

## *Rabies in Natal*

In September 1989 dramatic newspaper headlines announced that rabies appeared again to be on the increase in the Natal–KwaZulu region. In that month alone, more than twenty positive cases were diagnosed by the regional veterinary services laboratories at Allerton, Pietermaritzburg.<sup>1</sup> Natal–KwaZulu remains one of the most notorious rabies areas in South Africa, with most human cases being recorded there. Holiday-makers to the rabies-infested areas are prohibited from bringing unvaccinated pets with them, and residents of these areas are obliged to have their pets vaccinated annually.

Although rabies is enzootic in the Natal–KwaZulu region today, many people living in the area have little understanding of the serious nature of the disease which claims an increasing number of human lives each year. The typical casualty of rabies in Natal is the young African child who has little or no protection against rabid animals. Although its contribution to the total death rate remains small, experts feel that in terms of human anguish and suffering, rabies is probably one of the worst known diseases.<sup>2</sup>

Rabies, which has probably been known for as long as human societies have existed, is a fatal disease to which all warm-blooded creatures are susceptible. It is caused by a tiny bullet-shaped virus, which was first observed by scientists in the early 1960s.<sup>3</sup> At first the virus was thought to be unique, existing in only one standard form. However, recent research has discovered a further six rabies-like viruses. These include the Nigerian horse virus, the Lagos bat virus, the Mokola virus, and the Duvenhage virus. Of these, the latter two have been isolated in South Africa. The Mokola virus was found to be responsible for the strange phenomenon of Natal epauletted fruit bats ‘literally falling out of the sky’ into people’s gardens and swimming pools in the midst of the bad outbreaks of canine rabies in the region in 1980 and 1981.<sup>4</sup> Fortunately, however, the bats were thought to play an insignificant role in the rabies crisis.

The disease occurs when a sufficiently large dose of the virus is injected into the body, usually via the bite of an infected animal. Rabies can also be transmitted when contaminated saliva enters the body through a small break in the skin. Thus it is possible that the lick of a seemingly affectionate dog can spread the disease. A popular misconception about rabies is that the disease is always easy to diagnose, and that a vicious, snarling dog with a foaming mouth and dripping saliva is typical of the rabid animal. However, only 25 % of rabid dogs develop ‘furious’ rabies. The most common form of the disease in dogs is ‘dumb’ rabies, and the symptoms are usually a change in character of the animal, followed by a loss of appetite and listlessness, with paralysis beginning in the hindquarters. The animal then becomes comatose and dies.

The virus is neurotropic, and therefore attacks the central nervous system.

It progresses slowly along the spinal cord into the brain, where it multiplies rapidly and then returns to the peripheral nerves and particularly to the salivary glands. It is at this stage that symptoms of the disease develop, and death is the inevitable result. In technologically advanced societies, although the patients cannot be cured, their suffering can be reduced through the administration of modern medicine. Unfortunately, most cases of human rabies occur in underdeveloped Third World areas where this technology cannot reach the victims.

Given the present situation, it is rather surprising that rabies has only a short history in Natal, with the worst outbreaks occurring only in the last decade. Before the 1960s rabies was unknown in the region.

In the 1880s the whole of southern Africa was free of rabies although the disease was spreading worldwide. In France Louis Pasteur and his colleagues were making breakthroughs in the study of the disease, and in 1885 a vaccine had been developed that could provide post-exposure protection against the fatal disease.<sup>5</sup> At this time, rabies had broken out on the island of Mauritius, and the Colonial Veterinary Surgeon of Natal, Samuel Wiltshire, began to express his anxiety that rabies might be imported into Natal from abroad:

My enquiries as to the probability of 'Rabies' being introduced into this country from Mauritius, tend to show that it is almost nil, yet the possibility exists. It is not from Mauritius alone however that the danger proceeds, there is equal risk in admitting dogs from Europe or other parts of the world.<sup>6</sup>

Through close correspondence with the colonial authorities in Mauritius, the Natal government learnt about the nature of the disease, as well as measures used in controlling it.<sup>7</sup> It was as a result of Wiltshire's efforts that the Colonial Office began to consider introducing anti-rabies legislation into the colony.

