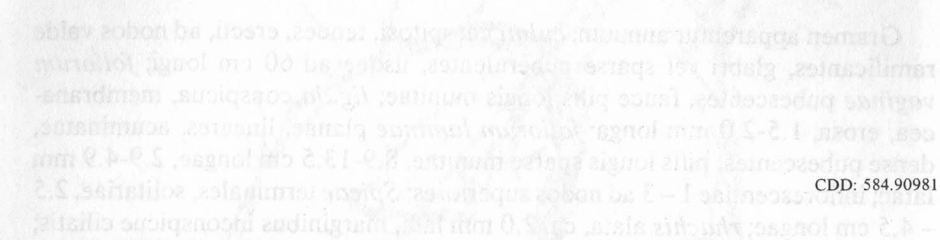


Thrasya longiligulata Bastos & Burman, sp. nov.
(Figure 1, 2)



CDD: 584.90981

- A NEW SPECIES OF *THRASYA* H.B.K. (GRAMINEAE) FROM BRAZIL

Alasdair G. Burman¹
Maria de Nazare do Carmo Bastos²

ABSTRACT— A new species in the genus *Thrasya* H.B.K., *T. longiligulata* Bastos & Burman, from the Serra dos Carajás, State of Pará, is described, discussed, and illustrated. The new combination *Paspalum cinerascens* Doell. Burman & Bastos is made, on the basis of *Panicum cinerascens* Doell.

KEY WORDS: Gramineae, *Thrasya*, Serra dos Carajás and Taxonomy.

RESUMO— Uma espécie nova do gênero *Thrasya* H.B.K., *T. longiligulata* Bastos & Burman, da Serra dos Carajás, Estado do Pará, foi descrita, discutida e ilustrada. Uma nova combinação *Paspalum cinerascens* (Doell) Burman & Bastos foi feita com base em *Panicum cinerascens* Doell.

PALAVRAS-CHAVE: Gramineae, *Thrasya*, Serra dos Carajás, Taxonomia.

¹ Instituto de Botânica (Bolsista do CNPq) C.P. 4005 São Paulo – SP
² MCT/CNPq/Museu Paraense Emilio Goeldi – Depto. de Botânica.

SYSTEMATIC TREATMENT

Thrasya longiligulata Bastos & Burman, sp. nov.
(Figure 1, 2)

Gramen apparentur annuum; *culmi* caespitiosi, tenues, erecti, ad nodos valde ramificantes, glabri vel sparse puberulentes, usque ad 60 cm longi; *foliorum vaginæ* pubescentes, fauce pilis longis munitae; *ligula* conspicua, membranacea, erosa, 1.5-2.0 mm longa; *foliorum laminae* planae, lineares, acuminatae, dense pubescentes, pilis longis sparse munitae, 8.9-13.5 cm longae, 2.9-4.9 mm latae; *inflorescentiae* 1-3 ad nodos superiores; *Spicae* terminales, solitariae, 2.5-4.5 cm longae; *rhachis* alata, ca. 2.0 mm lata, marginibus inconspicue ciliatis; *spiculae* 2.0-2.5 mm longae, ca. 0.8 mm latae, ellipticae, acutae; *gluma prima* ca. 0.1 mm longa, membranacea, enervis; *gluma secunda* quam lemma sterile leviter brevior, quam anthoecium conspicue longior, 5-nervis, scaberula, apice emarginata bifidaque; *lemma sterile* acutum, quam secunda gluma rigidius, plerumque sulcatum, glabrum; *lemma fertile* ca. 1.5 mm longum, inflatum, subacutum, papilloso-striatum; *palea fertilis* glabra; *caryopsis* elliptica, pallida.

