

## **Rebuttal letter**

We thank the editor and the three reviewers for their comments on our manuscript. Please find below our response to each point raised by the academic editor and reviewers. We hope that we satisfyingly addressed all of them, and that the manuscript will be now suited for publication.

Sincerely,

On behalf of all authors,

Jiregna Gari

### **Reviewer A:**

**Comment [lp1]:** hemoparasitic

**Response:** Thank you, Corrected as commented.

**Comment [lp2]:** delete

**Response:** Thank you, we removed.

**Comment [lp3]:** was not significantly ( $P>0.05$ ) correlated

**Response:** corrected as “Significant correlations ( $p<0.05$ ) were found between husbandry practices and previous anti-Babesia drug treatment.”

**Comment [lp4]:** delete

**Response:** Deleted, Thanks

**Comment [lp5]:** (1,2).

**Response:** corrected as commented (1,2).

**Comment [lp6]:** (7,8).

**Response:** comented part were corrected as (7,8)

**Comment [lp7]:** (9,10)

**Response:** Corrected

**Comment [lp8]:** (19,20).

**Response:** corrected as suggested

**Comment [lp9]:** It is better to provide a descriptive picture from Google for the study area.

**Response:** Maps of study area were added to the manuscript

**Comment [lp10]:** This

**Response:** the manuscript were formulates as “ This study was conducted in Guto Gida and Diga districts.....”

**Comment [lp11]:** Betterworth

**Response:** Corrected

**Comment [lp13]:** Re-write

**Response:** the manuscript was rewrite as “To assess the level of anemia in each animal, the packed cell volume (PCV) was measured. This was done by filling a hematocrit capillary tube with blood up to three-quarters of its volume, sealing it with clay or wax, and placing it in a hematocrit centrifuge at 3000 rpm (26).” By considering others reviewers comment too.

**Comment [lp14]:** significantly varied ( $P>0.05$ )

**Response:** Corrected as suggested

**Comment [lp15]:** delete

**Response:** commented part were deleted

**Comment [lp16]:** in Table 1.

**Response:** MS was written as “ ...in Table 1.”

**Comment [lp17]:** To be more perfect, RBC and Hb is necessary to show the indices (MCH, MCHC, MCV) of anemia

**Response:** we thanks the reviewer for comment, We are sorry that we haven't Include in the manuscript, because method we used on only PCV to measure there anemic status.

**Comment [lp18]:** Table 2.

**Response:** we made a correction on commented part

**Comment [lp19]:** Kamani et al. (32)

**Response:** corrected exactly as suggested.

**Comment [lp20]:** Fakhar *et al.* (33), Choramo and Ibrahim (27), and Wodajnew et al. (29)

**Response:** Commented part was rewritten as “This result agrees with findings by Fakhar et al. (33), Choramo and Ibrahim (27), and Wodajnew et al. (29), who noted a higher prevalence in male cattle than in females.”

**Comment [lp21]:** hemoparasitic

**Response:** corrected as commented, we thanks the reviewer.

**Comment [lp22]:** Re-write the conclusion. It is too long with results mostly

**Response:** the conclusion part was rewritten in a way it gives meaning.

**Comment [lp24]:** Delete this reference. It is not relevant.

Use one of the followings, or both, instead:- 1. Central Statistical Agency, "Report on livestock and livestock characteristics," *The Federal Democratic Republic of Ethiopia, Statistical Bulletin*, vol. 570, Central Statistical Agency, Addis Ababa, Ethiopia, 2015.

**Response:** "Central Statistical Agency, "Report on livestock and livestock characteristics," *The Federal Democratic Republic of Ethiopia, Statistical Bulletin*, vol. 570, Central Statistical Agency, Addis Ababa, Ethiopia, 2015." Was used in the text and in reference.

**Comment [lp25]:** Gojam, A. and Tulu, D.

**Response:** All reference were checked and corrected.

**Comment [lp26]:** And

**Response:** corrected

**Comment [lp27]:** (2005)

**Response:** we thanks reviewer, commented part were corrected

## **Reviewer B:**

1. Did the authors determine the sensitivity, specificity, NPV, PPV of the technique? If not please remove this statement.

**Response:** we added this information to address reviewer concerns, The commented part were removed.

2. What do the authors mean? This passage seems contradicting to the point made in the first sentence.

**Response:** The paragraph was reformulated as

"Despite having the highest livestock population in Africa (5), animal diseases pose a major challenge, impacting output and productivity.

3. What is being referred by "It." The ticks or the hemoparasites? It may be wise to specify and not use the pronoun.

**Response:** Pronoun were removed and corrected as “Babesia is a protozoan parasite that is a member of the phylum *Apicomplexa*, order *Piroplasmida*, subclass *Piroplasmia*, and genus *Babesia*”

4. Is this a typo?

**Response:** We thank the reviewer for pointing out this, It was not necessary so It was removed from the manuscript

5. It would be nice know how many cattle are raised in these regions of Ethiopia. It will give the readers an idea of how big the population is.

**Response:** We thanks the reviewer that part was removed because It makes little unclear for the reader

6. So 3000 rpm? Please simplify this.

**Response:** the manuscript was corrected as reviewer mentioned

“sealing it with clay or wax, and placing it in a hematocrit centrifuge at 3000 rpm (26).”