That Wiltshire's fears were not unfounded was proven a few years later, in 1893, when the first authentic outbreak of rabies to occur in southern Africa swept across the eastern Cape, resulting in the deaths of a number of human victims. The origins of this outbreak were traced back to the importation of an infected Airedale terrier into Port Elizabeth in September 1892. The disease was only positively identified in May of the following year, and a dog show held in the rabies-infested town in April 1893 probably acted as a vehicle for spreading the disease as far afield as Paarl. Only after the introduction of strict anti-rabies measures, which included the destruction of dogs found wandering unmuzzled or unleashed, was the total elimination of the disease achieved.<sup>8</sup> The significance of the successful control of the first outbreak of rabies in the country was that with the passing of the Rabies Act of 1893, the authorities had introduced control of rabies at a colonial, rather than a local, level.<sup>9</sup>

However, although rabies had vanished as rapidly and completely as it had appeared, the southern African subcontinent did not remain free of the threat for long. In 1902, rabies was reportedly widespread in West Africa and the Congo.<sup>10</sup> In that year, it spread rapidly in an epizootic that reached Southern Rhodesia the following year. Cases also occurred in the British Protectorate of Bechuanaland. Thus the colonies of southern Africa were seriously threatened with the possibility of the disease being introduced from across the Limpopo River.

The Cape Government passed the Rabies Ordinance of 1904 in an attempt

to prevent the spread of rabies into the Cape Colony.<sup>11</sup> Southern Rhodesia and the Bechuanaland Protectorate were declared rabies-infested areas, and the importation of dogs from these areas was strictly prohibited. The Transvaal, Orange River Colony and Natal were encouraged to employ similar measures. In addition to this, the Transvaal, which was the area in closest proximity to the threat, cleared entirely of dogs a fifty mile zone on its side of the Limpopo.<sup>12</sup> It is possible that the river itself acted as a natural barrier against the disease, and rabies did not penetrate the area south of the Limpopo in the decade during which cases continued to occur in the north.

In the period 1916–1928, however, the history of rabies in southern Africa took on a different form. During those years, at least a dozen peculiar human deaths occurred. Some of the patients had exhibited very definite signs of hydrophobia, a symptom of rabies in human beings. The disease was ruled out, however, because it was assumed that rabies was a disease that could not be concealed, and no cases were being diagnosed in dogs.<sup>13</sup>

In 1928 rabies was eventually confirmed when two young boys from Wolmaranstad died after playing with an apparently tame yellow mongoose which had bitten and scratched them.<sup>14</sup> A month after the incident, the boys developed rabies and died. In the years that followed, more cases of rabies occurred in parts of the Cape, the Orange Free State and the Transvaal, and, in 1929, South Africa experienced a serious outbreak of rabies in wild animals.<sup>15</sup> In most of these cases, the vector responsible for spreading the disease was either the yellow mongoose (*Cynictus penicillata*) or the genet cat (*Genetta felina*), while hardly any cases occurred in dogs. The experts became convinced that this was a new form of the disease, which after having found a reservoir in certain wild African animals may have mutated into a less virulent form to which dogs were remarkably unsusceptible. The new strain was identified as sylvatic rabies, as opposed to the classical canine rabies.<sup>16</sup>

Natal experienced no cases of sylvatic rabies in this period. In fact, the region remained remarkably free of the disease. However, in the 1950s, a new epizootic wave of canine rabies spread across the African continent from West Africa. Outbreaks subsequently occurred in Angola, Bechuanaland, Mozambique, and wild dogs, hyenas, and jackals in the northern Transvaal were also infected.<sup>17</sup> As a result of this development, the Natal region was seriously threatened by possible invasion across its northern borders, particularly its borders with Mozambique.

In the late 1950s there were large African reserves in north-eastern Natal, densely populated and supporting significant numbers of semi-stray rural dogs, which were mostly uncontrolled and could easily interact with rabid animals across the border. It appears that this is exactly how the disease managed to invade Natal, turning it from a rabies-free area into one of the most notorious regions in which the disease existed.

