cription as specified in the IBPGR cotton descriptor list and to obtain seed multiplication. This proved difficult in some cases as flowering was insufficient.

Seed and fibre characteristics were analyzed in the IRCT laboratories at Montpellier. Seeds are kept in cold storage at the IRCT genebank. An electrophoretic survey of isozyme diversity has been underway since October 1982.

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COTTON COLLECTING IN THREE SOUTH AMERICAN COUNTRIES (II)

G. Ano [1/] and J. Schwendiman [2/]

The preservation of genetic diversity in the genus Gossypium is of great importance for future breeding. For a variety of reasons, spontaneous or traditionally cultivated cottons tend to disappear very quickly. This report focuses on collecting missions for cotton in three South American countries from January to March 1981.

French Guiana (GUF): AS 00228 to AS 00272 (35 samples, 1 lost). (a) G. hirsutum "Marie-Galante" (4 samples), (b) G. barbadense var. brasiliense (30 samples).

Among the 35 samples collected in French Guiana, 31 belong to G. barbadense and only 4 to G. hirsutum "Marie Galante". This is a reverse situation to that in the Caribbean Islands but it is important to note that most of the samples were picked up in two Indian villages. G. barbadense is frequently found in association with human activity, whereas "Marie Galante" is more able to survive spontaneously. Nevertheless, it is obvious that G. barbadense adapts itself better to wet areas, which is the case in Guiana and this is a possible explanation of its more frequent occurrence.

In this report, emphasis is laid on characters that differ from the classical species description. For G. barbadense, some samples had a red-green coloration of stems and leaves, leaf pubescence, cream-coloured petals, no petal spots (in 12 samples), cream-coloured pollens and short styles. Bolls were always large, acuminate and contained big naked tutted seeds (except AS 00264 with fuzzy seeds). Another

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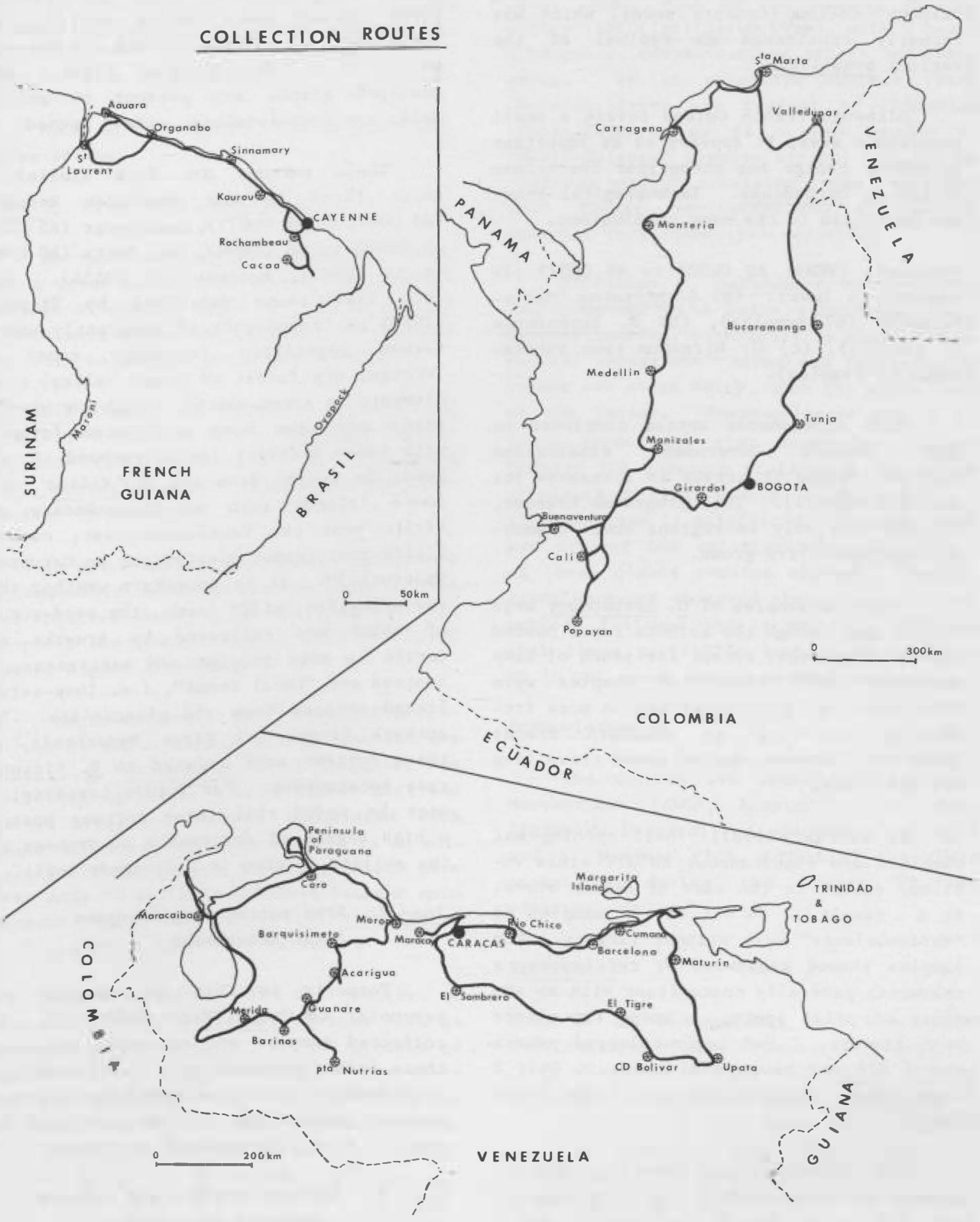

