Data in Brief 9 (2016) 17–23

Contents lists available at ScienceDirect

Data in Brief

journal homepage: www.elsevier.com/locate/dib

Data Article

Dataset on the abundance of ants and *Cosmopolites sordidus* damage in plantain fields with intercropped plants

Anicet Gbèblonoudo Dassou [a,b,c,*], Dominique Carval [a,d], Sylvain Dépigny [a,b], Gabriel Fansi [b], Philippe Tixier [a,e]

[a] *CIRAD, Persyst, UPR GECO, TA B-26/PS4, Boulevard de la Lironde, 34398 Montpellier Cedex 5, France*
[b] *CARBAP, African Research Centre on Bananas and Plantains, BP 832 Douala, Cameroon*
[c] *Laboratory of Biotechnology, Genetic Resources and Plant and Animal Breeding (BIORAVE), Faculty of Sciences and Technology of Dassa, Polytechnic University of Abomey, 01 BP 14 Dassa-Zoumè, Benin*
[d] *CIRAD, UPR GECO, F-97285 Le Lamentin, Martinique, France*
[e] *Departamento de Agricultura y Agroforesteria, CATIE, 7170, Cartago, Turrialba 30501, Costa Rica*

ARTICLE INFO

Article history:
Received 24 July 2016
Received in revised form
4 August 2016
Accepted 13 August 2016
Available online 22 August 2016

Keywords:
Associated crops
Ant community
C. sordidus
Damages
Plantain
Cameroon

ABSTRACT

The data presented in this article are related to the research article entitled "Ant abundance and *Cosmopolites sordidus* damage in plantain fields as affected by intercropping" (A.G. Dassou, D. Carval, S. Dépigny, G.H Fansi, P. Tixier, 2015) [1]. This article describes how associated crops maize (*Zea mays*), cocoyam (*Xanthosoma sagittifolium*) and bottle gourd (*Lagenaria siceraria*) intercropped in the plantain fields in Cameroun modify ant community structure and damages of banana weevil *Cosmopolites sordidus*. The field data set is made publicly available to enable critical or extended analyzes.

* Corresponding author at: CIRAD, Persyst, UPR GECO, TA B-26/PS4, Boulevard de la Lironde, 34398 Montpellier Cedex 5, France.
E-mail address: dassoua@yahoo.fr (A.G. Dassou).

http://dx.doi.org/10.1016/j.dib.2016.08.027

Specifications Table

Subject area	Agronomy, Ecology
More specific subject area	Effect of intercropping on banana weevil damages
Type of data	Tables, Figures, Text file
How data was acquired	Conducting of essay in plantain-based cropping systems in which others crops were planted; The weevil damages were observed with Vilardebo method; The ant abundances were measured
Data format	Raw, Analysed
Experimental factors	The three crops maize (*Zea mays*), cocoyam (*Xanthosoma sagittifolium*), and bottle gourd (*Lagenaria siceraria*) were intercropped in a plantain experimental field in order to determine their effects on banana weevil regulation
Experimental features	The relationship between the associated plants, predatory ants and banana weevil damages were determined
Data source location	Njombé, Cameroon, 4°34′11.33″N; 9°38′48.96″E
Data accessibility	The data are available with this article

Value of the data

- The data presents the abundance of sampled ants in each crop associated to plantain and could be used by others researchers.
- The weevil damages on the banana bulb were measured by using the Vilardebo method and could be compared to others weevil damage studies.
- This data allows other researchers to extend the statistical analyses.

1. Data

The dataset of this article provides information on the abundance of ant taxa in the cultivated plants intercropped with the plantain and the weevil damages. The Figs. 1–7 show the abundance of ant taxa in the crops associated to plantain. Table 1 shows the weevil damage.

2. Experimental design, materials and methods

2.1. Ant's abundance and Cosmopolites sordidus damages measurements

The experiments were carried out during two periods: the rainy season and the dry-season in Cameroon. Three crops (bottle gourd, maize and cocoyam) and theirs combinations were intercropped with the plantain. In each experimental unit, to measure the abundance of ants, we used the attractive traps placed at 0.5 m of each plantain plant and alternated the side at each plantain plant [1]. These attractive traps were composed of 30 × 30 cm white ceramic plates, each of which had at its centre a 4-cm spot of bait composed of honey mixed with canned tuna [1,2]. The bait trap, which was designed to detect the abundance of ants, was deployed for 30 minutes before ants were collected with an aspirator. Ants were counted in digital photographs of ceramic plates. At the end of essay, we evaluated the damages of larvae on the banana bulb with Vilardebo [3] method.

