-host tick; it is essentially a winter tick, most commonly found on horses, as its popular name implies, though it also attacks cattle. Unfortunately in many areas few or no winter collections were made, so only a very incomplete picture of the distribution of the tick can be drawn.

GENERAL DISTRIBUTION.

M. winthemi is present in parts of the north-western and western Transvaal and a few isolated areas in the highveld of the south-eastern Transvaal. It is common in Basutoland, the south and west Free State and the north-west Cape. It is plentiful in the higher lying parts of southern Natal, Pondoland, Griqualand East and the Transkei, but absent from the coastal strip. It is present in parts of the Eastern Province, scattered records occur from the Cape Midlands and various areas bordering on the Karoo, including Worcester, Clanwilliam, Van Rhynsdorp and Namaqualand.

The tick has not been recorded from Mozambique, Swaziland, Bechuanaland, South West Africa (except for an isolated record) or Rhodesia, or any other part of Africa, Hoogstraal has recently found another species, off giraffe, in the Sudan.

DISTRIBUTION IN THE VEGETATIONAL TYPES.

The vegetation map shews *M. winthemi* to be present:—

- (1) In *thorn country*. It appears to be confined to the eastern part of this area, being absent from Bechuanaland and the Kalahari proper.
- (2) In all three types of *grassland*.
- (3) In two out of three types of *desert shrub*. Thus it is present in the *thorn country and desert shrub* of the eastern part of the Kuruman district, and also on the fringes of the *desert shrub* area.

The vegetation map shews *M. winthemi* to be *absent*:—

- (1) From all three types of *forest*.
- (2) From two out of three types of *parkland*. It is absent from the *evergreen and deciduous tree and bush* of the Limpopo Highlands and of the Bankenveld and from the *subtropical evergreen and deciduous tree and thorn forest* or lowveld of the eastern and north-eastern Transvaal and Moçambique.
- (3) From the *desert succulents and desert grass* type of Bushmanland, Namaqualand and South West Africa.

THE INFLUENCE OF TEMPERATURE AND OF ALTITUDE.

Altitude and low temperature in themselves are not limiting factors in the distribution of *M. winthemi*. The tick is plentiful in the Mount Frere district at altitudes of 5-6,000 ft.; it also occurs in many areas having more than 90 days of frost, as well as in areas with little or no frost. However, extreme heat does appear to be a limiting factor as the tick is absent from very hot and dry or hot and moist areas. These include South West Africa and the Kalahari, and the Transvaal lowveld and Moçambique respectively.

THE INFLUENCE OF RAINFALL.

M. winthemi is consistently absent from the winter rainfall area of the Cape, though it is present in areas having both winter and summer rainfall, e.g. Albany. Excessive rain seems to be a limiting factor, as the tick is absent from areas with rainfall over 40 inches, though it has been recorded from a few farms with rainfall over 30 inches. The tick is also absent from the hot, dry areas of South West Africa, Bushmanland and parts of the Karoo, though it has been recorded from twenty farms whose average rainfall is less than 10 inches.

SEASONAL ACTIVITY.

M. winthemi is essentially a winter tick: 80 per cent of the records of its presence are for the winter months May-August. There are only three records of the tick for the first quarter of the year for which period the collections were good. Of the twenty odd records for the period October to December the majority are from the Eastern Province and Cape Midlands.

REMARKS ON SEPARATE STATE VETERINARY CONTROL AREAS.

M. winthemi is recorded as consistently *absent* from the following State Veterinarian areas:—

- (1) *Despite adequate winter collections.*
Zoutpansberg—Transvaal; Vryheid, Estcourt, Eshowe, Nongoma, Durban, Port Shepstone—Natal; East London, Port Elizabeth, De Aar, Malmesbury, Calvinia, Gordonias—Cape Province.
- (2) *Poor or no winter collections.*
Pretoria, Johannesburg, Potchefstroom, Rustenburg, Pietersburg, Lydenburg, Barberton—Transvaal; Dundee, Ladysmith, Greytown—Natal; Swaziland.

