



Correction

Correction: Matthew et al. A Loop-Mediated Isothermal Amplification (LAMP) Assay Specific to *Trichomonas tenax* Is Suitable for Use at Point-of-Care. *Microorganisms* 2022, 10, 594

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In the original publication [1], there was a mistake in Figures 1–6, the marker labels of the DNA ladder in all Figures 1–6 were a little off.

To the correct version appears below.

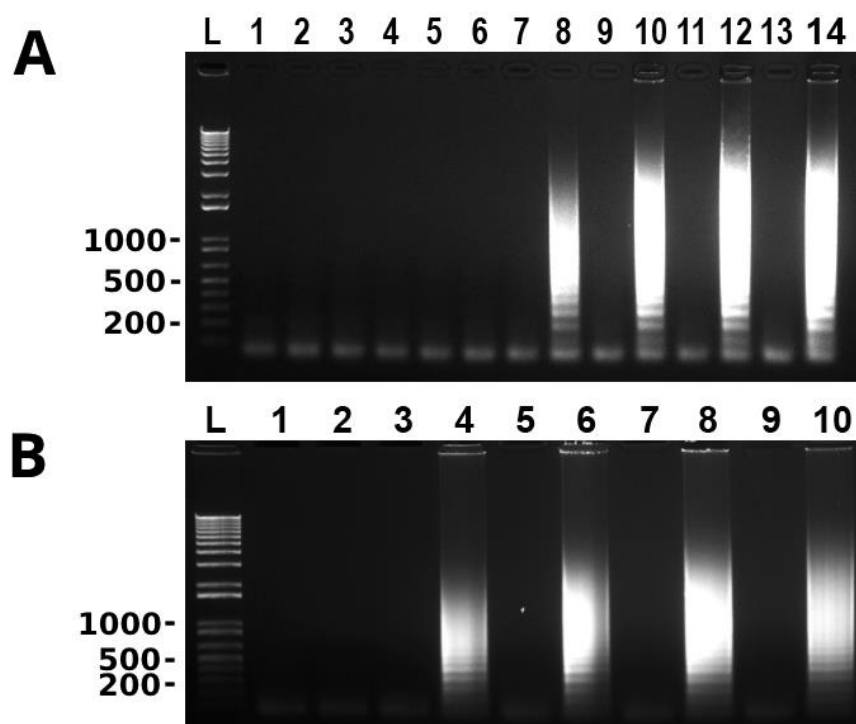


Figure 1. Optimization of LAMP assay for the detection of *T. tenax*. Odd and even lanes are without and with *T. tenax* genomic DNA (100 ng), respectively. **(A)** Temperature optimization of LAMP reaction: lanes 1 and 2, lanes 3 and 4, lanes 5 and 6, lanes 7 and 8, lanes 9 and 10, lanes 11 and 12 and lanes 13 and 14 are at 50, 53, 55, 58, 60, 63 and 65 °C, respectively. **(B)** Time optimization of LAMP reaction: lanes 1 and 2, lanes 3 and 4, lanes 5 and 6, lanes 7 and 8 and lanes 9 and 10 are at 15, 30, 45, 60 and 75 min, respectively. L: 1 kb DNA ladder marker. One of three repeats is shown.



