Ethnopharmacologic Search for PSYCHOACTIVE DRUGS

Proceedings of a Symposium held in San Francisco, California
January 28–30, 1967

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Sponsored by:
Pharmacology Section, Psychopharmacology Research Branch
National Institute of Mental Health  Public Health Service
U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
The WAIKA Indians belong to an isolated group of natives called YANOMAMI or YANONAMI. They live in the triangle formed by the Rio Branco in the southeast, the Uraricuera and Upper Orinoco Rivers in the north and the Rio Negro in the southwest. This territory lies on both sides of the boundary between Brazil and Venezuela.

During the last ten years, my wife and I made six expeditions to several WAIKA tribes in the region of the Upper Rio Negro, that is the southwestern part of that habitat, situated in the Brazilian Territory near the Venezuelan boundary. We found these tribes

1. near the TUCANO IGARAPÉ, one of the headwaters of the Cauaborí River,
2. on the Maturacá Channel, in the south of the Fall of HUÁ,
3. on the Maruiaí River, near the Igarapé IRAPIRÁPI and
4. on the Upper Maiá River, a branch of the Cauaborí River.

These Indians are nomads. We had a lot of difficulties in finding them and their primitive villages, called “SHABONO”. They are always rather distant from the rivers, and we had to march hours and hours through the thick jungle to reach them.

Without the assistance and the experience of a Catholic priest—the only white man who had made contact with the WAIKA Indians before—our expeditions scarcely would have been successful.

The name WAIKA means KILLER—a nice, gentle sort of name. Undoubtedly, the group is one of the most primitive in South America. They have never found out how to make a boat or a raft. As nomads, these Indians make pots; they do not know anything about alcoholic drinks, or mandioc, the most important vegetable of the southern Hemisphere besides corn.

In a region where the rivers provide the most important traffic routes, they have never found out how to make a boat or a raft. As nomads, these Indians wander about the jungle. They live in primitive, wall-less, palm-thatched huts only as long as the food lasts in the neighborhood. When they eat up all the food around, they go to another village with huts just as primitive. They are a restless people that live off the land. And they live in a period that for us is prehistoric.
They have never learned anything from their more advanced neighbors, the ARUAK group, represented by the TUCANO and BANIVA tribes.

The existence of these WAIKA Indians has been known for more than a hundred years. However, explorers of the region—Humboldt, and at the beginning of our century, Koch-Grünberg and Hamilton Rice—gave only brief reports about the WAIKAS. They had only occasional meetings with a few Indians from this group. These quick meetings did not give any basis for more than superficial notes.

In general, the explorers knew about the WAIKAS from the stories of other Indians, who described the Indians as terrible enemies, who used their poisoned arrows to keep out trespassers.

In the Brazilian territory, the WAIKAS made their first mark in modern history in 1929, when they attacked the settlements of rubber-tappers in the area between the Imeri Range and the Upper Rio Negro—along the Demiti, Cauaborí, Marauíá and Padauirí Rivers. The Indians attacked suddenly, killed the men and carried off the women and children. The survivors fled to the Rio Negro. For 25 years, until 1954, everybody kept away from the area for fear of the Indians. In 1954, a Catholic priest of the Salesian mission in Tapuruquara, Rev. Antonio Goes, entered the territory, went up the Cauaborí River by boat and made the first peaceful contact with a tribe of the WAIKAS.

We met the priest in 1955 when we went through Tapuruquara on an expedition to the Colombian frontier. One year later, in 1956, we went with him to the WAIKA village situated near the headwaters of the Cauaborí River, a few miles from the Venezuelan boundary.

It was the priest's third visit to the tribe, where we found about 200 Indians in their original, primitive state. They never had any previous contact with civilized people other than the priest and then, ourselves.

In two later visits, we were able to observe and to film their daily village life, but we saw nothing of the snuff. We saw them dancing under the influence of the EPÉNA, but we were not able to see the snuff prepared. When we asked, they told us that the ingredients did not grow nearby.

Our relations improved with the repeated visits. On our fourth trip in 1960, we were received like old friends. We were shown the ingredients. We saw that they were neither seeds of PIPTADENIA PEREGRINA nor of any other tree. They turned out to be two kinds of bark and the leaves of a small plant. For the first time, we were able to get some of the snuff by exchanging gifts. It was the same powder that I sent to Professor Holmstedt, who analysed it. He found tryptamine derivatives to be the active components. In 1965, finally, we had a chance to film the snuff-making process.