The presence of *M. winthemi* is recorded from the following State Veterinarian areas.

Area 3, State Veterinarian, Mafeking.

There are three isolated records. One from *thorn country* in the Mafeking district and one each from Lichtenburg and southern Marico, where the vegetation is *mixed grassland* or *middleveld*.

Area 4, State Veterinarian, Potgietersrust.

Present in Bushveld of Limburg—Gilead district. Single records from Alma and Swartwater districts. Absent from the Bankenveld.

Area 8, State Veterinarian, Piet Retief.

No July-September collections. *M. winthemi* was recorded from the towns of Wakkerstroom and Amersfoort, both in the highveld. Otherwise it was not recorded from this area.

Area 10, State Veterinarian, Ermelo.

One isolated highveld record from Badplaats. Otherwise absent from the *highveld* of Ermelo and Carolina, the *tall grassland* of the Swaziland border and *middleveld* of the western parts of Bethal and Standerton. Winter collections were made on most of the collection farms.

Area 18, State Veterinarian, Pietermaritzburg.

Present in the *highveld* district of Impendhle and also in the *tall grassland* of Richmond and Pietermaritzburg districts.

Area 20, State Veterinarian, Ixopo.

Present, both in *tall grasslands* of Ixopo and *short grassland* or *highveld* of Underberg and Himeville. Not recorded from Polela.

Areas 26, 27, 28, State Veterinarian, Umtata.

Consistently present on all collection farms over 2,500 ft. in districts of Engcobo, Xalanga, Qumbu, Mount Frere, Tsolo, St. Marks and Cofimvaba. Absent from coastal belt and lower foothills.

Area 29, State Veterinarian, Flagstaff.

Only one record from Bizana district in broken grassveld. No July-September collections were made and no winter collections at all in some districts.

Area 30, State Veterinarian, Kokstad.

There are two records from the highlands of Mount Currie district. Otherwise not recorded. There were no July-September collections in some districts.

Area 31, State Veterinarian, Aliwal North.

Winter collections were very inadequate. There is only one record of *M. winthemi* from this area, made in December from a farm in the *highveld* of the southern Woodhouse district.

Area 32, State Veterinarian, Queenstown.

One record from the Sterkstroom district, where it is said to be troublesome in winter. One December record from Elliot district where the *tall grasslands* merge into the *highveld*. Otherwise absent, though winter collections were made in most districts.

Area 35, State Veterinarian, Worcester.

Present on several farms in the Robertson-Worcester districts, where the *karoo* has encroached into the typical *Western Province vegetation* of Caledon, Worcester, Robertson and Montagu. Most of the farms on which *M. winthemi* was found are under irrigation. Absent from the true *karoo* of Laingsburg and western Montagu, as also from the typical *Western Province vegetation*.

Area 36, State Veterinarian, Swellendam.

Recorded from two semi-karoo farms in Barrydale area. Absent from Bredasdorp and southern Swellendam districts where the vegetation is typical *Western Province sclerophyllous bush*.

Area 37, State Veterinarian, Oudtshoorn.

Recorded from two farms in Oudtshoorn and Uniondale districts. There are broken veld and semi-karoo farms. There is also an isolated record from a farm at Little Brak River which has a very mixed type of vegetation. Absent from *temperate evergreen forest* of Knysna and George districts and from *Western Province vegetation*, of George, Mossel Bay and eastern Uniondale districts.

Area 40, State Veterinarian, Grahamstown.

Present in Albany, Victoria East and Stockenstrom, in which districts it has been recorded from nearly half of the collecting farms. Some of these farms are in the *tall grass* area and others in the *semi-karoo* type of vegetation which crops up in parts of the Albany district. There is one record from the *tall grassland* of Alexandria, but otherwise it is absent from the coastal districts of Alexandria, Bathurst and Peddie.

Area 41, State Veterinarian, Middelburg.