Apparently annual; *culms* tufted, thin, erect or ascending. When ascending rarely rooting at lower nodes, branching vigorously at almost; nodes glabrous or very sparsely puberulent, up to 60 cm long; *nodes* glabrous or sparsely pilose; *leaf-sheaths* distinctly shorter than internodes, compressed-keeled, pubescent with a few longer hairs near throat; *ligule* conspicuous, membranaceous, erose, 1.5-2.0 mm long; *leaf-blades* flat, linear, acuminate, densely pubescent with scattered long white hairs (up to 5.0 mm) at margins and on adaxial surface in lower 1/3 of length, (8.5) 8.9-13.5 (18.0) cm long, (2.5) 2.9-4.9 (5.5) mm broad; *inflorescences* 1-3 at the four uppermost nodes, short- to long-exserted; *spikes* terminal, solitary, arcuate, (2.4) 2.5-4.5 (6.0) cm long; *rhachis* winged, ca. 2.0 mm broad, glabrous on dorsal surface, the margins inconspicuously ciliate, the cilia ca. 0.5 mm in the length, delicate; *spikelets* 2.0-2.5 mm long, ca. 0.8 mm broad, elliptical, acute; *first glume* ca. 0.1 mm long, truncate, membranaceous, nerveless, scale-like; *second glume* slightly shorter than the sterile lemma, conspicuously longer than the anthecium, chartaceous, 5-nerved, one or both lateral nerves sometimes suppressed, minutely scaberulous, apex emerginate or bifid; *sterile lemma* longer than second glume and anthecium, acute, slightly more rigid in texture than the second glume, usually deeply sulcate, splitting easily, glabrous; *sterile palea* well-developed, almost the length of the lemma; *fertile lemma* ca. 1.5 mm long, inflated, subacute, lacking an apical tuft, regularly papillate-striate; *fertile palea* glabrous, the margins hyaline; *caryopsis* elliptical, pale, style-bases separate, embryo rather less than half the length of the caryopsis, hilum linear.

