needles, m.p. 237–238° C. (2·5 per cent yield). (Found: C, 58·0; H, 3·8; O, 28·7; N, 8·5; OCH_3, 9·3; NCH_3, 8·9 per cent; molecular weight, 340. Calculated for $C_{16}H_{12}N_2O_6$: C, 58·5; H, 3·7; O, 29·2; N, 8·5; 1-OMe, 9·4; 1-NMe, 8·9 per cent; molecular weight, 329.) Hydrolysis of the pigment with 2 *N* sodium hydroxide for 20 hr. yielded a red acid, m.p. 284° C. Zinc dust distillation of this acid gave a yellow-brown distillate from which phenazine (identified by melting point and ultra-violet spectrum) was isolated by crystallization and sublimation. The original pigment depressed the melting point of an equal quantity of phenazine-α-carboxylic acid by 40 deg. C., indicating the non-identity of the two compounds. The absorption spectrum of the pigment differs markedly from the spectra of violacein, pyocyanin, chlororaphin, iodinin, phenazine-α-carboxylic acid[8], and the blue pigment from *P. lemonnieri*[9]. The chemical structure of this new phenazine pigment is being studied.

The organisms are therefore a group of Gram-negative, polar-flagellated rods of oxidative metabolism. They produce a diffusible fluorescent substance and the pigmented members produce phenazine pigments. Following Tobie[10], they should be included in the genus *Pseudomonas*.

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GENETICS and CYTOLOGY

Two New Basic Chromosome Numbers in the Musaceae

The scheme proposed by Cheesman[1], and now generally accepted, for the classification of the Musaceae depends partly on basic chromosome numbers. Two genera are recognized. The genus *Ensete* Horan. comprises species with monocarpic habit and $2n = 18$ chromosomes. Species of *Musa* L. form suckers more or less freely and are placed in four sections: Musa (Eumusa) and Rhodochlamys with $2n = 22$, Callimusa and Australimusa with $2n = 20$. This scheme includes nicely all the species thus far described, but among recent introductions to the Trinidad collections are two exceptional forms for which the classification will need to be elaborated.

Somatic chromosome counts were made from root tips by the method of Tjio and Levan[2].

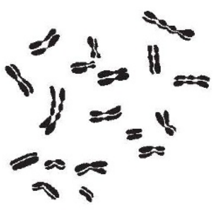

Fig. 1

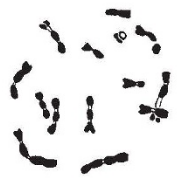

Fig. 2

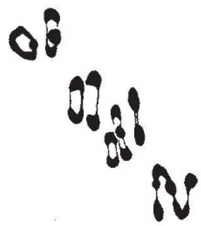

Fig. 3

Fig. 1. Somatic chromosomes of *I.R.* 503. (× 2,300)
Fig. 2. Somatic chromosomes of *I.R.* 510. (× 2,300)
Fig. 3. First meiotic metaphase in *I.R.* 503, showing a chain of four and seven bivalents. (× 2,300)

The first introduction, *I.R.* 503, is a seed collection from British North Borneo and is fairly certainly the unknown species noted by Simmonds[3], on the basis of herbarium material, as probably a new Rhodochlamys. Living plants, however, are more reminiscent of Callimusa; they differ from Callimusa spp. in seed characters and in the chromosome number, which is $2n = 18$ (Fig. 1). The second, *I.R.* 510, comes from the highlands of north-central New Guinea and is probably the largest herb in existence[4]. It has largish seeds, reminiscent of *Ensete*, but in some other respects resembles *Musa*. In its sparse suckering, especially if the leading stem is damaged, it is more or less intermediate between the two genera. The chromosome number is $2n = 14$ (Fig. 2). In neither case has the proper taxonomic position been decided, but at least one new section and perhaps a new genus can be envisaged. Indeed, it appears that a study of the wild bananas of the Indonesian area, still partly unknown, might enlarge the family considerably.

Only *I.R.* 503 has so far flowered in Trinidad and meiosis has been examined in acetocarmine smears of pollen mother cells of one plant. Chains of three or four chromosomes were seen at metaphase in occasional cells, indicating heterozygosity for a small translocation (Fig. 3). Structural diversity of this kind is frequently encountered in *Musa*. Translocation hybridity has been reported in cultivated clones of Eumusa, in hybrids between 22-chromosome species and in hybrids between geographical races of *M. acuminata*[5–7]. More recently, I have found (unpublished work) that homozygous translocations are distributed among the geographical sub-species and races of *M. acuminata* on a scale comparable with that found in *Gaillardia*[8], and have noted multivalents in several new crosses of 22-chromosome species and in one Australimusa hybrid. However, despite this high frequency of occurrence in edible bananas and in experimental hybrids, the present case is the first in which heterozygosity has been recorded in a wild collection. There is no evidence as to whether the translocation is a recent one or has been revealed by the mingling of already diverse populations.

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