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SHORT COMMUNICATION

Alarming spread of the Asian cattle tick *Rhipicephalus microplus* in West Africa—another three countries are affected: Burkina Faso, Mali and Togo

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The cattle tick *Rhipicephalus* (*Boophilus*) *microplus* is known for its invasive character and fast displacement of other species of the same subgenus. The most striking invasions were the ones observed in Ivory Coast (Madder et al. 2007, 2011) and Benin (Madder et al. 2012; De Clercq et al. 2012). Several years after being introduced through importation of exotic Brazilian cattle, *R. microplus* replaced local blue ticks and most importantly did not respond to the acaricide treatment becoming thus for farmers and veterinary services an uncontrollable ectoparasite affecting animal production in general, apart from being an efficient vector of *Babesia bovis*.

Soon after its discovery in West Africa, several projects were initiated to address the issue. The TickRisk project (assessing ecological suitability for the spread of *R. microplus* in West Africa) (2011–2013) was implemented in Benin to determine the current spread of this species and develop habitat suitability maps of the region while the WECATiC project (assessment of emerging livestock ticks and tickborne disease threats and integrated control strategies in West and Central Africa) (2011–2014) encompasses Benin, Burkina

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Faso and Cameroon to study acaricide resistance properties and adapted control strategies against the tick. Both projects share experts both in the steering committee and experts group.

Several training programs of these two projects have facilitated the information flow on the possible occurrence of *R. microplus*. It was then observed that a gradual spread northwards occurred over the last years (2008–2012) with *R. microplus* now being present in the northern departments of Benin. In Burkina Faso, despite two successive phases in 1999 and 2004 of importations of Gir and Girolando cattle (MRA 2003), no *R. microplus* ticks had been recorded throughout the country by 2011. The first complaints of acaricide treatment failures were reported in 2010 and by the end of 2011 heavy tick infestations were recorded in the southwestern part bordering Ivory Coast and Mali. Even after acaricide treatment large tick numbers were still found attached all over the animals' body. Subsequent tick collections one month after the first collection around Kimini confirmed the presence of the tick *R. microplus* in seven more villages (Table 1). Also in Mali and Togo similar observations concerning acaricide failures were made and ticks were collected and transferred to CIRDES for identification, both morphologically, according to the key of Walker et al. (2003), and molecularly, using the PCR–RFLP test developed by Lempereur et al. (2010). Unfortunately, no detailed information is available about the acaricides used in these countries.

The presence of *R. microplus* has now been confirmed in three additional countries in West Africa (Table 1; Fig. 1), illustrating the great ease with which this tick can establish itself and spread to far distant areas in the north in a short time. This rapid spread is most likely a result of transhumance of cattle, as hypothesized by local farmers.

According to recently developed habitat suitability maps (Regassa 2012), the tick has spread to areas previously identified as unsuitable. Studies on acaricide resistance

Table 1 Number of male and female *Rhipicephalus microplus* ticks collected in 2011 in Burkina Faso, Mali and Togo, on an average of two cattle per location

	Village of detection	Latitude	Longitude	Date of collection	Females	Males	Collected by
Burkina Faso	Kimini	10,100000	−4,783330	24/11	nd	nd	CIRDES
	Yendere	10,198680	−5,000260	23/12	16	46	
	Tiemberba	10,165670	−4,936690	23/12	14	41	
	Niangoloko	10,245000	−4,997970	23/12	41	51	
	Farnifasso	10,297310	−5,029650	23/12	40	101	
	Bouko	10,176280	−4,718010	22/12	42	58	
	Nafona	10,176290	−4,717360	22/12	55	114	
	Ouangolodougou	10,065297	−4,809536	22/12	76	119	
Mali	Fakola	10,545930	−6,915261	05/11	1	17	Y. Sanogo, LCV, Bamako
	Manankoro	10,466348	−7,450511	24/11	4	8	
	Fangala	13,600572	−10,066812	23/11	2	7	
Togo	Kolokopé	7,796954	1,291473	22/09	4	19	A. A. Kabissa, ICAT-DG, Lomé

nd number of ticks not determined due to heavy infestation with huge number of ticks collected on cattle