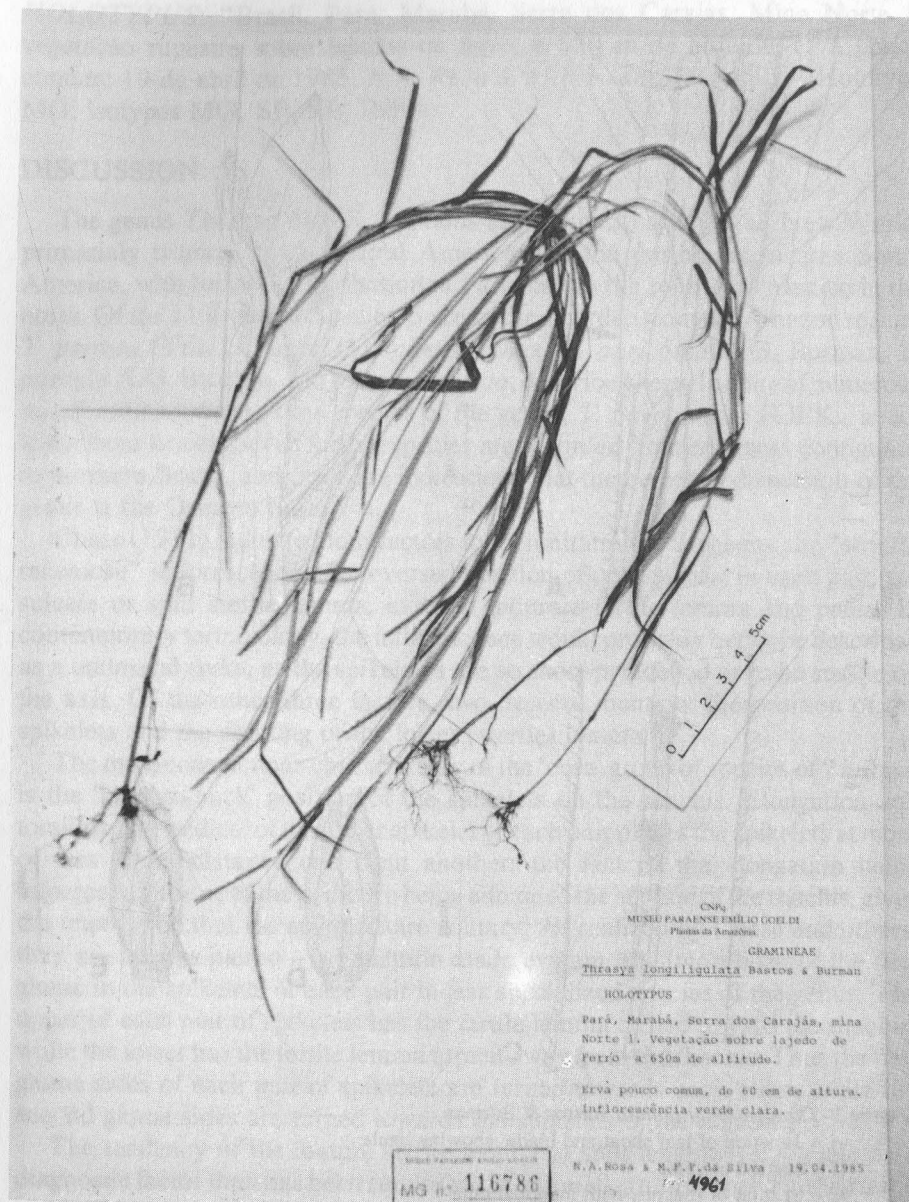


Figure 1 - Holotypus of *Thrasya longiligulata* Bastos & Burman

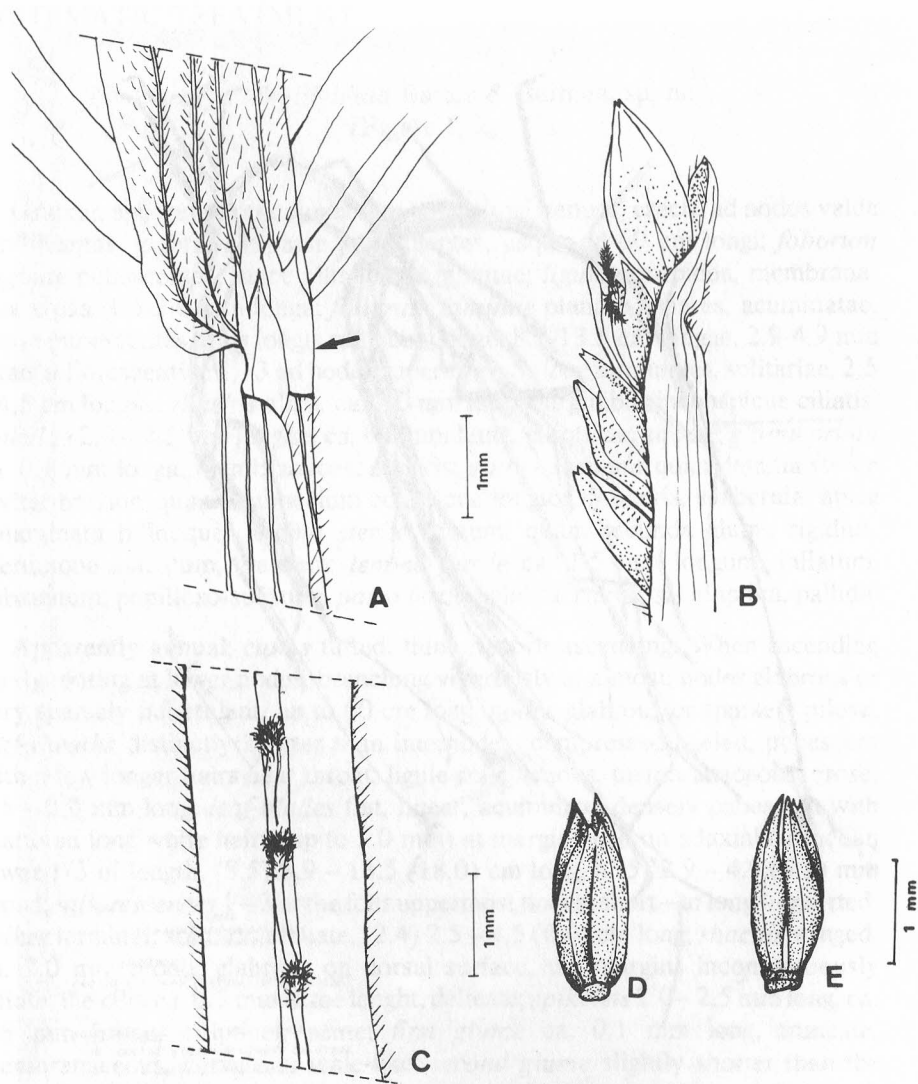


Figure 2 - *Thrasya longiligulata* Bastos & Burman

- A - Junction of leaf sheath and blade, showing ligule.
- B - Section of spike
- C - Section of rhachis, with marginal cilia
- D - Spikelet, showing bifid apex of second glume
- E - Spikelet, showing first glume and sterile lemma deeply sulcate

HOLOTYPE: "Brasil, Pará, Marabá, Serra dos Carajás, Mina Norte 1, vegetação rupestre sobre lajedos de ferro, a 650 m de altitude; erva pouco comum; 19 de abril de 1985, N.A. Rosa & M.F.F. da Silva 4691." Holotype MG; isotypes MG, SP, RB, INPA.

DISCUSSION

The genus *Thrasya* H.B.K. contains at present 20 species, all New World, primarily tropical from Central America and the north-eastern area South America, with limits of distribution in Paraguay to the south and Mexico in the north. Of the 11 Brazilian species, 5 are so far recorded from the Amazon region: *T. petrosa* (Trin.) Chase, *T. trinitensis* Mex, *T. auricoma* A.G. Burman, *T. parvula* A.G. Burman, and *T. longiligulata*, described here. In spite of numerous misidentifications the type species of the genus, *T. paspaloides* H.B.K., is not known from Brazil. Seven further species are recorded from countries contiguous to northern Brazil, and there are indications that the centre of dispersion of the genus is the Orinoco basin.

Chase (1911) indicated four factors for delimitation of the genus: the "strictly racemose" inflorescence, the reversed position of one spikelet in each pair, the sulcate or split sterile lemma, and the indurate fertile lemma and palea. In contemporary terminology, the inflorescence would probably better be described as a unilateral spike, as the spikelets are so short-pedicelled as to be sessile on the axis. Of the other three factors, two deserve mention: the position of the spikelets and the splitting of the lower (sterile) lemma.

