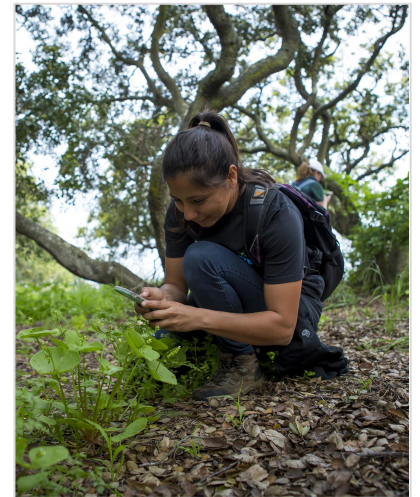


# How do young community and citizen science volunteers support scientific research on biodiversity?: the case of iNaturalist

Aristeidou, M., Herodotou, C., Ballard, H. L., Higgins, L., Johnson, R. F., Miller, A. E., Young, A. N. & Robinson, L.D. (2021). [How do young community and citizen science volunteers support scientific research on biodiversity?: The case of iNaturalist](#). *Diversity* 2021, 13 (7) 318.

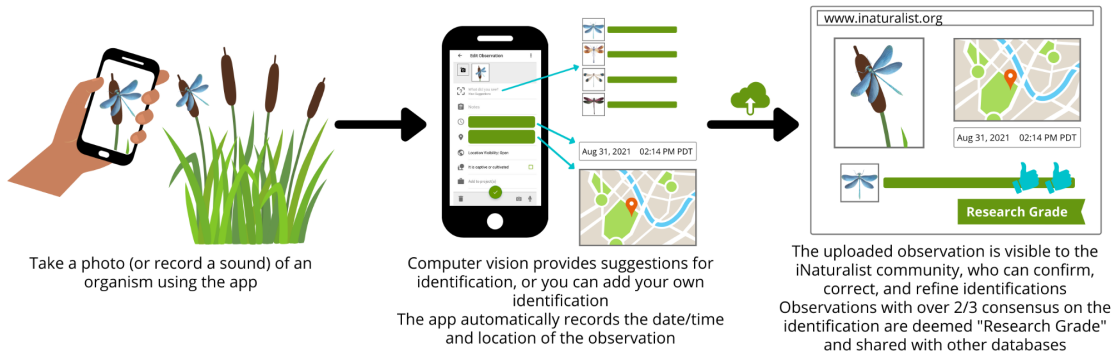
## INTRODUCTION

Online community and citizen science (CCS) projects have broadened access to scientific research and enabled different forms of participation in biodiversity research; however, little is known about whether and how such opportunities are taken up by young people (aged 5–19). Furthermore, when they do participate, there is little research on whether their online activity makes a tangible contribution to scientific research. We addressed these knowledge gaps using quantitative analytical approaches and visualisations to investigate 249 youths' contributions to CCS on the iNaturalist platform and the potential for scientific use of their contributions.



## How does iNaturalist work?

The simplest way to use iNaturalist (and the way most youth use it) is to make observations using the app:



## iNATURALIST

*iNaturalist is an online Community and Citizen Science platform, app, and social network that asks participants to upload pictures or sound files that document the presence of various species and help identify these observations. Observations reaching certain criteria (Research Grade) are made available on the Global Biodiversity Information Facility (GBIF) and so are potentially useful for biodiversity research.*

## AIMS OF STUDY

Quantitative approaches were used to investigate the contribution of 249 young volunteers who used the iNaturalist platform.

We asked the following questions:

- *What is the verifiability and quality of young volunteers' iNaturalist contributions?*

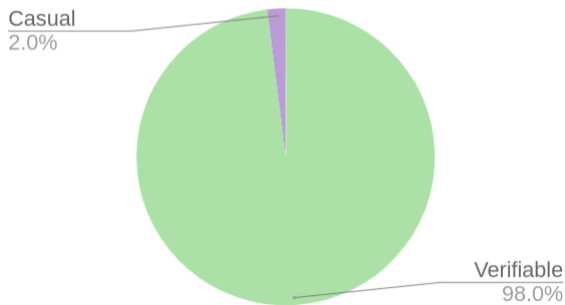
- *What are the relationships between participation behaviour (proportion of active days, duration, systematic participation) and proportion of contributed Research Grade quality observations?*
- *What are the relationships with other characteristics, including age, gender and whether the account is shared with others, with the proportion of Research Grade observations?*

## WHAT WE FOUND

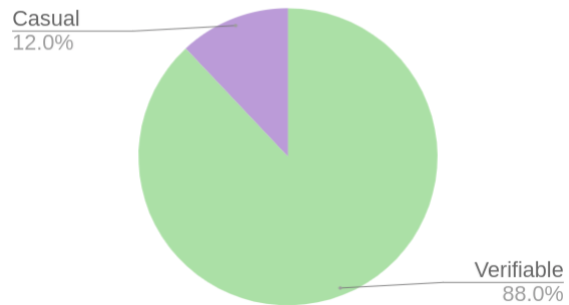
Nearly all of the young volunteers' observations were 'Verifiable' (included a photo, location, and date/time) and therefore potentially useful to biodiversity research. Overall, the young volunteers contributed 194,787 observations, 98% of which were verifiable (190,891 observations).

- Fifty eight percent of the total young volunteers' contributions (111,907 observations) became Research Grade - proportionally similar data quality as the broader, primarily adult, iNaturalist community.
- Youth with lasting participation on the platform and those aged 16-19 years were more likely to have a higher proportion of Research Grade observations.
- Young people were not systematic in their contributions - 59% contributing for one or two days only.

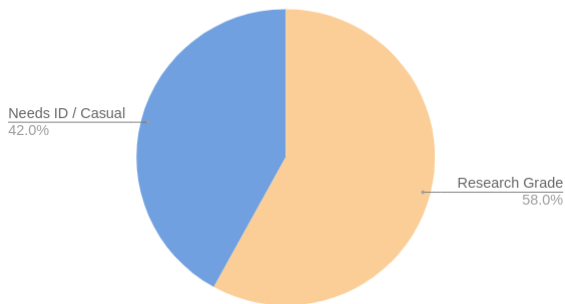
Percentage of Youth Verifiable Observations (from this study)



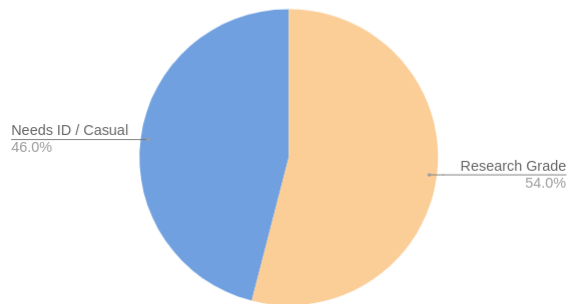
Percentage of Verifiable Observations (iNaturalist overall)



Percentage of Youth Research Grade Observations (from this study)



Percentage of Research Grade Observations (iNaturalist overall)



## RECOMMENDATIONS

- Engage with participants at both field events and in iNaturalist to create continuity and connection between the two ways of participating.
- Build in ways to encourage consistent and longer-lasting engagement with iNaturalist to increase research value of biodiversity data and enhance youth learning.

## FUNDING AND ABOUT US

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