Absent from true *karoo* of Philipstown where good collections were made. There is one record from semi-karoo in this district. The other parts of the area had only very meagre winter collections, nevertheless a few records were obtained from *mixed grass and karoo* in Colesberg, Middelburg and Hanover districts.

Area 43, State Veterinarian, Beaufort West.

Absent from *dry karoo* of Carnarvon, Fraserburg and Victoria West. Single records occur in *mixed karoo and grasslands* in Murraysburg and eastern Prince Albert districts. There is an isolated record from 6,000 ft. in the Nieuwveld mountain area of Beaufort West.

Area 45, State Veterinarian, Cape Town.

One isolated record from the Cape Town area from a farm at sea level. This is probably an introduction. Otherwise absent.

Area 47, State Veterinarian, Bedford.

One isolated record from *mixed karoo* and river veld in the Pearston district. Several records from mixed veld and valley veld in Somerset East. Not recorded from *tall grass* districts of Adelaide and Bedford but this may be because no winter collections were made. There are two records from *mixed karoo and grass* in the Cradock district, but here again very few July-September collections were made.

Area 49, State Veterinarian, Bethlehem.

Entire area is *short grassland* of the highveld. There are isolated records in Frankfort and Harrismith districts, otherwise absent.

Area 50, State Veterinarian, Kroonstad.

There is one isolated record from a *highveld* farm near Senekal. *M. winthemi* appears to be absent from the rest of the district which is mostly *mixed grassland*; winter collections were incomplete.

Area 51, State Veterinarian, Kimberley.

There were very few winter collections from this district, which may account for the fact that only one record was obtained in the bushveld of the Kimberley district, where other collections have shewn *M. winthemi* to be common on several farms in the district.

Area 52, State Veterinarian, Bloemfontein.

Again there were almost no winter collections and very few records of *M. winthemi* in the survey. Subsequent collections, however, have shewn it to be present in Trompsburg, Bethulie, Dewetsdorp, Thaba 'Nchu, Wepener, Smithfield and Edenburg. *M. winthemi* is probably present throughout the broken veld of the southern Free State.

Area 53, State Veterinarian, Hoopstad.

Present throughout this area in the districts of Hoopstad, Boshof and Brandfort, and said to be very troublesome on horses in winter. The vegetation is *mixed grassveld* with *karoo*; with *thornveld* encroaching on the southern and western borders of the area.

Area 54, State Veterinarian, Vryburg.

Absent from the drier western part of the districts of Vryburg and Kuruman, but present on a few farms in the eastern part of these districts. The vegetation is *thornveld*, which in the Kuruman district merges into *Kalahari desert shrub*.

Area 55, State Veterinarian, Namaqualand.

Mainly absent, but has been recorded from three farms, all with very low rainfall (4-7 inches) and with vegetation varying from short to dense *desert shrub*.

Area 57, State Veterinarian, Graaff-Reinet.

M. winthemi present on a few farms with *mixed karoo* and *grassveld*. Absent from true *karoo*.

Area 58, State Veterinarian, Van Rhynsdorp.

Absent from *karoo* and *semi-desert* areas. There is one record from the south of the district where the vegetation consists of taaibos and ganna.

Area 59, State Veterinarian, Clanwilliam.

One record from the edge of the *Karoo*, otherwise absent.

South West Africa.

Consistently absent except for one isolated record for February in the Rehoboth district. This is probably an introduction.

Basutoland.

Vegetation is *short grass* or *highveld*. Records indicate that *M. winthemi* is probably present throughout the Protectorate.

SUMMARY.

(1) The distribution of *M. winthemi* is given in terms of political divisions as well as in terms of vegetational coverage.

(2) *M. winthemi* is a winter tick, 80 per cent of the records of its presence are for the winter months May to August.

(3) From the data available it is difficult to establish the factors limiting the distribution of the tick.

(4) The absence of winter collections from many areas has prevented a complete picture of the distribution of the tick being drawn.