The Preparation of the Epena Snuff-Powder

We could observe and film the whole process of the EPÉNA preparation on the Upper Marauíá River in the village of the KARAUETARI tribe. First we looked, in the company of two Indians, for a tree of the species
VIROLA CALLOPHYLLOIDEA, Markgraf, called by the Indians EPÉNA.

We had started in the early morning because the Indians said that the bark has to be stripped in the early hours of the day for the snuff powder to be good. The EPÉNA trees did not exist in any quantity. We marched three days through the jungle to find a group of them.

When the bark is stripped it appears white on its inner-side, but only a few seconds later a red brownish resin like liquid begins to exude in drops. The Indians told us that this “bleeding” is more intensive before the heat of the tropical sun begins to penetrate the forest.

The inner-side of the bark consists in a soft fibre-like layer that the Indians scrape off with a knife. These scrapings—moistened by the red brownish liquid—are collected on a palm-leaf and carried to the village for drying.
The drying process begins very slowly. The scrapings are fastened on a twisted disk which will be put approximately four feet above a slow fire, and there remain till the next morning. Then comes the second phase of the drying, more intensive, directly over the fire.

In this state the scrapings are stored till the second ingredient of the snuff-powder, called AMA ASITA, is ready. AMA ASITA is a tall tree that was not possible to classify as yet. But it seems to be a TRICHILIA species. Also, this tree seems to be scarce.

Before stripping the Indians looked for a specimen with smooth bark. They took only strips of bark whose outside was entirely perfect. This outside is important. It is the only part used. It was separated from the inner side of the bark immediately after the stripping and carried to the village. There these outside strips of the bark were cut in pieces and put in a fire. As soon as they began to glow, the Indians took them out of the fire and let them burn to ashes separately. They watched carefully, to see that no piece of any other wood or bark might be mixed with them.

Fig. 2.—Stripping of the “EPENNA” bark.

318
FIG. 3.—Only a few seconds after the stripping the red-brownish liquid begins to exude in drops and tinges the clear-sighted wood of the trunk and the inner side of the bark.

These ashes of the AMA ASITA-bark are called by the WAIKA-Indians, “YUPU USHI”.

While the bark was burning separately, our Indian began to rub down the dried EPÉNA scrapings with his hands. He did it sitting on the ground and pressing his knees against his hands.

After reducing the EPÉNA scrapings to a crumbled dust, the Indian roasted it for a short time over the fire. Then he mixed it with the ashes of AMA ASITA. The proportion of the mixture was 50:50. As it is measured by sight, the snuff-powders of the different manufacturers never have the same tone of colour.

The snuff was not yet sufficiently uniform and refined. It contained little spelts and crumbs that had to be eliminated. This was done in a little basket such as each WAIKA household owned. The Indian beat the basket gently, and the resulting dust was the final snuff-powder. It was kept in a bamboo-tube, the usual storage box of the WAIKAS. Four or five of these tubes are stuck between the palm-tree-leaves of each hut. The smaller tubes are usually used for snuff-powder, and the bigger ones for keeping feathers, arrow-heads and pigment for painting the body.
FIG. 4.—The inner side of the bark consists in a soft fibre-like layer that the Indians scrape off with a knife.
Fig. 5.—A branch of AMA ASITA.
Fig. 6.—The AMA ASITA bark is stripped. Note that the wood of the trunk remains clear-sighted.
Fig. 7.—The outside of the bark is separated from its inner side.
FIG. 8.—THE AMA ASITA bark burns to ashes separately.
Fig. 9.—The dried "EPÉNA" scrapings are rubbed down with the hands.
In another WAIKA-village, near the Maturacá-channel, we saw that a third ingredient was added: the little leaves of a HERBACEOUS-plant, called MASHI HIRI, like the EPÈNA-scrapings dried and powdered. These leaves, however, have no intoxicating effect. The Indians say they are merely aromatic. I don’t know why the KARAUETARY didn’t use the plant. Perhaps it was not available at the moment, or the Indians in the MA-RAUTIÁ-River like another flavour.¹

There is also used another snuff powder which contains, besides the above mentioned three ingredients, the other vegetables:

1. The leaves of a plant called POSCHI-HAVE-MOSCHI-Hena (“hena” means “leaf”)
2. The leaves of another vegetable called AI-AMO-Hena.

