

# Title Antibiotics resistant Escherichia coli isolated from aquatic ecosystems in Palembang, South Sumatera, Indonesia: Antibiotics Resistance Escherichia coli Diversity in Palembang

Marieska Verawaty (First and Corresponding Author)

The screenshot shows the OJS submission dashboard for article 4667. The page is titled "Production Discussions" and includes a table with the following data:

| Name   | From                   | Last Reply | Replies | Closed                   |
|--|------------------------|------------|---------|--------------------------|
| <a href="#">Please change the red text in page 87 and 97</a> | marieska_mipaunsri2019 | -          | 0       | <input type="checkbox"/> |

The screenshot shows the OJS submission dashboard for article 4667. The page is titled "Round 2 Status" and includes a "Notifications" section with the following data:



| Notification                             | Date                |
|--|---------------------|
| <a href="#">[biodiv] Editor Decision</a> | 2019-10-19 10:52 PM |
| <a href="#">[biodiv] Editor Decision</a> | 2019-10-20 08:55 AM |
| <a href="#">[biodiv] Editor Decision</a> | 2019-11-29 08:09 AM |
| <a href="#">[biodiv] Editor Decision</a> | 2019-11-29 01:33 PM |
| <a href="#">[biodiv] Editor Decision</a> | 2019-12-12 09:23 AM |
| <a href="#">[biodiv] Editor Decision</a> | 2019-12-18 03:23 AM |

The "Round 2 Status" section indicates: "Submission accepted."

The "Reviewer's Attachments" section shows a file named "14733-1\_Rev- 03-Nov-PTW-4667-Article Text-13667-1-4-20191108.doc" uploaded on November 29, 2019.

**Reviewer's Attachments**




[Q Search](#)

|   |  |                   |
|---|--|-------------------|
|  14733-1 | , Rev- 03-Nov-PTW-4667-Article Text-13667-1-4-20191108.doc | November 29, 2019 |
|  14735-1 | , Rev- 03-Nov-PTW-4667-Article Text-13667-1-4-20191108.doc | November 29, 2019 |

**Revisions**

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|   |  |                  |              |
|---|--|------------------|--------------|
| ▶  14937-2 | Article Text, 4667-Article Text-14979-1-18-20191205_MV.doc (2) | December 7, 2019 | Article Text |
| ▶  15092-1 | Other, lokasi sample MV.doc                                    | December 7, 2019 | Other        |
| ▶  15093-1 | Other, lokasi sample inset Palembang.jpg                       | December 7, 2019 | Other        |

Biodiversitas Journal of Biological Diversity Tasks 0 English

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**OJS**  
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Submissions

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| 2019-12-18 04:18 AM  |                        |            |         |                          |

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Reviewer B

I compliment the authors for working on such a sensitive issue. The article focuses on a very important aspect of public health and needs to be out in the world so as to infuse alertness and awareness about the current state of use and misuse of water, antibiotics and public sanitation. The article needs to be checked for grammer and spellings. Also the work has been done on both total and fecal coliform that should be included in the abstract and duplicated in the text. The terminology of MPN limits from the table has to be clearly mentioned the upper limit is 1600. There were a quite a few corrections based on technical jargons and experimental limits which I have addressed in the file itself. I recommend the publication of the article after some minor revisions mentioned here.

Abstract

Please include total and fecal coliforms.

Line # 16- Ciprofloxacin or cypro?

Line # 17- 19: 1600 refer MPN table

Line # 44: Please delete diversity because the diversity of *E. coli* has not been studied here as in diversity in the site specific isolates. I suggest using a title that depicts the presence of multiple antibiotic resistant *E. coli* in the water system.

Line # 46: Fecal coliform is a subset of total coliform that specifically defines coliform generated from fecal sources of warm blooded animals as it is a normal gut microbiota. WHO specifies them as thermotolerant fermenting lactose even at 44°C by Eijkman test.

Line #130-135: chenge to

The current study aims at highlighting the alarming issue of the prevalence of multiple antibiotic resistant *E. coli* in the aquatic system of Palembang which is a potent environmental and public health concern.