Fig. 1: Collection routes followed in Colombia, French Guiana and Venezuela for cotton

character frequently encountered was "kidney" cotton (connate seeds) which was formerly considered as typical of the variety brasiliense.

Although French Guiana covers a small geographic area, it appears as an important diversity centre for phenotypic characters within G. barbadense. Technological fibre analyses lead to the same conclusions.

Venezuela (VEN): AS 00301 to AS 00379 (79 samples, 4 lost). (a) G. hirsutum "Marie-Galante" (67 samples), (b) G. barbadense (2 samples), (c) G. hirsutum race yucatanense (6 samples).

Much spontaneous cotton continues to grow despite Government eradication attempts (since it serves as a reserve for the boll weevil). This programme however, is effective only in regions where commercial varieties are grown.

Only two samples of G. barbadense were found, even though the authors' route passed through dry areas, except for south of Lake Maracaíbo where these two samples were collected. G. barbadense may be more frequently occurring in southern states (Amazonas, Bolivar, Apure) where travelling was difficult.

In February 1981, boll opening was complete and simultaneous in all areas visited, except in the east of Falcon state. As a result, 34 out of 67 samples of "Marie-Galante" were without flowers. Ten samples showed green-red or red leaves, a character generally concomitant with an absence of petal spots. Among the plants with flowers, 7 had cream-coloured petals and 6 did not have petal spots. Only 2 samples had naked seeds and 5 had brown fibre.

The following zones have been distinguished in Venezuela:

Zone 1: Clarines and Esmeralda (east Venezuela)

The samples collected near these two villages belong to primitive cottons, having a small green leaf, yellow petal, slight petal spot, yellow pollen, very small boll with seeds bearing a brown fuzz and a short true brownish fibre. Some gossipol glands are present on petals. Bolls are four-loculate, widely opened.

These cottons are very similar to those found in the Dominican Republic (AS 00075 to AS 00077), Guadeloupe (AS 00300, AS 00686 to AS 00699), St. Kitts (AS 00682 to AS 00685), Antigua (AS 00134). They look like those described by Stephens (1965) as "components of apparently undisturbed vegetation (northern coast of Yucatan, dry forest of Yaqui valley) or as elements in areas which, though now unoccupied, may have been associated formerly with human activity (neighbourhood of salt ponds in Puerto Rico and St. Kitts; offshore islands such as Chacachacare and Piritu near the Venezuelan coast, coastal cliffs near former plantations in Carupano, Venezuela)". It is uncertain whether they are primitive "wild" forms, the seed-cotton of which was collected by Arawaks and Caribs to make pillows and mattresses, or instead are "feral forms", i.e. long-established escapes from old plantations. The authors favour the first hypothesis, as these cottons seem related to G. hirsutum race yucatanense. For future breeding, it must be noted that these cottons possess a high degree of resistance to dryness and the ability to grow in salt-sandy soils.

Zone 2: Area surrounding Carupano (east Venezuela)

Formerly in this area people grew perennial cottons ("Marie-Galante"). The collected samples are certainly relics of these former plantations. In the west area of Carupano there is an important and homogeneous population, contrasting with the genetic diversity observed elsewhere.

Zone 3: Between Acarigua and Barinas (southwest Venezuela)

A population was found with many common characteristics, particularly a quite entire leaf, as in G. hirsutum var. latifolium. This is an area where numerous

cotton fields are cultivated and it may be possible that introgressions have occurred between cultivated and spontaneous cottons.