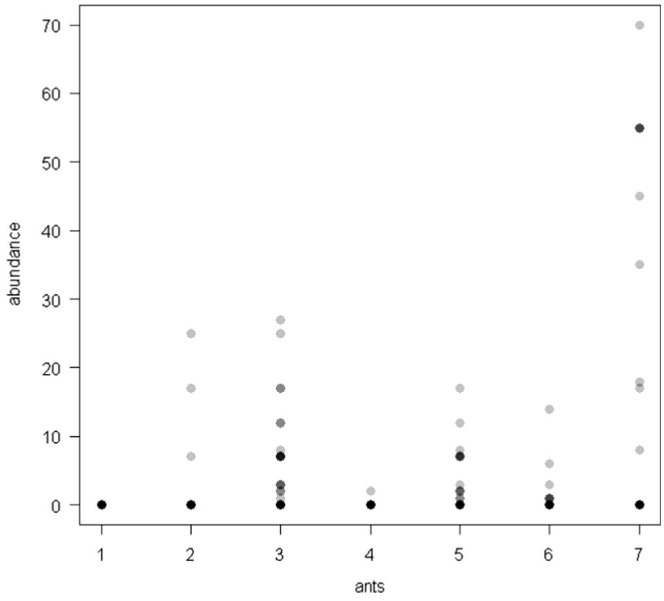

Fig. 1. Abundance of different ant taxa in gourd crops associated to plantain, with on the axis 2, 1. *Axinidris* sp., 2. *Camponotus* spp., 3. *Monomorium* spp., 4. *Odontomachus mayi,* 5. *Paratrechina longicornis,* 6. *Pheidole* spp., 7. *Tetramorium* sp.

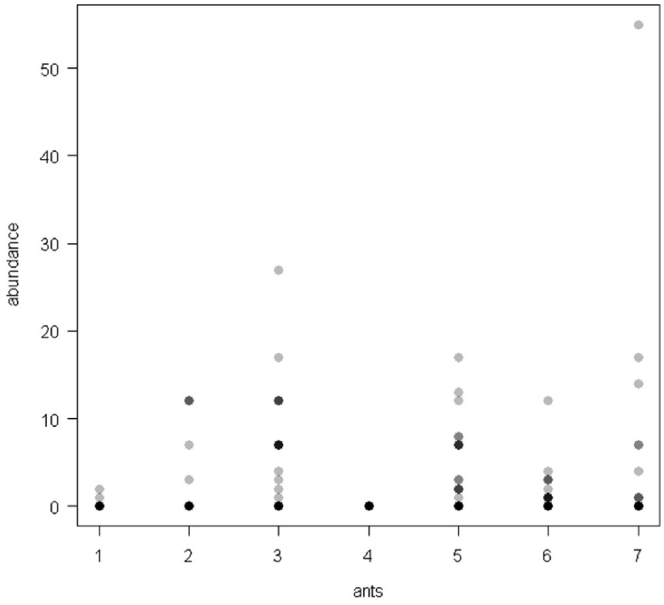

Fig. 2. Abundance of different ant taxa in maize crops associated to plantain, with on the axis 2, 1. *Axinidris* sp., 2. *Camponotus* spp., 3. *Monomorium* spp., 4. *Odontomachus mayi,* 5. *Paratrechina longicornis,* 6. *Pheidole* spp., 7. *Tetramorium* sp.

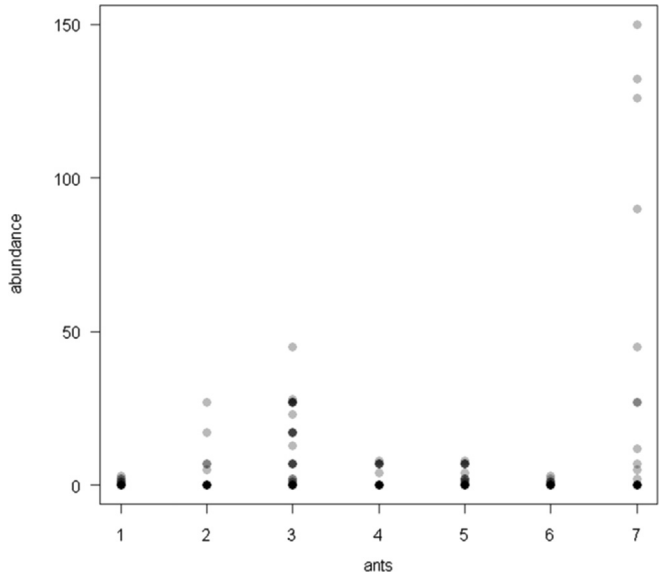

Fig. 3. Abundance of different ant taxa in cocoyam crops associated to plantain, with on the axis 2, 1. *Axinidris* sp., 2. *Camponotus* spp., 3. *Monomorium* spp., 4. *Odontomachus mayi,* 5. *Paratrechina longicornis,* 6. *Pheidole* spp., 7. *Tetramorium* sp.

