Research Note

BACTERIAL SPOT OF TANIER, XANTHOSOMA SAGITTIFOLIUM *(L.) SCHOTT IN PUERTO RICO*[1]

Necrotic lesions were observed on leaves of tanier, *Xanthosoma sagittifolium* (L.) Schott, in a survey of virus diseases of this crop.[2] Large necrotic areas result from coalescence of spots. Eventually the whole infected leaf dries out. An aerobic, Gram negative, rod-shaped, motile bacterium was isolated from the affected tissues. Colonies of the organism on tryptone glucose agar (TGA) were circular, raised, small, buttery-yellow and appeared in 36–48 hrs. Standard biochemical tests were performed to characterize the bacterial isolate (table 1). Results of in

TABLE 1.—*Results of biochemical tests with* Xanthomonas campestris *pv.* aracearum *isolated from tanier,* Xanthosoma sagittifolium *(L.) Schott*

Test	Reaction	Test	Reaction
Urease production	–	Starch	+
Indol	–	Lypolysis	–
Ammonia	+	Oxidase	delayed
Nitrite	–	Catalase	+
Citrate	–	Acid from:	
Malonate	–	Arabinose	+
H_2S from cysteine	+	Glucose	+
MR-VP	–,–	Glycerol	+
Gelatin liquefaction	–	Lactose	–
Pectate degradation	–	Maltose	+
Esculin hydrolysis	+	Salicin	–
Digestion of casein	–	Sucrose	+
Litmus milk	alk.		
Sodium chloride tolerance	3–4%		

vitro tests to induce soft rot on slices of potato, carrot and tanier were negative.

Healthy young tanier plants were inoculated with a suspension of macerated field infected leaves. Plants were incubated in the greenhouse. Seven days later, leaf spots started to appear as water-soaked areas, which gradually turned yellow with necrotic centers (fig. 1A). Lesions varied in size from 3 to 5 mm. When lesions coalesced and extended over

[1] Manuscript submitted to Editorial Board October 10, 1985.

[2] Research supported by USDA, Cooperative Agreement No. GAM 84-01803,84-CRSR-2-2469 (TAD Research Grant). Appreciation is expressed to Mr. Jaime Escudero, for the photographs.

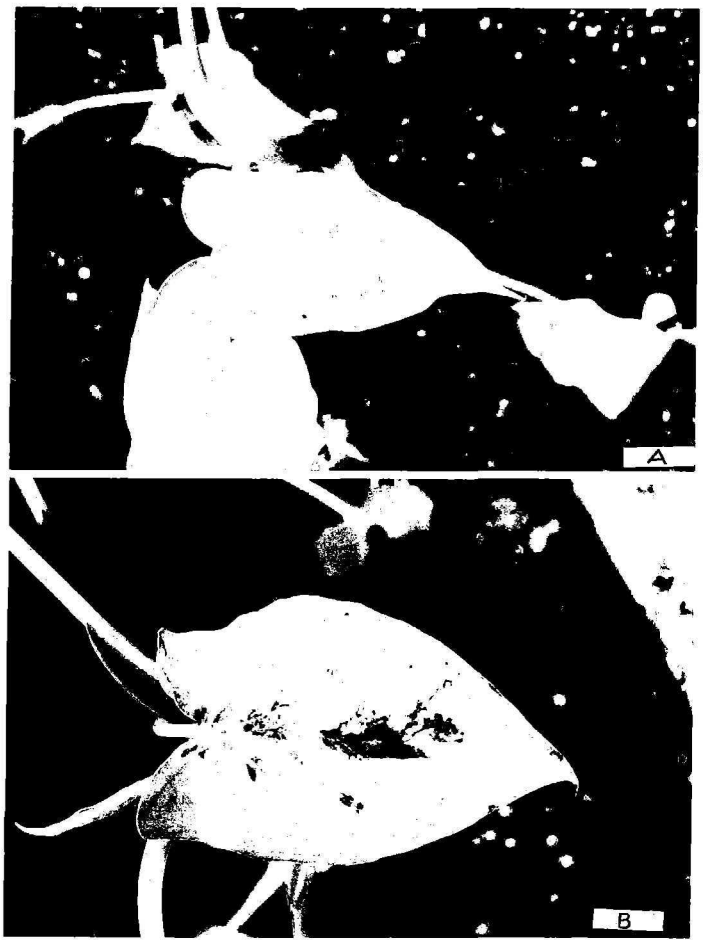

FIG. 1.—Tanier leaves inoculated with *X. campestris* pv. *aracearum*. A. Necrotic spots showing chlorotic halo, 1 week after inoculation. B. Coalescing bacterial spots forming large necrotic area near midrib.

the midrib, they formed large irregular necrotic areas 10 to 30 mm wide (fig. 1B).

Seed pieces derived from plants with infected leaves gave rise, in the greenhouse, to healthy shoots. This suggests that spread of the causal organism in the field is probably through rain, wind, insects or man. The disease is seldom serious. However, since it can spread rapidly, specially during rainy periods, removal of crop residues from the field is advised.

The pathogen was reported in 1974 by Berniac,[3] who isolated from "malanga" (*X. sagittifolium* (L.) Schott) an organism which resembled *Xanthomonas dieffenbachiae* (McCullock and Pirone) Dowson. He proposed the name *X. campestris* var. *aracearum* for all xanthomonads isolated from Araceae. Recently, Laguna et al.[4] in Costa Rica, reported *X. campestris* (Pammel) and *X. campestris* pv. *aracearum* (Berniac) Dye, isolated simultaneously from "tiquisque" (*X. sagittifolium* (L.) Schott). The isolate herein reported is similar to the organisms studied by Berniac and Laguna.[3,4] Following the nomenclature for plant pathogenic bacteria proposed by Young et al.,[5] we identified it as *X. campestris* pv. *aracearum* (Berniac) Dye, proposed neopathotype strain included in the list approved by the International Society of Plant Pathology (ISPP) Committee[6] on taxonomy of phytopathogenic bacteria.

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[3] Berniac, M., 1974. Une maladie bactérienne de *Xanthosoma sagittifolium* (L) Schott. Ann. Phytopathol. 6 (2): 197–202.

[4] Laguna, Irma G., L. Salazar and F. López, 1983. Enfermedades bacterianas del Tiquisque (*Xanthosoma* spp.) en Costa Rica. CATIE, Turrialba, Costa Rica.

[5] Young, J. M. et al., 1978. A proposed nomenclature and classification for plant pathogenic bacteria. N. Z. J. Agric. Res. 21 (1): 153–77.

[6] Dye, D. W. et al., 1980. International standards for naming pathovars and phytopathogenic bacteria and a list of pathovar names and pathotype strains. Rev. Plant Pathol. 59 (4): 153–69.