7. “The analysis revealed that cattle of poor body condition score were more likely to be affected by *Babesia* than good-conditioned animals (OR = 6.25; 95% CI: 0.74%-53.1%)”

**Response:** commented part were corrected as “The analysis revealed a significant difference ( $P < 0.05$ ) in the mean PCV values between the two groups. The mean PCV value of *Babesia*-infected cattle ( $22.3\% \pm 1.3$ ) was significantly lower ( $P < 0.05$ ) than that of uninfected animals ( $24.7\% \pm 1.7$ ), as shown in Table 2”

8. The table 2 is erroneous. Kindly re-evaluate your analysis and results.

**Response:** analysis was re-evaluated.

9. I think the Infection Status and No. Examined are in reverse. The paper reported only 20 infected animals. This is confusing.

**Response:** in this paper a parasitemic animal were all those animals evaluated for PCV so it shows their PCV value,

10. Could be 1 paragraph because they are talking about the same topic.

**Response:** commented part were put under one paragraph.

11. Could be 1 paragraph because they are talking about the same topic.

**Response:** commented part were put under one paragraph.

12. Please provide the ethical review committee approval code, if available.

**Response:** Ethical approval code was provided as reviewer requested “Haramaya University Ethical committee, Haramaya University, HRU2017C4,”

### **Reviewer C;**

1. “The aim of the study”

**Response:** commented part were corrected as “This study aimed to determine”

2. Morphologically, Babesia.....

**Response:** manuscript was corrected as reviewer suggest

3. Replace by word (gender)

**Response:** we prefer to use word “sex” because they are animals.

4. Please (or)or (and)

**Response:** word or was used as reviewer suggested.

5. Bovidae

**Response:** we thanks the reviewer for the comment we changed name cattle to Bovidae as comented.

6. Please give a reference

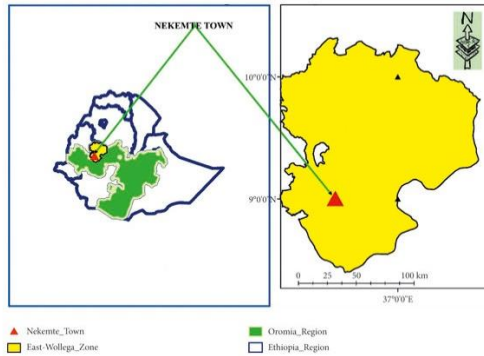
**Response:** reference was added accordingly as “ Most tropical and subtropical climates, including Ethiopia, are home to the two most common species, *B. bovis* and *B. bigemina*. *Babesia bovis* is a tiny parasite that often lives in the center of the erythrocyte (13)”

7. Please delete it

**Response:** word “~~Babesiosis may be actively prevented and controlled using vaccination, chemoprophylaxis, and vector control. Additionally, the prevalence of illness can be reduced by using genetically resistant cattle like *B. indicus*”~~ was deleted

8. Study area where in center or urban areas, please give and Please add a map and detect the study area on it

**Response:** Map of study area was added to the manuscript as



9. Merge sub head line 2.3.1 with 2.3.2

**Response:** sub head was merged as “ *Sample size determination and Sampling Technique*”

10. How many every month please give details even in mean.....

**Response:** since the study was cross section time of month was not used in the study.

11. Transfer to AAAA

**Response:** commented part were merged under same sub heading.

12. (Especially in chronic cases which little number of parasites)...please add this sentence

**Response:** the manuscript was reformulated as “For the preparation of thick blood films, a small droplet of blood was applied to a clean glass slide, spread over a small area using the edge of another slide, air-dried, and then stained with Giemsa. Thick blood films are more sensitive for detecting *Babesia* species as they concentrate the parasites, but it can be more challenging to differentiate between different species.” And some part were removed because other reviewer suggested me to delete it.

13. Where is male percentage

**Response:** manuscript was rewritten as “Most animals were local breeds (91.9%), and the majority were female (69.8%). Most cattle had poor body conditions, and a large proportion (86.7%)” and the rest were males percentage.

14. Please add the host in each reference

**Response:** manuscript was corrected as “ The prevalence of bovine babesiosis in the selected district of East Wollega was 5.2%, which is markedly lower than the earlier findings of 12.8% (50/390) reported from Jimma, Southwestern Ethiopia (27), and 16.9% (65/384) reported from Teltele district, northwest Borana zone, southern Ethiopia (28). On the other hand, it is higher than the report of Wodajnew et al. (29) and Sitotaw et al. (30), who reported a prevalence of 1.5% (6/402) and 0.9% in Benishangul Gumuz of Assosa, Western Ethiopia, and at Bishoftu, respectively.”

15. Please add new reference's... and if possible more than one.

**Response:** more reference were added.

16. May be accidentally or may be genetically and some female owners favorite it for production .... many factors may be related .please add the previous sentence

**Response:** This difference in the prevalence of bovine babesiosis might be caused by various factors, including animal husbandry practices, anti-parasitic drug use for vector control, parasite variation in carriers of the disease over time, test sensitivity, distribution of vectors, and interaction of wildlife sanctuaries with animals and forests where Babesia vectors are present”