Zone 4: East of Maracaïbo

Much of the cotton has red or red-green leaves.

Zone 5: From Coro to Tucacas

An important cotton population, showing a great genetic diversity was located. Because of special climatic conditions, the plants were flowering and the authors were not able to collect more than 4 samples.

Colombia (COL): AS 00401 to AS 00491 (91 samples, 4 lost). (a) G. hirsutum "Marie-Galante" (54 samples), (b) G. barbadense var. brasiliense (29 samples), "hybrido-nativo" (4 samples).

In spite of extreme climatic diversity a remarkable simultaneity in boll opening was observed in all collected samples, both in north and south Colombia, near sea level and at higher altitudes.

"Marie-Galante" was frequently observed in and collected solely from the dry areas. G. barbadense, also frequent, was collected exclusively at a higher altitude in wet areas and appears associated with human activity. "Hybrido-nativo" is an offspring of deliberate crossings which have been made in northern Colombia between spontaneous "Marie-Galante" and G. hirsutum or G. barbadense commercial varieties.

Central America is the centre of diversity of G. hirsutum, whereas Peru is that of G. barbadense. In the process of dispersion Colombia appears as a zone where the two met. Nevertheless, the integrity of these two species seems completely preserved, except for the "hybrido-nativo" which originates from deliberate crossings.

In "Marie-Galante" there was found a predominance of green foliage upon reddish leaves between Caceres and Sahagun (east of Cordoba province). The green plants always display a more or less prominent petal spot. Most of the samples show an entire leaf (latifolium type), with a heavy pubescence, cream-coloured petals and fuzzy seeds. It is uncertain whether these characteristics are typical of Colombian "Marie-Galante" or if a great number of "Marie-Galante" samples are not in reality "hybrido nativo", retaining some outlines from former introgressions of genetic material from commercial varieties.

Colombian G. barbadense is generally characterized by a heavy pubescence, rare in this species, especially in present commercial varieties. Stems and particularly leaves are often hairy, even the upper face of the latter. Cream-coloured petals or fuzzy seeds were also observed. In the Codazzi ICA research station, a collection of plants originating from Colombian collecting missions is maintained. Connate seeds are present but unfortunately, the origin of these plants remains unknown. Connate seeds were not observed along the route the authors followed and it may be postulated that these particular samples were picked up in wet areas near Amazonian rivers.

Acknowledgement

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RESUME

Le cotonnier spontané et le cotonnier traditionellement cultivé est en voie de disparition pour diverses raisons notamment parce que la population locale ne l'utilise pas de manière régulière, parce qu'on a introduit des cultivars modernes et que le gouvernement a entrepris des programmes d'éradication.

Une mission, en plusieurs étapes, pour la collecte de spécimens de cotonnier subspontané est financée par le CIRPG et organisée par l'Institut de recherche du coton et des textiles exotiques (IRCT) depuis 1980. Cette série de rapports étudie les missions effectuées dans un groupe d'îles des Caraïbes (de janvier à mars 1980) en Guyane française, au Venezuela et en Colombie (de janvier à mars 1981), au Pérou (en octobre 1981) et au Mexique (de février à mars 1982). Les deux premiers rapports sont publiés dans le present numéro du bulletin.

RESUMEN

Tanto el algodón espontáneo como el cultivado tradicionalmente está desapareciendo por varias causas, entre ellas, la cesación del uso por la población local, la introducción de cultivares modernos y los programas oficiales de erradicación. Con el apoyo del CIRF, el Institut de recherches du coton et des textiles exotiques (IRCT) ha organizado desde 1980 una misión en varias fases para recoger algodón subespontáneo. Esta serie de informes trata de las actividades de las misiones en un grupo de islas del Caribe (de enero a marzo de 1980), en la Guayana Francesa, Venezuela y Colombia (enero a marzo de 1981), en el Peru (octubre de 1981) y en México (febrero a marzo de 1982). Los dos primeros informes aparecen en este número del Noticiario.

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France has created a Bureau of Genetic Resources in the Institut National de la Recherche Agronomique, 149 rue de Grenelle, 75341 Paris, Cédex 07. M. André Cauderon is the Chargé de Mission.

UN NOUVEAU BUREAU POUR LES RESSOURCES GENETIQUES

La France a constitué un Bureau de Ressources Génétiques. M. André Cauderon en est le chargé de mission. L'adresse de ce bureau est la suivante: Institut National de la Recherche Agronomique, 149 rue de Grenelle, 75341 Paris, Cédex 07.

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