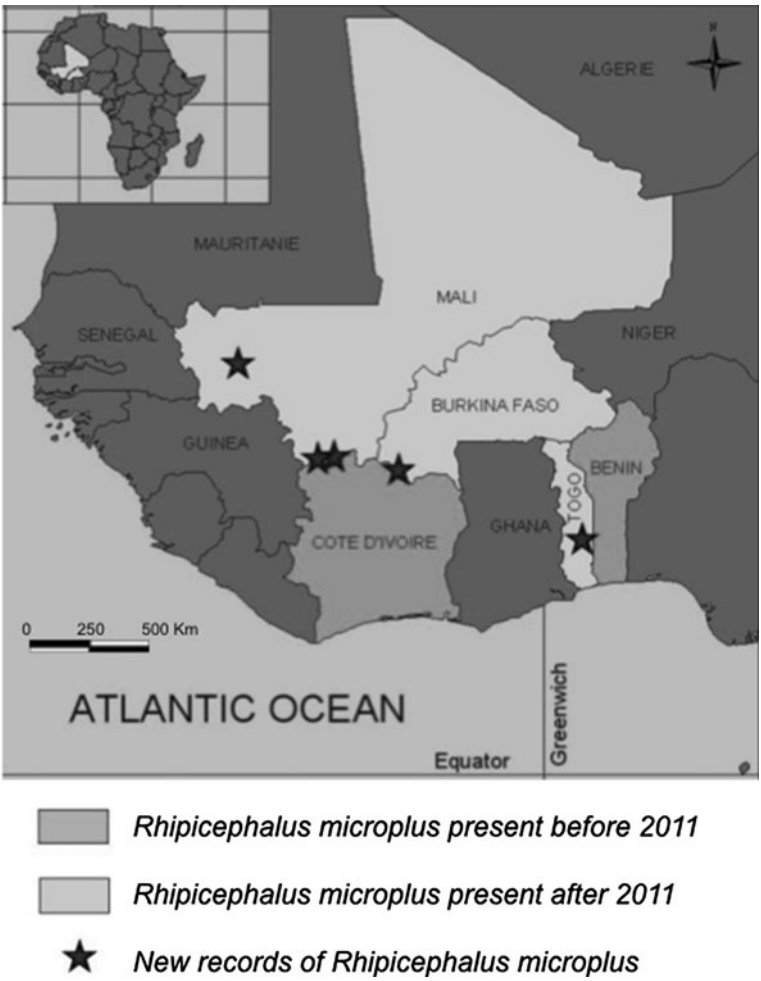

Fig. 1 Distribution of *Rhipicephalus microplus* before and after 2011 in West Africa

diagnosis conducted in Burkina Faso in 2005 and in 2006 in Mali showed no evidence of resistance in field populations of *Rhipicephalus* (*Boophilus*) ticks (*R. geigyi*; at that moment no *R. microplus* was recorded in Mali and Burkina Faso) (Adakal et al. 2012). The situation should now be different given the increase of treatment failures reported by farmers.

Indeed, the threat to livestock industries in this region by the introduction of a tick population resistant to almost all families of available acaricides needs special attention. One of the priorities is to assist farmers and veterinary services in the control of *R. microplus* and to determine the most effective control system. The degree of acaricide resistance to the various products available in the area should be analyzed, as well as animal movements, especially transhumance.

The confirmation of *R. microplus* in Togo was expected, based on the distribution and density in the neighboring country Benin (De Clercq et al. 2012) suggesting the same exposition for all other countries in West Africa. Unfortunately, introduction and further

spread of *R. microplus* in West Africa results from avoidance of elementary veterinary public health. For many decades everything necessary to avoid this disaster easily and completely has been known about. It will only be contained by improved veterinary awareness and public health measures.

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