In May 1961 an African in the Ubombo area in northern Zululand died of a disease which could have been rabies. A mere two months later, the people of Natal heard that rabies was widespread in the Ingwavuma–Ubombo–Mputa–Nseleni–Ndumu area, and that sixteen people had been hospitalized after contact with suspected cases.<sup>18</sup> Several more deaths in the region were also attributed to rabies, and in September a Hluhluwe family of three was admitted to hospital following the attack of a rabid dog.<sup>19</sup> It could be no mere coincidence that the first cases of rabies in Natal occurred in areas which lay in close proximity to the Mozambican border.

Under existing legislation, northern Zululand was proclaimed a rabies area, and measures were introduced to prevent the spread of the disease southwards. The most striking of these was the posting of large warning signs at the Thukela river, which warned motorists of the danger with messages such as, 'You are now entering a rabies-infected area', 'Beware of dogs', 'Have you an entry permit for your dog?' and 'If bitten, seek medical aid immediately'.<sup>20</sup>

Unfortunately, these controls aimed at confining the rabies crisis to Natal north of the Thukela failed to prevent the ultimate spread of the disease towards the larger urban areas of Natal. Urban rabies was particularly feared, as the large concentrations of both human and dog populations in these areas meant that the disease could rapidly spread out of control. In late October 1961, a case was diagnosed in Pietermaritzburg, and in December, a case also occurred in Durban.<sup>21</sup> Potentially at least, urban rabies became a very real danger.

The authorities responded by declaring the whole of Natal a rabies area, and blamed the new developments on the apathy of the public and its weak response to mass vaccination campaigns. Unfortunately the anti-rabies measures also had a negative effect, with numerous pets simply being abandoned by their owners at the Natal border posts because they were not accompanied by valid entry permits. This resulted in a public outcry by concerned animal lovers who condemned the 'heartless' motorists.<sup>22</sup>

It is unknown how many human lives were claimed by rabies during the initial outbreak of the disease in Natal. At least 11 deaths were recorded, but the actual figure may have been much higher since the most seriously affected areas lay in remote parts of northern Zululand, where ignorance of rabies and difficulties in administration probably led to many cases being overlooked.

The Field Service of the Division of Veterinary Services, conducting an investigation into the initial outbreak in the early 1960s revealed that 66 cases of rabies had been confirmed in 13 districts of Natal.<sup>23</sup> Contemporary views highlighted the main problem:

The areas in which this form of rabies is encountered embrace some of the largest native reserves, making effective control virtually impossible.<sup>24</sup>

In 1963 the Natal authorities passed legislation specifically designed to control canine rabies.<sup>25</sup> However, although cases of rabies continued to occur on occasion, the crisis of the early 1960s was already over.

In the mid-1960s a rapid increase in the number of diagnosed cases marked a new outbreak of the disease in northern Zululand. In December 1964 the death from rabies of Walter Woolridge, a young child from Mtubatuba, was widely publicized as he was the first white victim of the new outbreak in Natal. At the time, seven African children had also died from the fatal disease, and more than 400 had received post-exposure treatment.<sup>26</sup> In July 1966 legislation again declared the whole of Natal a rabies infected area, after cases had begun to occur in the southern parts.<sup>27</sup>

By the 1970s, however, the rabies problem was brought under control, with fewer cases occurring each year. The reason for this, according to Dr M. Bachmann, Director of Veterinary Services at Allerton, Pietermaritzburg, was that:

The 1964 and 1965 outbreaks of rabies in Natal were followed by massive inoculation campaigns and as a result hardly any outbreaks occurred in the 1970s.<sup>28</sup>

It appears that the public, made aware of the dangers of the disease, had made conscious efforts to alleviate the problem, and had their animals protected.

Unfortunately, as the mid-1970s approached, and fewer cases of rabies were occurring, the public became less concerned about the disease, and less particular about having pets inoculated. In 1978, a significant increase in the number of rabies cases in Natal marked the beginning of the third, and by far the worst, rabies crisis in the region.

In the early months of 1979 rabies was reported to have claimed the lives of at least six people in KwaZulu. Of these unfortunate victims, five were from the magisterial district of Hlabisa in northern Zululand.<sup>29</sup> The general public remained apathetic towards the control of rabies and reluctant to act until the disease had made its fatal appearance among human victims who were often young children. The gradual increase in the numbers of cases in the late 1970s erupted into a serious rabies crisis in 1980. Even today many people still recall the year when rabies first became an urban problem in Natal. Since then, rabies cases have continued to occur in the urban centres of Natal, especially in the large informal settlement areas that have formed around them, making effective control of the disease more difficult.