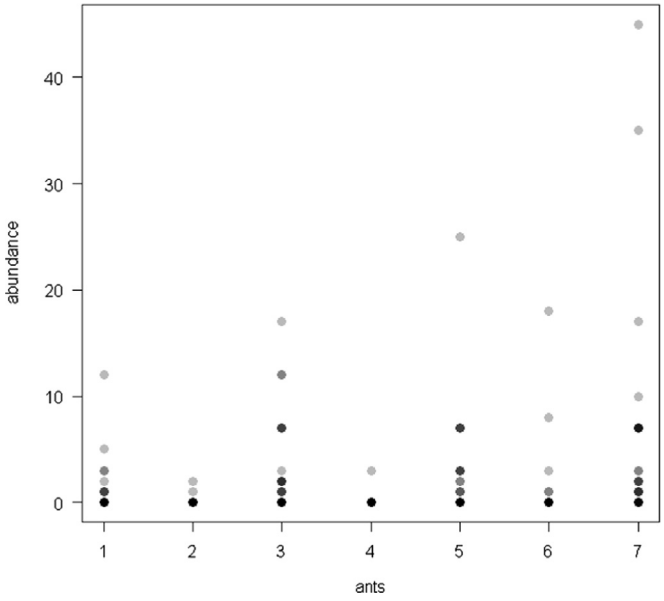

Fig. 4. Abundance of different ant taxa in cocoyam-maize crops associated to plantain, with on the axis 2, 1. *Axinidris* sp., 2. *Camponotus* spp., 3. *Monomorium* spp., 4. *Odontomachus mayi,* 5. *Paratrechina longicornis,* 6. *Pheidole* spp., 7. *Tetramorium* sp.

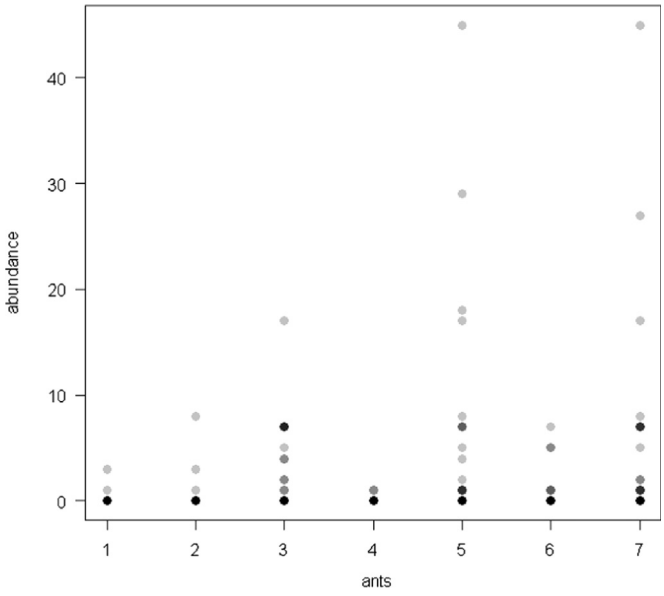

Fig. 5. Abundance of different ant taxa in gourd-maize crops associated to plantain, with on the axis 2, 1. *Axinidris* sp., 2. *Camponotus* spp., 3. *Monomorium* spp., 4. *Odontomachus mayi,* 5. *Paratrechina longicornis,* 6. *Pheidole* spp., 7. *Tetramorium* sp.

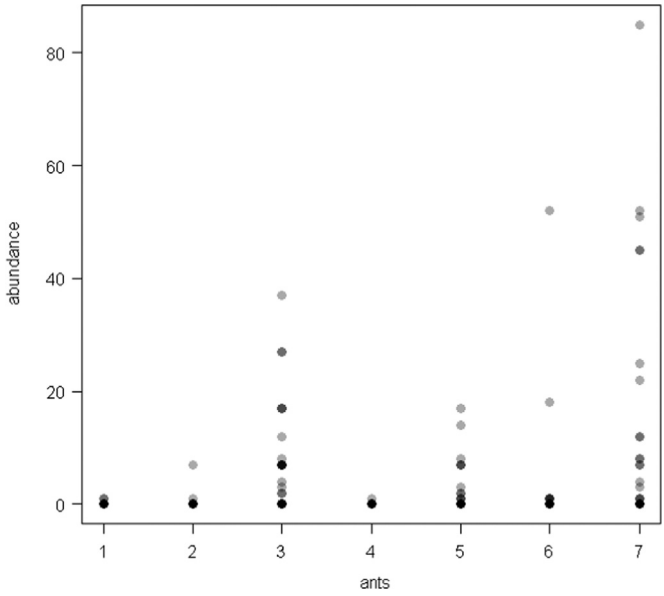

Fig. 6. Abundance of different ant taxa in gourd-cocoyam crops associated to plantain, with on the axis 2, 1. *Axinidris* sp., 2. *Camponotus* spp., 3. *Monomorium* spp., 4. *Odontomachus mayi,* 5. *Paratrechina longicornis,* 6. *Pheidole* spp., 7. *Tetramorium* sp.