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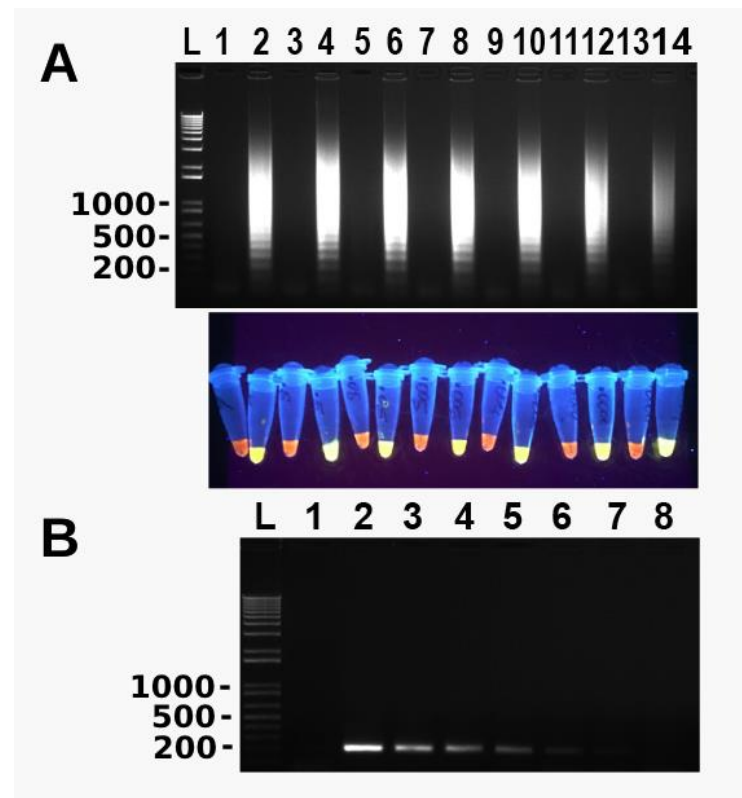


Figure 2. Limit of detection of *T. tenax* by LAMP. Odd and even lanes are without and with serially diluted *T. tenax* genomic DNA, respectively. (A) Lanes 1 and 2, lanes 3 and 4, lanes 5 and 6, lanes 7 and 8, lanes 9 and 10, lanes 11 and 12 and lanes 13 and 14 are at 10, 1, 0.1, 0.01, 0.001, 0.0001, 0.00001 and 0.000001 ng, respectively. LAMP results are detected by gel electrophoresis (top panel) and SYBR Green I with UV illumination (bottom panel). (B) Limit of detection of conventional PCR: lane 1: negative control with water and lanes 2–8: 100, 10, 1, 0.1, 0.01, 0.001 and 0.0001 ng of DNA, respectively. PCR results are detected by gel electrophoresis. L: 1 kb DNA ladder marker. One of three repeats is shown.

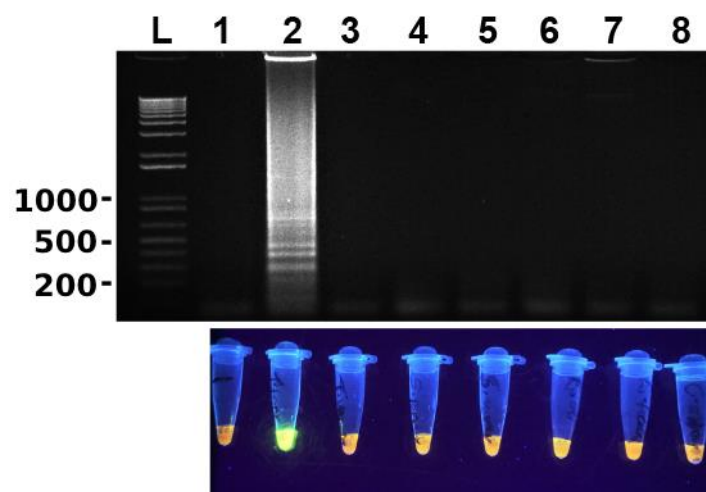


Figure 3. Newly developed LAMP assay is highly specific. Lane 1: no DNA (negative control with water); lanes 2–8: containing 2 µL genomic DNA of various microbes. Lane 2: *T. tenax* (5 ng/µL); lane 3: *T. vaginalis* (137 ng/µL); lane 4: *S. pyogenes* (74 ng/µL); lane 5: *S. aureus* (160 ng/µL); lane 6: *E. coli* (52 ng/µL); lane 7: *E. faecalis* (70 ng/µL); and lane 8: *C. albicans* (60 ng/µL). LAMP results are detected by gel electrophoresis (top panel) and SYBR Green I with UV illumination (bottom panel). L: 1 kb DNA ladder marker. One of three repeats is presented.