In the villages we visited, the Indians either could not or did not want to show us these two plants. They always said that they only grew in the higher region of the mountains, and not nearby. For this reason the powder compound of the five ingredients was not on hand.

In my opinion it is the same compound whose snuffing we saw in our first expedition, and whose effect was described as noxious for health. (People of the rain forest, page 167.) I cannot at the moment say more about this powder. Neither the missionary with whom I am corresponding and who lives in continued contact with several tribes, nor myself, saw in our other expeditions a similar effect again. And in no other visited tribe were we able to get this powder.

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Fig. 10.—The Indian sifts the “EPÈNA” in order to eliminate spelts and crumbs.
FIG. 11.—The final snuff powder is stored in a bamboo tube.

Some Remarks on the Use of Epéna

We watched the use of EPÉNA in four WAIKA-villages: (1) near the Upper Cauaborí River; (2) near the Upper Maiá River; (3) near the Upper Marauia River, and (4) near the Maturacá Channel.

Firstly: The snuff was never inhaled in the morning. At this time, we saw some of the corresponding preparations, such as painting the face and the upper part of the body. Another Indian helped to paint the back and legs. The feather ornament is tied on the upper arm. All in all a certain festive preparation is part of the ceremony.

Secondly, The snuff-Inhaling ceremony generally began in the early afternoon; rarely in the evening.

Thirdly: Once, we saw two Indians blow snuff into each other's noses. Generally, only one person inhaled the EPÉNA.
Fourthly: Only adult men, but not women, took part in the ceremony.
Fifthly: The blowpipe, 23 to 28 inches in length, was used for inhalation with one exception. We did not see any other inhalation instrument.
Sixthly: Only once did we see an Indian inhale snuff without the aid of another man, and without instrument. (See also footnote Nr. 4). He poured the snuff from the bamboo tube into his open hand, lifted his hand to his nose and inhaled the powder simply and neatly.
Seventhly: When we became able to distinguish one Indian from another, we saw that there is no system for the snuff ceremony. For example: There were Indians who took EPÉNA powder every day at any time in the afternoon; there were others who practiced the ceremony only once in a fortnight. Seldom did we see any formal motive for taking the snuff, such as curing a sick person, invoking success in the hunt or thanksgiving for a successful hunt.

Only for the first motive, we saw snuff taking a few times. One or two men took snuff to bring about the curing of a sick child. So did the child’s father, but not at the same time. I had the impression that in most cases, snuff was taken without any profound meaning—such as treating the ill, exorcism, contact with the HÁKULA spirits, cult. There seemed to be only a sort of swagger—an attempt to show “What a great guy I am!”

Otherwise how can we explain the fact that a great number of the Indians did not take any notice of the ceremony in the village square. Or that a dancer’s girl friend sitting in her hammock, proudly watched the man stamping and yelling in front of the hut? Moreover, the interpreters occasionally burst out laughing at the dancer’s movements and words. These words did not always seem to make sense.

The dose for inhaling in each nostril was a coffee-spoon full. The Indians usually take two doses. Only once, in the KARAUETARI-village near the Marauia River, did we see an Indian take four doses, one after another.

Administration

The inhalation was practiced in general in the following manner: (with one exception observed in the KAUARETARI-village): At first the snuff power of one or two bamboo tubes was poured on a little board or plate, and the little crumbs—caused by the high humidity of the air—were carefully pinched between the fingers.

Then the two Indians, the carefully painted and adorned one as well as the “blower” covered under the roof of a hut, one opposite the other. The “blower” filled a dose of powder with his fingers in the blowpipe, which the other Indian kept on his right nostril. With a forceful blow the powder entered the nose. The receiver immediately let fall the blow-pipe and held the back of his head with both hands.

Our interpreter, a portuguese speaking Indian, explained that he would feel in this moment a violent headache. Not seldom, the Indian curved himself, probably because of this headache. Saliva ran out his mouth and he vomited.
After about 3 or 4 minutes it seemed that the first effect passed, and he took again the blow-pipe, which the other Indian, the “blower”, had again filled up. The Indian now put the blow-pipe on the left nostril and got the second dose. The immediate consequences like headache, salivation and vomiting were repeated, however, not always so strongly.