The most conspicuous characteristic of the 'core' group of species of *Thrasya* is the 'back-to-back' position of the spikelets on the rhachis. Elongation and torsion of the pedicel of the upper spikelet of each pair places the spikelets at more or less equal distance one from another; the fact of the elongation being imperceptible, due to the pedicel's being adnate to the septum of the rhachis, gives the impression that the spikelets are solitary. As realized by Chase and others, they are always paired - a condition made evident by dimorphism of the first glume in the spikelets of each pair in less specialized species of the genus. The upper of each pair of spikelets has the fertile lemma turned toward the rhachis, while the lower has the fertile lemma turned away from the rhachis. Thus the first glume sides of each pair of spikelets are turned towards each other, while the second glume sides are turned towards the spikelets of the adjacent pairs.

The tendency of the mature sterile lemma to split lengthwise is a less safe diagnostic factor than has been supposed. In one small group of species, the sterile lemma is extremely thin and does not split at all, while in unspecialized species, the tendency to split is much reduced.

Consideration of these factors points to the possibility of discerning:
 a. A group of specialized species of *Thrasya*, in which the spikelets are clearly 'back-to-back' and the sterile lemma habitually splits

b. A group of unspecialized species, in which the spikelets adopt a position similar to that found in the Decumbentes groups of genus *Paspalum*, and in which the sterile lemma rarely shows signs of splitting

c. A small group of species which should perhaps not be in the genus at all.