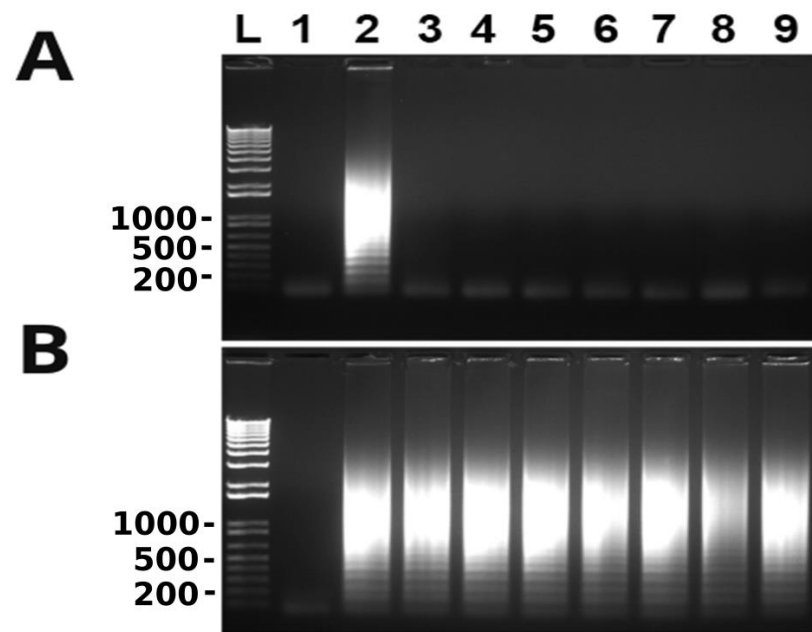


Figure 4. Detection of *T. tenax* without DNA extraction by newly developed LAMP assay. Serially diluted samples of *T. tenax* cells in PBS (**A**) or TE buffer (**B**) boiled at 100 °C for 30 min: lanes 1 and 2: negative and positive controls without and with *T. tenax* genomic DNA (100 ng/μL); lanes 3–9: containing 2×10^5 , 2×10^4 , 2×10^3 , 2×10^2 , 2×10^1 , 2×10^0 and 2×10^{-1} cells, respectively. L: 1 kb DNA ladder maker. One of three repeats is presented.

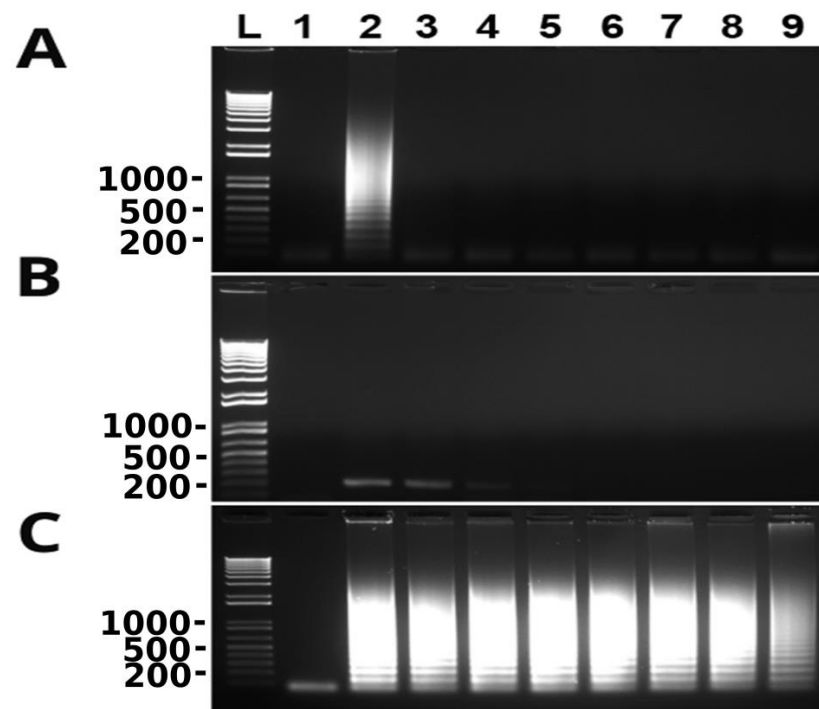


Figure 5. Limit of detection in spiked saliva samples as shown in gel electrophoresis. (**A**) LAMP. (**B**) PCR. Lane 1: nuclease-free water as a negative control; lane 2: positive controls with 100 ng *T. tenax* genomic DNA; lanes 3–9: canine saliva spiked with 2×10^5 , 2×10^4 , 2×10^3 , 2×10^2 , 2×10^1 , 2×10^0 and 2×10^{-1} cells, respectively. They were boiled at 100 °C for 30 min with no DNA extraction. (**C**) LAMP using the similarly prepared samples as above that were re-suspended in TE buffer after being washed in PBS. L: 1 kb DNA ladder marker. One of three repeats is presented.