Effect

After inhaling the two doses of EPÉNA, the usual quantity of snuff powder at the beginning of the ceremony, the Indian continued for about two or three minutes in his cowered position. Then he stood up and walked swaying like a drunkard. On his way his walk became faster and steadier. His stare became fixed and he experienced a violent perspiration. In a few minutes his face and body were completely wet.

Then his steps changed into a stamping that generally was adapted to a certain rhythm: three or four steps forward, one step on the same place. This “dance” the man accompanied with a recitative, monotonous singing, which was relieved about every five to eight minutes by a terrible yell. During
this yelling the man generally stopped his “dance,” and turned himself with high lifted or spread arms to the mountain-range that elevates itself, steep in the sky, a few miles to the north of the villages.2, 3

After about half an hour of stamping and singing and yelling an interval took place in most of the observed cases. The Indian stood some minutes with straddled legs, the upper part of his body bowed forward, nearly the position which we took as children for playing leap frog. After this interval, either the singing and stamping continued or the Indian—still singing and

2 In some of the cases observed by us, this yelling toward the mountain range certainly was a threat against another tribe, living in hostility against our Indians. Some weeks ago they had killed two members of that tribe and expected now the requital attack.

1 I see in these yellings against the mountains where the other tribe was living, no invitation to the HAKULA spirits for help, but translate them more in this way:

“Come on over when you get up the courage!—We will make hash of you!” Conclusion: Nothing but boasting, in consequence of the macropsia provoked by the EPENA. Certainly, this makes the dancer think he is physically superior.

3 In the cases when they had inhaled EPENA to cure a sick child, the dance was stopped in front of the child’s hammock, and the Indian accompanied his yells with the vehement movements of his arms, or the softly passing of his hands over the child’s body. So, he tried to take out the illness of the patient’s body.
stamping—fetched from his hut some arrows, and continued dancing with these.4

The snuff powder EPÉNA provokes a strong intoxication but by no means an entire state of trance. Otherwise the man would not be able during his “dance” to find with sure hand the arrows in the hut or—as it had happened with me when I had gone with the camera in spite of warning—would have

4 The Indian of the KARAUETARI tribe who inhaled the powder without the assistance of another man, snuffing the EPÉNA by himself from his open hand, was the only one whose “dances” differed from the general manner:

(1) The phases of his “dance” lasted not more than 15 minutes, (2) In the intervals of his “dance” he inhaled some further doses of EPÉNA. He was the only one we saw snuffing during the intoxicating state and not only before it.

It is possible that in his case the initial doses, inhaled without the powerful blow of another man, had not provoked the common intoxicating effect. So he was forced to snuff again.

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Fig. 14.—The “dance” under the effect of “EPÉNA.”
been able to threaten to throw a poisoned arrow at me, if I had not disappeared. My interpreter, who had understood these words—in contrast to me—had hastened to fetch me back to the hut and translated the threat.

The “dances”, the movements of the arms in the normal intoxication state—as such it could be said—were very different from those seen on our first expedition, in the few minutes when the two young men were dancing on the square under the effect of the other snuff powder, mentioned in footnote 1. These Indians doubtless had lost consciousness.

332
Fig. 16.—Typical face expression during the intoxication.
We talked with a young Indian of the KAUARETARI-tribe who had learned Portuguese in the mission-school in Tapuruquara. We gathered some explanations about the ceremony from this conversation:

We asked, “Do you snuff EPÉNA?” He answered, “No, I am not allowed to. I am not grown up yet!”

“When will you grow up?”, we then asked.

“I don’t know”, he said, “but I think it will be soon.”

Next question: “Who decides when you are grown up?”

“My father. He shows me how to make the EPÉNA powder, and tells me what happens when I sniff it.”

Question: “What will happen then?”

Answer: “Then I will see the HÄKULA, who are big men living there above in big huts.”—He pointed to the sky and continued: “The EPÉNA makes me so big that I can see them and talk with them!”