Lines # 160-172: MPN test consists of Presumptive, Confirmatory and Completed test (EMB agar plating). Until completed test is finished the positive samples from the previous two test are only total coliforms after completed test its *E. coli* and after Eijkman test they are fecal coliforms

Eijkman test is specific for identifying fecal coliform at 44-46 degrees. please rewrite these areas to include these technical terms.

Lines # 391-413:

Coliform bacteria are not IMVIC negative. Fecal coliform broadly consists of 3 genres of bacteria and that is Klebsiella pneumonia, *E. coli* and Enterobacter. All 3 of these ferment lactose

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[biodiv] Editor Decision

Smujo Editors <smujo.id@gmail.com> kepada saya

Min, 20 Okt 2019, 15:55

Inggris > Indonesia > Terjemahkan pesan

Nonaktifkan untuk Inggris

Marieska Verawaty

We have reached a decision regarding your submission to Biodiversitas Journal of Biological Diversity, "Antibiotics resistant *Escherichia coli* isolated from aquatic ecosystems in Palembang, South Sumatera, Indonesia".

Our decision is: Revisions Required

Smujo Editors  
editors@smujo.id

Biodiversitas Journal of Biological Diversity

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B-Edited 1019201...

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2 Nov 2019, 13:55

**marieska verawaty** <marieskaverawaty@unsrl.ac.id>  
 kepada Smujo, saya

Dear **Smujo** Editors,  
 Thank you for your suggestions.  
 Here in attached file we have made our revision based on the suggestions.  
 And also here are our responses based on the Reviewer B suggestions and comments (responses are in blue colour):

I compliment the authors for working on such a sensitive issue. The article focuses on a very important aspect of public health and needs to be out in the world so as to infuse alertness and awareness about the current state of use and misuse of water, antibiotics and public sanitation. The article needs to be checked for grammar and spellings. Also the work has been done on both total and fecal coliform that should be included in the abstract and duplicated in the text. The terminology of MPN limits from the table has to be clearly mentioned the upper limit is 1600. There were a quite a few corrections based on technical jargons and experimental limits which I have addressed in the file itself. I recommend the publication of the article after some minor revisions mentioned here.

**Dear Reviewer B**

Thank you very much for your very positive and constructive suggestions.

**Abstract:**

**Please include total and fecal coliforms.**

The total and fecal coliforms have been included in the abstract (please see lines 17 to 26)

**Line # 16- Ciprofloxacin or cypro?**

Thank you for the suggestion, all cypro—have been changed to ciprofloxacin.

**Line # 17- 19: 1600 refer MPN table**

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Line # 44: Please delete diversity because the diversity of *E. coli* has not been studied here as in diversity in the site specific isolates. I suggest using a title that depicts the presence of multiple antibiotic resistant *E. coli* in the water system.

Now we change the title to be Multiple Antibiotic Resistance *Escherichia coli* of Aquatic Ecosystems (line 51)

Line # 46: Fecal coliform is a subset of total coliform that specifically defines coliform generated from fecal sources of warm blooded animals as it is a normal gut microbiota. WHO specifies them as thermotolerant fermenting lactose even at 44°C by Eijkman test.

Thank you for your suggestions and comments.

**Line #130-135: change to**

The current study aims at highlighting the alarming issue of the prevalence of multiple antibiotic resistant *E. coli* in the aquatic system of Palembang which is a potent environmental and public health concern.

It has been changed into therefore, this study aimed to investigate the potency of antibiotic resistance among *Escherichia coli* isolates from aquatic ecosystems in Palembang. This information will contribute to our understanding of antibiotic resistance in the aquatic environment and the potential environmental and public health risks associated with them. The current study aims to highlight the alarming issue of the prevalence of multiple antibiotic resistant *E. coli* in the aquatic system of Palembang which is a potent environmental and public health concern. (lines 130-135)

**Lines # 160-172: MPn test consists of Presumptive, Confirmatory and Completed test (EMB agar plating). Until completed test is finished the positive samples from the previous two test are only total coliforms after completed test its *E. coli* and after Eijkman test they are fecal coliforms**

Eijkman test is specific for identifying fecal coliform at 44-46 degrees. please rewrite these areas to include these technical terms.

