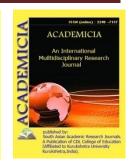


ISSN: 2249-7137

Vol. 11, Issue 10, October 2021 Impact Factor: SJIF 2021 = 7.492



# ACADEMICIA An International Multidisciplinary Research Journal



# (Double Blind Refereed & Peer Reviewed Journal)

# DOI: 10.5958/2249-7137.2021.02241.2 THE CULTIVAR SPECIALIZATION IN INSECTS AGRICULTURE

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## ABSTRACT

In three insect orders, agriculture has developed independently: once in ants, once in termites, and seven times in ambrosia beetles. Despite the fact that these insect farmers are very distinct in some respects, they are strikingly similar in others, implying convergent evolution. Within their nests, all reproduce their cultivars as clonal monocultures, and in most instances, clonally over many farmer generations. Long-term clonal monoculture poses unique disease management challenges, but insect farmers have developed a variety of methods to combat crop diseases: They isolate their gardens from the rest of the world; they keep a close eye on them, controlling pathogens early in disease outbreaks; they occasionally access population-level storage tanks of genetically variable cultivars, while still propagating clonal monocultures across generations of farmers; and they manage, in addition to the primary cultivars, a variety of auxiliary microbes that provide disease suppression. Insect farmers seem to cultivate, and potentially "artificially select" for, integrated crop-microbe consortia rather than cultivating a single cultivar purely for nutrition. Crop domestication in the context of coevolving microbial consortia may, in fact, explain insect farmers' agricultural success.

#### KEYWORDS: Agriculture, Beetles, Cultivars, Escovopsis, Macrotermitine.

## REFERENCES

- 1. C. S. Prakash, "The genetically modified crop debate in the context of agricultural evolution," *Plant Physiology*. 2001, doi: 10.1104/pp.126.1.8.
- 2. J. E. Taylor and I. Adelman, "Agricultural Household Models: Genesis, Evolution, and Extensions," *Rev. Econ. Househ.*, 2003, doi: 10.1023/A:1021847430758.
- 3. P. F. Barlett, "Labor Efficiency and the Mechanism of Agricultural Evolution," J. Anthropol.



ISSN: 2249-7137 Vol. 11, Issue 10, October 2021 Impact Factor: SJIF 2021 = 7.492

Res., 1976, doi: 10.1086/jar.32.2.3629659.

- **4.** H. Takeshima, A. Nin-Pratt, and X. Diao, "Mechanization and agricultural technology evolution, agricultural intensification in Sub-Saharan Africa: Typology of agricultural mechanization in Nigeria," *Am. J. Agric. Econ.*, 2013, doi: 10.1093/ajae/aat045.
- **5.** R. Ciampalini, S. Follain, and Y. Le Bissonnais, "LandSoil: A model for analysing the impact of erosion on agricultural landscape evolution," *Geomorphology*, 2012, doi: 10.1016/j.geomorph.2012.06.014.
- **6.** A. E. Bless, F. Colin, A. Crabit, N. Devaux, O. Philippon, and S. Follain, "Landscape evolution and agricultural land salinization in coastal area: A conceptual model," *Sci. Total Environ.*, 2018, doi: 10.1016/j.scitotenv.2017.12.083.
- **7.** A. A. Moghissi, S. Pei, and Y. Liu, "Golden rice: Scientific, regulatory and public information processes of a genetically modified organism," *Critical Reviews in Biotechnology*. 2016, doi: 10.3109/07388551.2014.993586.
- 8. E. Li, K. Coates, X. Li, X. Ye, and M. Leipnik, "Analyzing agricultural agglomeration in China," *Sustain.*, 2017, doi: 10.3390/su9020313.
- **9.** D. A. Tefera, J. Bijman, and M. A. Slingerland, "Agricultural Co-Operatives in Ethiopia: Evolution, Functions and Impact," *Journal of International Development*. 2017, doi: 10.1002/jid.3240.
- **10.** A. Abebe and M. Hailemariam, "Historical Evolution of Agricultural Extension Service Approach in Ethiopia A Review," *J. Agric. Ext.*, 2018, doi: 10.22377/AEXTJ.V2I4.119.