

## THE GENUS *KORDYANA* RAC. (EXOBASIDIACEAE) IN THE PHILIPPINES

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### ABSTRACT

*Kordyana* Rac. (Exobasidiaceae), a tropical parasitic fungal genus originally described from materials collected in Africa, Celebes and Java, is first reported from the Philippines. It is represented in this country by *Kordyana celebensis* Gäum. which is parasitic on leaves of *Commelina benghalensis* L. and *C. diffusa* Burm. f. (Commelinaceae). linaceae).

### INTRODUCTION

The classical taxonomic account of the genus *Kordyana* Rac. by E. VON GÄUMANN (1922) remains to date the only fundamental work on this tropical parasitic fungal genus. From this study a clear natural circumscription of *Kordyana* was set forth: parasitic autobasidiomycete typified by *K. tradescantiae* (Pat.) Rac. which grows out of the stomata, forming limited hymenia, with stichic basidia and hyaline, smooth spores. This generic delimitation led Gäumann to erect another genus, *Brachybasidium* to accommodate *Kordyana pinangae* Rac. which differs principally by its chiasitic basidia and hemispherical teleutospore-sorus (GÄUMANN, 1922), among others.

With exception of *K. tradescantiae* of which the original material came from Africa, the other 3 species, namely *K. celebensis* Gäum., *K. polliae* Gäum., and *K. indica* Gäum., were described from material collected from various parts of Celebes and West Java (GÄUMANN, 1922). Since Gäumann's account of the genus nearly 70 years ago, no single study reporting its find from other areas of the tropics has been published. In the Philippines, SYDOW (1925) reported it by simply listing the occurrence of *K. pinangae* based on a single collection by A.D.E. Elmer (*sub* no. 15684), parasitic on leaves of *Pinanga insignis* from Irosin, Sorsogon. Apparently, SYDOW (1925) and also TEODORO (1937), overlooked the work of GÄUMANN (1922), hence the use of *K. pinangae*. This report should have been made under *Brachybasidium pinangae* (Rac.) Gäum. which is the currently accepted name (MCNABB & TALBOT, 1973).

The present paper is the first report of the occurrence of *Kordyana* Rac. *sensu* Gäumann in the Philippines.

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*Kordyana* Rac., *Par. Alg. Pilz. Java* 2: 35. 1900, *non vide*; E. von Gäumann, *Annal Mycol.* 20: 257. 1922, R.F.R. McNabb & P.H.B. Talbot in *The Fungi*, 4B: 318. 1973.

Parasitic fungi inciting unhypercentric leaf-spots on some members of the Commelinaceae; mycelium intracellular; basidiocarp absent; basidia in fascicles, emergent only through stomatal opening, arising from aggregated to agglutinated hyphae in stomatal chambers, stichic, holobasidiate, more or less clavate, 2- to 4-sterigmate; paraphyses when present elongate; basidiospores thin-walled, smooth, hyaline, aseptate, germination takes place by conidia and/or germ tubes.

*Kordyana celebensis* Gäum., *Annal. Mycol.* 20: 260. 1922. Figs. 1 & 2.

Leaf-spots more pronounced on lower surface of leaves, up to 2 cm diameter, initially light green becoming rusty brown at center, finally turning dark chocolate brown (Figs. 1 a-c).

Basidia subclavate to clavate, 25-40 (-60)  $\mu\text{m}$  long by 3-5  $\mu\text{m}$  wide, usually bisterigmate; paraphyses absent; spores oblong to elliptic. 9-14  $\mu\text{m}$  long by 3-5  $\mu\text{m}$  wide (Fig. 2).

Strongly parasitic on leaves of *Commelina benghalensis* L., and with tendency to infect *Commelina diffusa* Burm. f.

Materials examined: Luzon, Quezon City, U.P. Diliman campus, along concrete walk, on *Commelina benghalensis* L., 13 September 1975, leg. I.J. Dogma Jr. *s.n.*, in Newcomer's solution; Laguna Province, College, open lawn by Cooperative Store, entrance to UPLB Hortorium, on *Commelina diffusa* Burm. f. 11 ? 1975, leg. I.J. Dogma Jr. *s.n.*, in FAA; UPLB Hortorium, on *C. diffusa* Burm. f., 8 August 1974, leg. I.J. Dogma Jr. *s.n.*, in FAA; Nagcarlan, Bo. Calumpang, Dimayuga Farm nursery area, alt. c. 80 m, near base of *Cocos nucifera* L., parasitic on *C. benghalensis* L., 1 October 1978, leg. W. Sm. Gruèzo & I.J. Dogma Jr. WM4091; same locality and date, on *C. diffusa* Burm. f., leg. W. Sm. Gruèzo & I.J. Dogma Jr. WM4092. All voucher specimens are in the collector's possession.

*Kordyana celebensis* is primarily distinguished from the other species of the genus by the apparent absence of paraphyses among the fasciculate basidia at the stomatal apertures (Fig. 2). It seems that only the hyphal-like basidia are the ones capable of emerging from the stomatal chamber while the rest of the hyphae are either agglutinated or aggregated at the stomatal opening, forming thick, more or less semi-globose mounds from where the basidia project upward (Fig. 2).

The material from U.P. College of Forestry (by the tennis court) collected and determined by Dr. I.J. Dogma Jr. as *Kordyana polliae* Gäum. is, in my opinion near *K. celebensis* Gäum., though it was stated to have been obtained from *Aclisia secundiflora* (Bl.) Bakh. f. (= *Pollia secundiflora* (Bl.) Bakh. f. = *P. sorsogonensis* (E. Mey.) Steud.). The apparent lack of thin, long, curly paraphyses between the projecting basidia which is key character of *K. polliae* in addition to very large-sized basidiospores and yellow color of the hymenia (GÄUMANN, 1922) shed doubt that it is *K. polliae*. However, more materials are needed to fully established its identity.