UNION OF SOUTH AFRICA

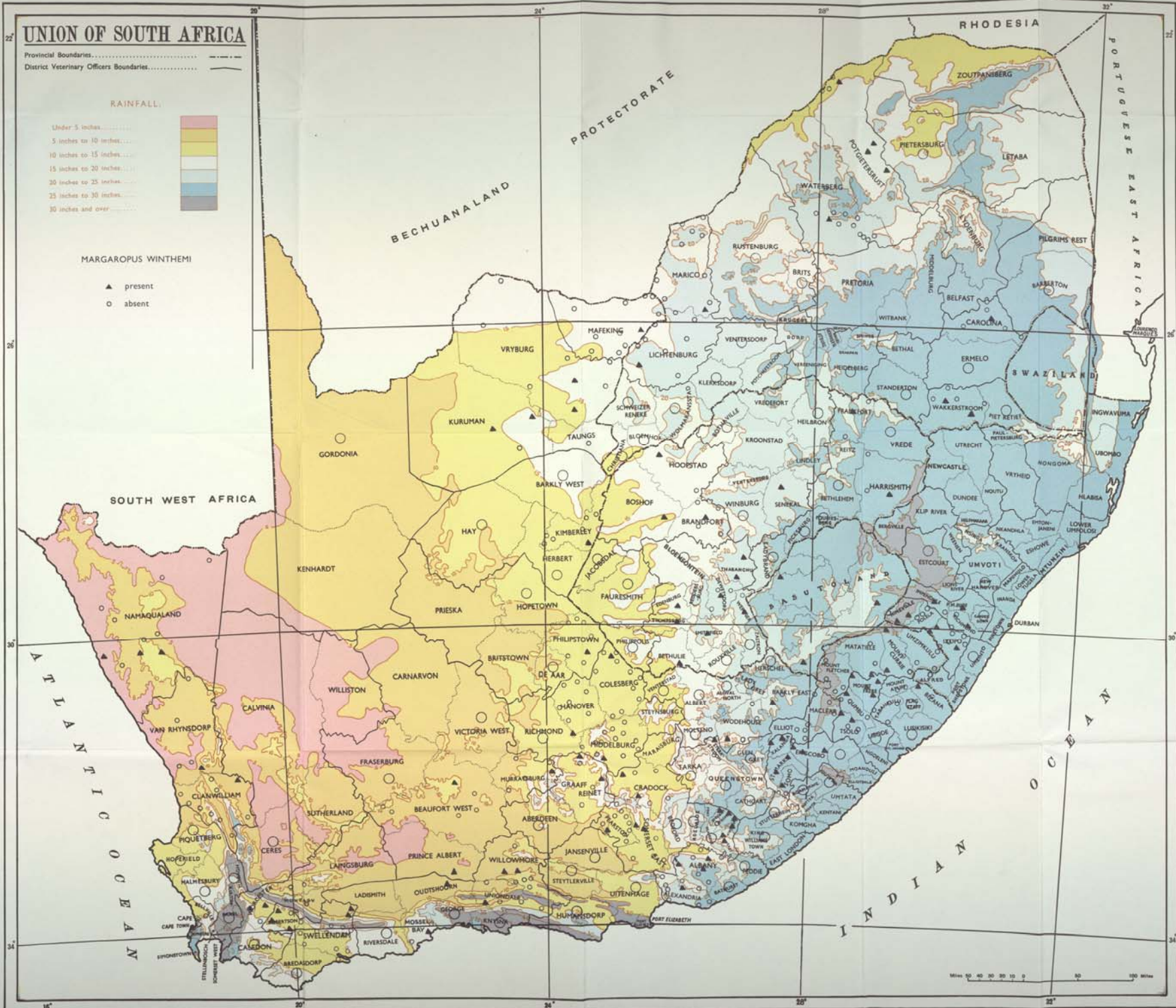
Provincial Boundaries.....
District Veterinary Officers Boundaries.....

RAINFALL.



MARGAROPUS WINTHEMI

- ▲ present
- absent



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