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General guidelines

Please use this template to write your Data Note. Instructions are shown in *blue and italic* print.

* Follow the instructions and delete them before submitting your Data Note.
* You may add subheadings where appropriate to structure your Data Note but do not add or delete any section headings.
* A Data Note is purely a description of data and should not contain any analyzed results, discussions, interpretation of data or conclusions.
* Everything you need to complete the Data Note is available in this template. Further information is available at the submission guidelines page: <https://www.springer.com/journal/43939/submission-guidelines> but if you have any queries when preparing your Data Note, please contact the journal team at discovermaterials@springernature.com

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[Title]
*The title should be a clear but concise description of the data the manuscript reports. It should be different to any existing research paper.*

[Author details]

*List the full names and institutional addresses for all authors.*

*List the email addresses for only the corresponding author(s)*

Abstract
*Please minimize the use of abbreviations and do not cite references in the abstract. The abstract must include the following two sections.*

Objectives:
*The purpose and objective of the data presented. Answer the following question: Why was the data collected? If the data is the side-product of a bigger study you should state this here. More detailed objectives can be included in the main Objective section below.*

Data description:
*A brief description of the data. When writing this part, think about why your data might be useful and of value to other researchers. A more detailed description can be included in the main Data description section below.*

*The abstract should not exceed 200 words.*

Objective

*The purpose and objective of the data presented. This is essentially the same as in the abstract but you can provide more details here. Give the readers some background so they can put the data in context. If the data were never published as part of a research paper, tell us why. We are looking for a brief and honest description of why the data were collected. Please cite any related publications, e.g. research papers you have published that are based on the same data.*

*This section should not exceed 300 words.*

*Below are some pointers that might further help you when writing this section:*

* *Provide a rationale for the research and collecting the data. Keep this brief and instead of a lengthy description we encourage authors to cite sources that support their statement.*
* *Please do not provide a literature review. Authors can introduce the general topic in one or two sentences and then cite relevant review articles for the interested reader.*
* *Briefly (not more than one or two sentences) introduce the study/research project.*
* *Have you or your collaborators published papers based on the same data or different data that came from the same research project? If yes, then you must cite these. Papers under consideration should be mentioned in the cover letter.*
* *If the data was not analysed and/or written up in a research paper, tell us why. If there are any limitations then you might want to provide more details in the ‘Limitations’ section.*
* *If you have some thoughts on what the data can be used for or how it may help others, then do tell our readers at the end of this section.*

*Data description*

*Briefly describe the data:*

* *What kind of data/data sets have you acquired?*
* *What do the data show? Provide a brief but informative description.*
* *Please provide details if the data were processed in any way (How were the data processed? Why were the data processed?).*

*This section should be purely descriptive and not offer any interpretation of the data.*

*As part of the data description, you should describe key elements of the methodology (equipment used, experimental setup). This does not need to be a detailed methodological description that allows reproducing the data but key methodological information should be provided. A detailed description of the methodology must be uploaded together with the data to the data repository that provides sufficient detail for other researchers to reproduce the data.*

*Compulsory Table 1 below should provide an overview of all data files/data sets described in this Data Note. Individual files (e.g. tables or figures) should be labeled data file 1, data file 2 and so on (the label does not differentiate between tables, figures, code or other files). Larger collections of the same data type (e.g. a collection of microscopy images) should be labeled data set 1, data set 2 and so on. Please refer to all data files and data sets of table 1 within the data description. The data description should be concise and focus on the key information.*

*All data files/data sets need to be deposited in a recommended data repository.*

*This section should not exceed 500 words.*

**Table 1**: Overview of data files/data sets.

|  |  |  |  |
| --- | --- | --- | --- |
| **Label** | **Name of data file/data set**  | **File types** **(file extension)** | **Data repository and identifier (DOI or accession number)** |
| *Data file 1* | *Name of data file 1* | *e.g. Matlab script file (.m)* | *e.g. Figshare (copy DOI here)* |
| *Data file 2* | *Name of data file 2* | *e.g. MS Excel file (.xlsx)* | *e.g. Figshare (copy DOI here)* |
| *Data set 1* | *Name of data set 1* | *e.g. Dicom files (.dcm)* | *e.g. Dryad (copy accession no. here)* |
|  |  |  |  |

*Please add as many rows as required. Files that are part of a larger collection should be summarized as a data set.*

*Table 1 should provide the reader with an easy to digest overview of the files they expect to see when clicking through to the data.*

*Some data repositories allow DOIs for individual files. The data files and data sets may all be part of one data deposition and share the same DOI or have individual ones. The data may also be in different data repositories and DOIs or accession number should be provided for each data file/data set listed in table 1.*

*Each data record needs to be included in the References, and cited from Table 1 and the Data Availability section.*

Limitations

*Clearly state the limitations of the data. This could be any shortcoming that occurred during data collection, small sample sizes (which prevented the data to be used as part of a research paper) or outdated data among others. We believe all sound data is valuable and deserves publication. Honest and transparent description of any limitations will not affect editorial assessment. Limitations may be presented in bullet point format.*

*This section should not exceed 300 words.*

Abbreviations

*If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations should be provided here.*

Declarations

#### *All manuscripts must contain the following sections under the heading ‘Declarations’. More information on declarations can be found in the journal submission guidelines* <https://www.springer.com/journal/43939/submission-guidelines>

#### Acknowledgments

*Acknowledgments of people, grants, funds, etc. should be placed in a separate section on the title page. The names of funding organizations should be written in full*

**Funding** *(information that explains whether and by whom the research was supported)*

**Conflicts of interest/Competing interests** *(include appropriate disclosures)*

#### ****Ethics approval**** *(only include this section if applicable to your manuscript)*

#### ****Consent to participate**** *(only include this section if applicable to your manuscript)*

#### ****Consent to publish**** *(only include this section if applicable to your manuscript)*

**Data availability**
The data described in this Data Note can be freely and openly accessed on ***[Name of data depository]*** under ***[Identifier, DOI, accession number etc.]***. Please see table 1 and references [***Reference numbers***] for details and links to the data.

**Code availability** *(software application or custom code - if applicable)*

**Authors' contributions**

*(See* *Authorship principles section:* [*https://www.springer.com/journal/43939/submission-guidelines#Instructions%20for%20Authors\_Authorship%20principles*](https://www.springer.com/journal/43939/submission-guidelines#Instructions%20for%20Authors_Authorship%20principles)

*Please see the relevant sections in the submission guidelines for further information as well as various examples of wording. Please revise/customize the sample statements according to your own needs.*

References

*All references, including URLs, must be numbered consecutively, in square brackets, in the order in which they are cited in the text. The reference numbers must be finalized and the reference list fully formatted before submission.*

*Data records need to be included in the reference list, and cited from Table 1 and the Data availability section.*

*Format for citing a dataset with persistent identifier:*

*Zheng L-Y, Guo X-S, He B, Sun L-J, Peng Y, Dong S-S, et al. Genome data from sweet and grain sorghum (Sorghum bicolor). GigaScience Database. 2011.* [*http://dx.doi.org/10.5524/100012*](http://dx.doi.org/10.5524/100012)*.*

*Please refer to the submission guidelines for details on how to cite other publication types:* <https://www.springer.com/journal/43939/submission-guidelines#Instructions%20for%20Authors_References>