It has been rewritten into:

**Eijkman Test:** The Eijkman test was done as the specific test for identifying fecal coliform at 44-46 degrees; the Eijkman test positive results indicate the bacteria are belong to fecal coliforms. The test was done by inoculating the positive culture on the Lactose Broth media into a tube containing EC Broth media with Durham tubes in accordance with the number of positive tubes in the coliform test. The tubes were incubated in a water bath with a temperature of 44-45 °C for 48 hours. (Lines 161 to

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Lines # 391-413 :

Coliform bacteria are not IMViC negative. Fecal coliform broadly consists of 3 genres of bacteria and that is *Klebsiella pneumoniae*, *E. coli* and *Enterobacter*. All 3 of these ferment lactose with acid and gas formation even at 44 °C. Green metallic sheen on EMB agar is specific to *E. coli* only. Since the article focuses on *E. coli*, after positive identification on green metallic sheen that culture would have been repeatedly subcultured using single colony picking method to get a pure single colony culture of *E. coli* which should have been indole and MR positive, Vp negative (separates *E. coli* from *Klebsiella*), Citrate + or negative (environmental isolates differ on this test). Please rephrase this sentence to indicate that.

This has been paraphrased into:

Broadly, fecal coliform consist of three bacterial genres including *Klebsiella pneumoniae*, *Escherichia coli* and *Enterobacter sp.* All of these three bacteria ferment lactose and produce acid and gas even at 44°C. As an exception, only *Escherichia coli* colonies presented green metallic color in EMB agar that differentiate it to the other genres. In relation to this, our study focused on exploring the potential of multiresistant antibiotics *Escherichia coli* only, thus after the positive identification of the green metallic shown in EMB agar, the isolates were repeatedly subcultured by using single colony picking method for producing single *Escherichia coli* colony characterized by indole and MR positive, Vp negative (which differentiated *Escherichia coli* from *Klebsiella pneumoniae*, citrate can be positive or negative (it depends on the difference environmental isolates for this test). (Lines 369 – 375)

**Recommendation: Revisions Required**  
Thank you very much for your recommendation.

Kindest Regards,  
Marieska

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Sel, 3 Des 2019, 10.37

Dear Biodiversitas Editors:

First of all we would like to say thank you very much for the very constructive suggestions and comments, the recommendations are very constructive and important for this paper. Attached files are the revision paper and comments for the reviewers' suggestions.

Kindest Regards,  
Marieska Verawaty

First of all we would like to say thank you very much for the Biodiversitas Journal Editorial team and reviewers for the very constructive suggestions and comments, the recommendations are very constructive and important for this paper.

Kindest Regards,  
Marieska Verawaty

Here are our revisions based on the suggestions (in blue colour):

**Reviewer Comments 1**

- Introduction in this manuscript is too long, it should be shortened and clearer  
(the introduction has been made shorter in this 2<sup>nd</sup> revision version (attached file))
- There are a lot of repeating things that already exist in the table  
(the repeating abbreviations have been corrected) please see lines 53, 60, 63 and 102 (in the 2<sup>nd</sup> revision version)
- The conclusion of this study is not stated clearly  
(the conclusion has been inserted) please see lines 366 to 375

In conclusion, this study indicated the evidence of resistant *Escherichia coli* isolates to multiple antibiotics isolated from aquatic ecosystems in Palembang city, the response of the isolates towards the tested antibiotics were varied. In general the results indicated that 82% of the isolates were resistant to ampicillin, 57% to tobramycin,

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**Reviewer Comments 1**

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(the introduction has been made shorter in this 2<sup>nd</sup> revision version (attached file))
- There are a lot of repeating things that already exist in the table  
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- The conclusion of this study is not stated clearly  
(the conclusion has been inserted) please see lines 366 to 375

In conclusion, this study indicated the evidence of resistant *Escherichia coli* isolates to multiple antibiotics isolated from aquatic ecosystems in Palembang city, the response of the isolates towards the tested antibiotics were varied. In general the results indicated that 82% of the isolates were resistant to ampicillin, 57% to tobramycin, and 71% to tetracycline. The isolates showed intermediate profile to kanamycin (50%), 57% to cotrimoxazole, 50% to cefixime, and 54% to gentamicin. These isolates still showed sensitivity towards ciprofloxacin (86%) and chloramphenicol (61%). The results also indicated that some of the sampling locations exceeds the quality standard of water have been regulated by the Governor South Sumatera and Indonesian Government. Finally, the *E. coli* isolated from different sources showed dynamics and divers susceptibility towards antibiotics. Therefore a constant and regular monitoring is important for ensuring our future health hazards awareness, diseases spread prevention and ecosystem, wildlife and public health protection.