Another Indian named Daniel, who had lived in the Tapuruquara-mission for some years before returning to the tribe and marrying, told me that he had seen “ANGELS” while under the effect of the EPÉNA. And that he had talked with them!

This one Indian tells us that he will see “big men”. Another says that he saw “angels”. This shows that the EPÉNA has two effects:

First: The real effect well-known from the experiments of Doctor Becher and Doctor Richard E. Schultes. The Indian feels that he is a giant; everything around him takes enormous and magnificent forms. In the midst of a super-dimensional world, he feels like a superman! Consequently his movements correspond to this state of excitation. These are braggart’s gestures. These symptoms are accompanied by profuse salivation, a bad headache, a fixed stare and heavy perspiration. The symptoms reveal a state of strong intoxication.

The second effect is imagined. The Indian sees things he has been taught to see. One sees “big men” because his father has told him that he would. The other saw “angels” because he had been taught in the mission that they are more powerful than HÄKULA-spirits!

It can be assumed that these Indians think about the HÄKULA spirits and want to speak with them to cure a sickness or succeed in hunting. But my general impression is that many Indians take snuff only for kicks—to experience a bigger world.

After about an hour, the effects of the snuff diminish. The dancer slows, and goes to his hut to lie down in his hammock, where he apparently falls asleep. Several Indians who had taken snuff and danced early in the afternoon, were seen in the evening at about eight o’clock seated around the fire as if nothing had happened. The duration of the snuff effects is comparatively short. One of our interpreters said to me that they don’t like to take snuff in the evening because they can’t sleep afterward. We can conclude from this that perhaps the apparent sleep in the hammock after the dance is not really sleep but exhaustion, or the need to rest an aching head.

It is certain, however, that the violent headaches and nausea are caused by the way that the snuff is taken—blown into the nostrils—that the head-
ache is temporarily relieved by the drug. Otherwise, the Indian would not be able to behave so violently in the square. After about an hour, the exhilarating, euphoric effect of the snuff backfires and turns into a hangover.

The “Parica” of the Tucano-Medicine Man Agostino

Most of the Indians who live in the village of Tapuruquara on the Upper Rio Negro are TUCANOS, who abandoned their old tribe territory on the PAPURI River. Agostino is the “Pagó”, the medicine man, in this village, and he still uses “PARICA”, a snuff that he prepared in our presence. He uses the same raw-material as the WAIKA Indians—the inner layer of the bark from VIROLA CALOPHYLLLOIDEA, Markgraf, but he prepared the powder in a very different manner.

With his knife he scraped off the inner layer of the bark moistened by the red-brown liquid. Then he threw these scrapings into a pot partly filled with water. In this water they were thoroughly kneaded, and squeezed so that the water turned muddy and took a reddish-brown colour. Then this muddy liquid was set to evaporate over a slow fire.
“It should not boil very rapidly”, explained Agostino. And, indeed, three hours passed before the quart of liquid had become a hard, dark crust on the bottom of the bowl. From time to time a dirty foam rose to the surface, and the “Pagé” Agostino removed it with a little branch. Also, other impurities like fibres of the bark rose up with the bubbling and were eliminated in the same way. Finally nothing remained except a thick, dark brown syrup with a strong smell. Now, Agostino lowered the fire still more. The final drying was done very slowly, probably to prevent burning.

The residue was a hard crust that was scraped off with a knife. It was the concentrate of that red-brown liquid that had begun to exude from the inner side of the bark, as well as from the trunk of VIROLA CALOPHYLLOIDEA, Markgraf. The scraped residue was ground into a fine powder with a smooth stone.

With this process the “paricá” was ready as Agostino said. It was not mixed with ashes or other ingredients. He explained that he, the medicine man, is the only one allowed to inhale the snuff powder.

We didn’t see the intoxicating effect, here, but it was confirmed by inhabitants of the village that it is very strong. Therefore Agostino can snuff his “PARICA” only twice a month at the most. He inhales the “PARICÁ”, as he told us, before diagnosing the trouble with his patients. In the intoxicated state he stammers confused words which are interpreted by his brother. Later on he tries to cure the patient, using for the treatment the rattle “NASH SÃ” and the quartz crystal “MARIA PIRÍ”. 

Fig. 18.—Finally nothing remained except a thick, dark-brown syrup.
The residue was ground into a fine powder with a smooth stone.

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