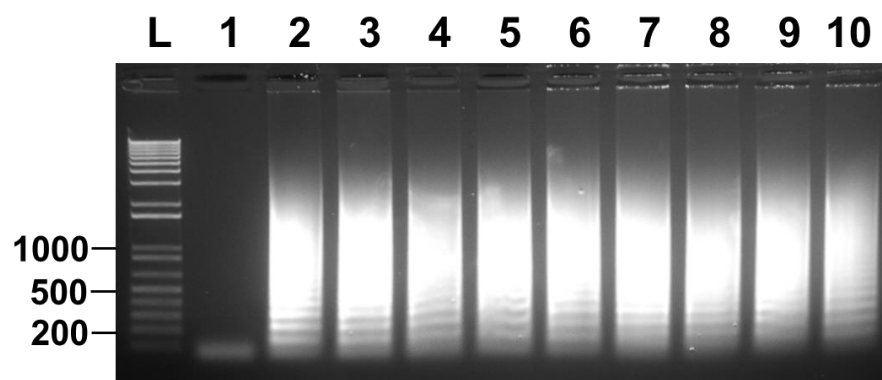


Figure 6. Direct detection of *T. tenax* among clinical samples without prior DNA extraction. Lane 1: nuclease-free water as a negative control; lane 2: positive controls with 100 ng *T. tenax* genomic DNA; lanes 3–10: eight microscopically confirmed trichomonad samples of individually owned pet dogs containing two cells per sample. LAMP results are detected by gel electrophoresis. One of three repeats is presented.

The marker labels of DNA ladder in Figures 1–6 should be the same as those in the corrected Figure 6 showed above.

In the original publication [1], there was a mistake in Table 1, as published.

“LP (backward loop primer)” in the fourth line of Table 1 was wrong.

The corrected content appears below.

Table 1. Loop-mediated isothermal amplification (LAMP) primer sequence for detection of *T. tenax*.

Name of Primer	Primer Sequence (5′–3′)
FIP (forward inner primer)	GTCATGATGTATGCAACTCCGG-TCCTCACACGATGAAGAACG
BIP (backward inner primer)	GGTTAATCTTTGAATGCAAATTGCG-TGTACTGTTACACGCATGCTTCT
LF (forward loop primer)	ACATTATGCCACGTTCTTCATCG
LB (backward loop primer)	TGCGCTAAACTTGGCTTCGG
F3 (forward outer primer)	AGCAATGGATGTCTTGGC
B3 (backward outer primer)	GCAGACAACGTAAGTTTGT

There was an error in the original publication [1]. “LF, and LP (Table 1).” in the fourth line of Section 2.2. LAMP Reaction on page 2 was wrong.

A correction has been made to Section 2.2. LAMP Reaction on page 2:

The LAMP primers targeting the ITS and 5.8S rRNA gene of *T. tenax* (GenBank Accession No. U86615) were designed using the software Primer explorer V.5 (<http://primerexplorer.jp>) (accessed on 28 February 2020). These include FIP and BIP, F3 and B3, LF, and LB (Table 1). Multiple sequence alignment using software CLUSTAL 1.2.4 (Clustal Omega; <https://www.ebi.ac.uk/Tools/msa/clustalo/>) (accessed on 28 February 2020) was carried out on the closely related protozoan *T. vaginalis*, to check for specificity.

The authors state that the scientific conclusions are unaffected. This correction was approved by the Academic Editor. The original publication has also been updated.

Reference

- Matthew, M.A.; Christie, J.; Yang, N.; Yao, C. A loop-mediated isothermal amplification (LAMP) assay specific to *Trichomonas tenax* is suitable for use at point-of-care. *Microorganisms* **2022**, *10*, 594. [[CrossRef](#)] [[PubMed](#)]

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