**Reviewer Comments 2**

Some things need to be corrected

ABSTRACT:

- It should be added how the method used to achieve the objectives of this study  
(the methods for achieving the objective of this study has been added in the abstract) please see lines 12 to 13

Most probable number (MPN) was used for bacterial estimation and Kirby-Bauer method was used for susceptibility test against antimicrobial agents.

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**Reviewer Comments 2**

Some things need to be corrected

ABSTRACT:

- It should be added how the method used to achieve the objectives of this study  
(the methods for achieving the objective of this study has been added in the abstract) please see lines 12 to 13

Most probable number (MPN) was used for bacterial estimation and Kirby-Bauer method was used for susceptibility test against antimicrobial agents.

MATERIALS AND METHODS:

- add a description of the concentration of antibiotics used for resistance AB evaluation  
The description actually has been described in the original article. It can be seen in lines 161-165

inhibitory concentrations (MICs) listed in the Clinical Laboratory Standards Institute (CLSI, 2010) for *Enterobacteriaceae* of resistant strains, i.e. tetracycline 10 µg/mL, ciprofloxacin 5 µg/mL, kanamycin 30 µg/mL, cotrimoxazole 30 µg/mL, tobramycin 10 µg/mL, chloramphenicol 30 µg/mL, cefixime 5 µg/mL, gentamicin 10 µg/mL, and ampicillin 10 µg/mL. The strains growing on one or more plates containing antimicrobial agents were examined for their susceptibility to nine antimicrobial agents by the Kirby-Bauer method.

RESULTS AND DISCUSSION:

- Explanation of several abbreviations written more than once
- Data on water quality has not been discussed in relation to the incidence of antibiotic resistance
- Add recommendations about water use related to important results in this study
- Add conclusion

Abbreviations have been corrected (please see lines 53, 60, 63 and 102)

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[biodiv] Editor Decision Kotak Masuk x

Smujo Editors <smujo.id@gmail.com> kepada saya, NITA

Kam, 12 Des 2019, 16.23

Inggris > Indonesia Terjemahkan pesan Nonaktifkan untuk: Inggris x

MARIESKA VERAWATY, NITA APRIANI, LELY RASTI TARIGAN, ENDAH TRI APRIAN, WEMONA CHARISSA LAURENTA, MUHARNI :

We have reached a decision regarding your submission to Biodiversitas Journal of Biological Diversity, "Antibiotics resistant Escherichia coli isolated from aquatic ecosystems in Palembang, South Sumatra, Indonesia".

Our decision is to: Accept Submission

Smujo Editors  
editors@smujo.id

[Biodiversitas Journal of Biological Diversity](#)

Thank you for informing me. Thank you for the information. Thank you for your response.

Balas Balas ke semua Teruskan

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[biodiv] Editor Decision Kotak Masuk x

Smujo Editors <smujo.id@gmail.com> kepada saya, NITA

Rab, 18 Des 2019, 10.23

Inggris > Indonesia Terjemahkan pesan Nonaktifkan untuk: Inggris x

MARIESKA VERAWATY, NITA APRIANI, LELY RASTI TARIGAN, ENDAH TRI APRIAN, WEMONA CHARISSA LAURENTA, MUHARNI :

The editing of your submission, "Antibiotics resistant Escherichia coli isolated from aquatic ecosystems in Palembang, South Sumatra, Indonesia," is complete. We are now sending it to production.

Submission URL: <https://smujo.id/biodiv/authorDashboard/submission/4667>

Smujo Editors  
editors@smujo.id

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Thanks a lot. Thank you for informing me. Thank you!