The crisis of the 1980s cannot simply be attributed to public apathy, although this certainly had a role to play. The chaotic situation in Mozambique after independence in 1975 also contributed to the increasing occurrence of rabies in Natal. With the rapid withdrawal of skilled and professional personnel from the former Portuguese colony in the year of independence, the new government experienced major crises in all its departments. This development was certain to have an effect on the neighbouring territories in northern Zululand:

It has now been learned that the veterinary division in Mozambique has ceased all operations and hundreds of animals — suffering a variety of diseases, including rabies — are drifting over the border into the remote areas of northern Zululand.<sup>30</sup>

Mozambique was identified by the Natal authorities as the source of the new rabies problem. An effort was made to create a vaccinated buffer zone across northern Natal to prevent the disease from spreading southwards. Unfortunately, a case was diagnosed in Lamontville, near Durban, in October 1979, followed by an outbreak along the South Coast. It is believed that the primary rabies carrier in this case was a pet that was transported to the Durban area by motor car.<sup>31</sup>

In the control of rabies in Natal, the authorities face serious problems, particularly in the African areas, where there appears to be a clear resistance towards anti-rabies measures. The veterinary authorities claim that this anti-vaccination sentiment in remote areas stems from a combination of ignorance and superstition. Official opinion is that many people believe vaccination will reduce the sense of smell of their animals, thus limiting the hunting and guarding abilities of the dogs. There is also a belief that vaccination will induce sterility, perhaps seen as an attempt by the government to reduce the number of rural dogs. Thirdly, there is a widespread suspicion that vaccination will

result in a reduction of resistance to disease. This fear may well be related to poorly administered mass vaccinations, where the use of the same syringe for several animals may have resulted in the spread of other diseases. Furthermore, the fact that rabies vaccinations in some areas are not free — though only a minimal fee is charged — might also have discouraged some pet-owners from bringing their pets to vaccination points. And rural Africans were said to have misunderstood the pamphlets issued to increase public awareness of rabies: the picture of a well-bred Alsatian on the cover could have suggested that only pedigreed dogs, or dogs belonging to whites were susceptible to the disease.<sup>32</sup> It is quite obvious that effective rabies control can only be achieved if the public is kept well informed about the disease and its serious consequences.

However, another major problem which the authorities in Natal face in their attempts to control rabies, is the fact that the area is largely under divided government control.<sup>33</sup> In 1951, with the passing of the Bantu Authorities Act, the first steps were taken towards creating an African homeland in Natal. Later, the Bantu Homelands Citizenship Act of 1970 provided that each African in South Africa would become a citizen of the homeland that was designated for his language group. Each homeland was to be governed by its own territorial authority. However, in Natal, the proposed homeland of KwaZulu was the most fragmented in the country, and the local chiefs resisted the separate development scheme until 1970, when Chief Buthelezi eventually accepted the territorial authority. By 1973, the KwaZulu Legislative Assembly had emerged to replace the territorial authority, in terms of the 1971 Bantu Homelands Constitution Act. The power of the bantustan was limited, however, since it had to exclude from its jurisdiction any white persons, even if they lived in KwaZulu territory.<sup>34</sup>

The fact that 'white' Natal and KwaZulu territories are intermingled with each other also increases the administrative problems facing the authorities of both governments. History has indicated that rabies is a problem which desperately requires uniform measures of control. If, therefore, a dangerous rabies situation exists in an area under KwaZulu control, it also becomes a concern of the Natal authorities, since it could so easily spread into neighbouring 'white' Natal.