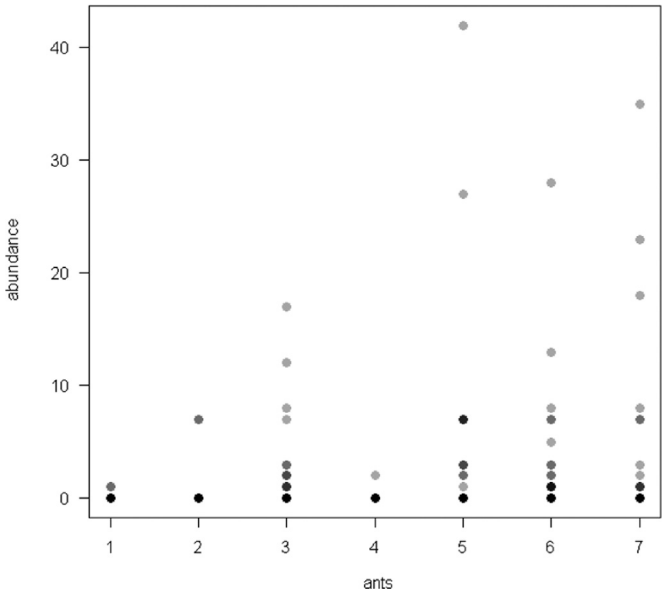

Fig. 7. Abundance of different ant taxa in gourd-cocoyam-maize crops associated to plantain, with on the axis 2, 1. *Axinidris* sp., 2. *Camponotus* spp., 3. *Monomorium* spp., 4. *Odontomachus mayi,* 5. *Paratrechina longicornis,* 6. *Pheidole* spp., 7. *Tetramorium* sp.

Table 1
Measure of *Cosmopolites sordidus* damages on the plantain by treatment according to the Vilardebo method.

Fields	Gourd	Maize	Cocoyam	Cocoyam maize	Gourd maize	Cocoyam gourd	Cocoyam gourd maize
1	60	60	0	20	20	60	40
1	20	100	40	60	30	10	0
1	60	20	100	60	60	100	40
1	60	40	10	0	60	60	40
1	10	10	10	60	60	60	0
1	60	60	30	20	60	60	10
1	20	10	20	10	60	30	0
1	100	40	30	20	60	100	30
2	60	60	30	20	30	40	60
2	0	60	30	10	20	60	5
2	30	30	10	40	20	60	20
2	0	40	40	40	20	100	20
2	60	40	20	40	30	10	40
2	20	20	30	0	10	60	30
2	40	40	5	20	10	100	20
2	60	40	0	40	10	60	20
3	20	10	5	0	30	30	0
3	20	100	20	20	60	20	10
3	40	100	10	40	30	40	0
3	30	40	100	10	30	20	10
3	60	100	60	100	30	60	30
3	30	60	60	0	60	100	5
3	10	40	60	60	60	20	60
3	20	40	40	20	60	40	20
4	20	30	20	20	20	20	20
4	5	0	0	10	5	5	30
4	10	5	20	20	20	30	30
4	20	10	20	30	20	10	20
4	40	100	20	60	60	10	100
4	20	30	60	20	100	20	60
4	40	0	0	60	60	30	60
4	60	30	30	20	20	40	60

Funding sources

This work is part of a Ph.D. thesis of Anicet Dassou and was funded by CIRAD, France (AIRD grant) and the C2D project.

Acknowledgments

The authors thank the farm women for helping with field management during the experiment. The authors also thank Justin Lowé, Frédéric Tchotang, Médard Talla, and David Essomé from CARBAP for help in the plantain fields, and Rémi Resmond from CIRAD for help with ant identification.

Transparency document. Supplementary Material

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2016.08.027.

Appendix A. Supplementary Material

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2016.08.027.

References

[1] A.G. Dassou, D. Carval, S. Dépigny, G.H. Fansi, P. Tixier, Ant abundance and *Cosmopolites sordidus* damage in plantain fields as affected by intercropping, Biol. Control 81 (2015) 51–57.
[2] A.G. Dassou, S. Dépigny, E. Canard, F. Vinatier, D. Carval, P. Tixier, Contrasting effects of plant diversity across arthropod trophic groups in plantain-based agroecosystems, Basic Appl. Ecol. (2015).
[3] A. Vilardebo, Le coefficient d'infestation, critere d'evaluation du degre d'attaques des bananeraies par *Cosmopolites sordidus* Germar. le charancon du bananier, Fruits 28 (1973) 417–431.