Dear Drs Ravel, Wellington, and colleagues,

Please find enclosed the manuscript entitled “MetaWRAP - a flexible pipeline for genome-resolved metagenomic data analysis“ by Uritskiy, DiRuggiero, and Taylor for consideration by Microbiome as a software article.

In this manuscript, we describe metaWRAP, an easy-to-use modular pipeline that automates the core tasks in metagenomic analysis while contributing significant improvements to the extraction and interpretation of high-quality metagenomic bins.

Whole-genome metagenomic data is a new and rapidly developing field. Software and work-flows for such analysis are becoming more sophisticated and complex, allowing for genome-resolved interrogation of metagenomic data. However, this also presents a significant burden for biologists without significant computational experience, as such work-flows often include dozens of individual software that are difficult to consolidate.

To address this challenge, we build metaWRAP – a modular pipeline software for shotgun metagenomic data analysis. MetaWRAP deploys state-of-the-art software to process metagenomic data starting from raw sequencing reads and ending in metagenomic bins and their analysis. Unlike many currently existing software, metaWRAP is flexible enough to give investigators control over the analysis, while still being easy-to-install and easy-to-use.

In addition to this, metaWRAP also includes innovations in draft genomes recovery. It leverages the strengths of a variety of software to extract and refine high-quality bins through bin consolidation and reassembly. This approach outperforms currently existing software in both synthetic and real datasets. Finally, metaWRAP comes with numerous modules for the visualization, analysis, and interpretation of metagenomic bins, something that the field is still lacking.

Since its first reveal in January 2018, metaWRAP already gained significant traction. The homepage https://github.com/bxlab/metaWRAP consistently receives over 300 views a week, and the software has already been installed by over 60 users from the US, Denmark, Portugal, and others. MetaWRAP also has a consistent, vocal user-base that has helped improve and debug the software.