The division of government control, the overcrowded and poorly administered informal settlement areas around the major urban centres in Natal, the general apathy of the public towards the rabies threat, and the lack of effective rabies control in some areas of Natal-KwaZulu, along with the continuing influx of disease into northern Natal from Mozambique, are all reasons why rabies has continued to be a problem in a region that remained free of the disease for so long. The fact that cases of sylvatic rabies have not yet been diagnosed in significant numbers in Natal, unlike other parts of southern Africa, means that there is still hope for a rabies-free Natal in the future. According to veterinary authorities, if 70 % of the region's dog population were vaccinated against the disease, the rabies problem could still be successfully eliminated. Thus the onus is on all the pet-owners in the Natal-KwaZulu area to protect their animals, and, in so doing, themselves, from the deadly disease. This aim would obviously be easier to achieve under a uniform system of control.

## REFERENCES

- <sup>1</sup> *The Natal Witness*, 30 September 1989.
- <sup>2</sup> Interview with Dr Bill Posthumus, Regional Director of Veterinary Services, at Allerton, Pietermaritzburg, 17 February 1989.
- <sup>3</sup> G.P. West, *Rabies in Animals and Man* (Devon, 1972), p. 19.
- <sup>4</sup> Interview with Dr E. Standing, retired Medical Officer of Health for the Borough of Pinetown, at Hillcrest, 26 February 1989.
- <sup>5</sup> West, *Rabies*, pp. 124–126.
- <sup>6</sup> Natal Archives, Colonial Secretary's Office [hereafter CSO], Vol. 1033 ref. 1885/3706. Report 3706/85, Wiltshire to Colonial Secretary, 11 August 1885.
- <sup>7</sup> CSO, *Ibid.*, Report from Mauritius, 1885.
- <sup>8</sup> Cape Archives, Cape of Good Hope. Department of Agriculture, Vol. 182 ref. 1020. 'First outbreak of Rabies at Port Elizabeth', S. Rigg to W.P. Pinn, 20 September 1893.
- <sup>9</sup> Cape of Good Hope, Act No 3 of 1893, The Rabies Act.
- <sup>10</sup> P.J. du Toit, 'Rabies in southern Africa', (paper read at the Pan African Veterinary Conference, Pretoria, August 1929).
- <sup>11</sup> CSO, Vol 1727 ref. 1903/2643, Minute Paper 354/03.
- <sup>12</sup> Central Archives, Pretoria, Governor's Office, Vol 1230, ref. PS 1/12/10. Letter, 1 February 1910.
- <sup>13</sup> Du Toit, 'Rabies in southern Africa', p. 5.
- <sup>14</sup> *Ibid.*
- <sup>15</sup> Transvaal Archives, Governor General, Vol. 1420, ref. 54/811. Telegram 8, 22 January 1929.
- <sup>16</sup> C.J. Mare, 'Rabies in South Africa: the epizootiology and diagnosis of the disease', *Journal of the South African Veterinary Medical Association*, XXXIII (3), 1962, p. 289.
- <sup>17</sup> *Ibid.*
- <sup>18</sup> *The Daily News*, 12 July 1961.
- <sup>19</sup> *Ibid.*, 21 September 1961.
- <sup>20</sup> *Ibid.*, 7 October 1961.
- <sup>21</sup> *Ibid.*, 21 September 1961, 20 December 1961.
- <sup>22</sup> *Ibid.*, 2 March 1962.
- <sup>23</sup> Mare, 'Rabies in South Africa', p. 289.
- <sup>24</sup> *Ibid.*, p. 290.
- <sup>25</sup> South Africa, Regulation Gazette 620, 4 October 1963. GN R.1531, Standing regulations under the Animal Diseases and Parasites Act, 1956.
- <sup>26</sup> *The Daily News*, 16 November 1964.
- <sup>27</sup> South Africa, Regulation Gazette 678, 24 June 1966. R.956 Rabies — inoculation of dogs and inoculation of cats and dogs.
- <sup>28</sup> *The Natal Mercury*, 4 October 1980.
- <sup>29</sup> *The Natal Witness*, 17 March 1979.
- <sup>30</sup> *Ibid.*, 27 March 1979.
- <sup>31</sup> Interview with Dr Bill Posthumus, 17 February 1989.
- <sup>32</sup> *Ibid.*
- <sup>33</sup> *Ibid.*
- <sup>34</sup> Mzala, *Gatsha Buthelezi: Chief with a Double Agenda* (London, 1988), pp. 76–78.

SUSAN BLENDULF