The hypothetical dividing line between unspecialized species of *Thrasya* and a number of species of *Paspalum* is by no means clear; a pragmatic solution would perhaps be revalidation of the genus *Dimorphostachys* Fourn., to accommodate all species with dimorphic first glumes in each pair of spikelets – including *Thrasya cultrata* Nees, *T. reticulata* Swallen, *Paspalum cinerascens* (Doell) Burman & Bastos, and *P. unispicatum* (Scribn. & Merr.) Nash.

Thrasya longiligulata falls clearly into the largest and least poorly defined group – that of specialized species, quite distinct from *Paspalum*: the disposition of the spikelets on the rhachis is ‘classically’ back-to-back, the sterile lemma splits without any provocation. It differs from other species in the same group in a number of ways. Among the 12 species in the specialized group. Only 3 have spikelets which are not conspicuously pilose: *T. schumannii* Pilg., *T. granitica* A.G. Burman, and *T. longiligulata*. The remaining species have surface and marginal hairs on the upper third of the sterile lemma, and in most cases also a partially pilose 2nd glume. *T. schumannii* is a distinctive species known only from the type collection (from Mato Grosso); the second glume, well-developed in *T. granitica* and *T. longiligulata*, is nerveless, membranous, and does not exceed 1/3 of the total length of the spikelet. The fertile lemma has a very small apical tuft of hairs. The nearest apparent ‘relative’ of *T. longiligulata* is *T. granitica*, from formations in the Voltzberg mountains of Suriname (Burman 1980). The two species may be compared as in table 1.

Table 1 – Comparison of *Thrasya granitica* and *Thrasya longiligulata*

<i>T. granitica</i>	<i>T. longiligulata</i>
Distinct row of white hairs behind ligule	No row white hairs behind ligule
Average length of spike ca. 6.0 cm	Average length of spike ca. 3.5 cm
Rhachis margin irregularly pilose; hairs ca. 3,5 mm long, sparse	Rhachis margin regularly ciliate; hairs ca. 0,5 mm long, frequent
Second glume shorter than antherium	Second glume conspicuously longer than antherium
Second glume 7-nerved, the nerves anastomosing at the apex	Second glume 5-nerved, the nerves not anastomosing
Perennial	Apparently annual

DISTRIBUTION

T. longiligulata is so far known only from the type collection, made during investigation of the new area of iron-mining in the Serra dos Carajás. It appears to be locally frequent, and may occur on similar soils elsewhere in the region.

In the general context of this paper, it seems useful to make a necessary nomenclatural change.

Paspalum cinerascens (Doell) Burman & Bastos, comb. nov.

Panicum cinerascens Doell in Mart., Fl. Bras. 2(2): 189. 1871-1877. “Ex campis provinciae Minarum a cl. Lund inter *Paspalum plicatum* communitatum, nec non inter plantas Guianenses, Cayennae lectas, mihi transmissum”. The whereabouts of the type collection is unknown; possibly S.

Paspalum cinerascens is apparently not very common; it is known to occur in the States of São Paulo and Minas Gerais. It is among the borderline species of *Paspalum* group Decumbentes, where that group appears to lose its distinction with the unspecialized species of *Thrasya*. Though there is no doubt about the affinities of the species, the need for a new combination seems to have been overlooked.

ACKNOWLEDGMENTS

The authors wish to thank the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), the Directors of the Instituto de Botânica de São Paulo and Museu Paraense Emilio Goeldi and Companhia Vale do Rio Doce – CVRD (accord CVRD/MPEG/CNPq).

LITERATURE CITED

- BURMAN, A.G. 1980. Notes on the genera *Thrasya* H.B.K. and *Thrasypsis* Parodi. *Brittonia* 32(2): 217-221.
CHASE, A. 1911. Notes on genera Paniceae IV. *Proc. Biol. Soc. Wash.* 24: 103-159.