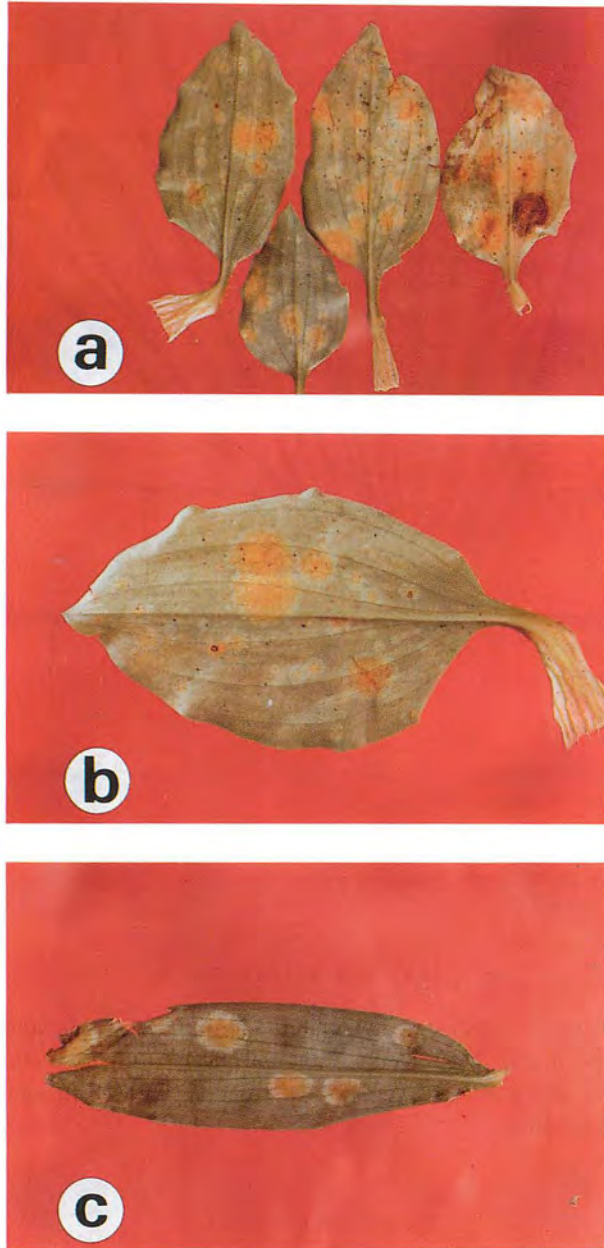


Figure 1. *Kordyana celebensis* Gäum. a, Different stages of unhyertropied leaf-spot symptom on the lower surface of *Commelina benghalensis* L. b, Close-up of leaf at extreme left in a. c, Unhyertropied leaf-spot symptom on the lower surface of *Commelina diffusa* Burm. f.

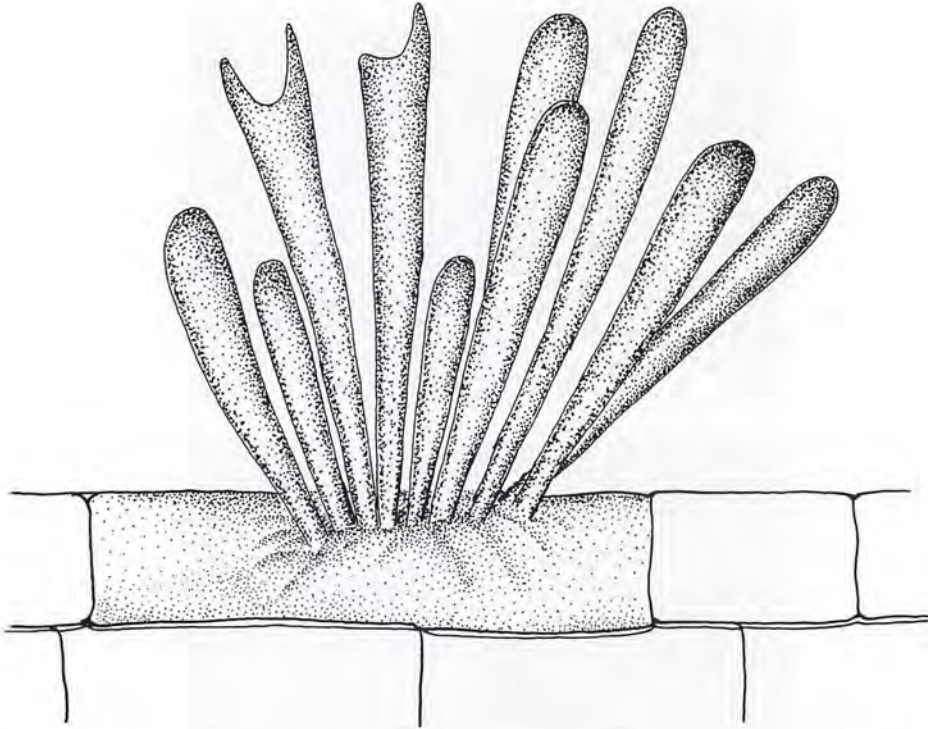


Figure 2. *Kordyana celebensis* Gäum. Fasciculate, clavate to subclavate basidia at stomatal opening; note: absence of paraphyses (c. 1200  $\times$ ).

#### ACKNOWLEDGMENTS

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