Our children do not have time anymore to learn about medicinal plants: How an ethnobotanical school assignment can contribute to the conservation of Saramaccan Maroon traditional knowledge

Charlotte van 't Klooster, Vinije Haabo and Tinde van Andel

Research

Abstract

Background: When entering primary school, children of remote rural areas have less time to learn about traditional plant uses. In a case study conducted among Saramaccan Maroons in Suriname, we tried to find out how a biology classroom assignment conducted among primary school children could contribute to the conservation of traditional knowledge.

Methods: 73 pupils received a homework assignment for which they needed to bring one medicinal plant to school and collect ethnobotanical information about its use. We conducted a content analysis to investigate the type of knowledge generated by the pupils and examined the assignment cards on use of (different) languages.

Results: Family members (mostly mothers) shared knowledge mainly on the treatment of physical ailments such as skin fungi, headache, hypertension, stomachache, eye-infections or baby care. Plant use for baby care and women's health seemed to be primarily shared with girls. Most of the 36 species, were herbs from disturbed vegetation. In addition to Saramaccan, plant names were provided in Sranantongo and Surinamese-Dutch, especially for the cultivated species.

Conclusions: Our method generated information on physical health issues that occur regularly in the village for which they use common plant species. Spelling of vernacular names and translation of health issues from Saramaccan into Dutch was a challenge, indicating a gap between the official school curriculum (in Dutch), traditional Maroon knowledge and literacy in Saramaccan. The method could be developed further to be used at schools to

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safeguard traditional knowledge and encourage the intergenerational dialogue on medicinal plants.

Keywords: Saramaccan Maroons, medicinal plants, conservation, knowledge transmission, Suriname, schoolchildren.

Samenvatting

Achtergrond: In traditionele gemeenschappen hebben jonge kinderen zo gauw ze naar school gaan minder tijd voor het leren over planten en hun traditionele gebruiken. In een casestudie, uitgevoerd onder Saramaccaanse schoolkinderen in het binnenland van Suriname, laten we zien hoe een biologie-huiswerkopdracht, kan bijdragen aan het behoud van traditionele kennis.

Methoden: 73 kinderen kregen de opdracht een familielid te interviewen over een medicinale plant. De kinderen namen de plant vervolgens mee naar school tezamen met de ethnobotanische informatie verzameld over de plant. Deze gegevens werden vervolgens geanalyseerd (content analyse) en gekoppeld aan het type kennis dat gedeeld was met de kinderen. Ook de competentie in het correct spellen van plantennamen werd in de analyse opgenomen.

Resultaten: De familieleden (meestal moeders) kozen ervoor om vooral kennis te delen over lichamelijke aandoeningen. De meest genoemde toepassingen waren gerelateerd aan hand/voetschimmel, hoofdpijn, hoge bloedruk, buikpijn, ooginfecties en de gezondheid en verzorging van pasgeborenen. Opvallend was dat kennis over baby's en de gezondheid van vrouwen alleen met meisjes gedeeld werd. De meeste plantensoorten waren kruiden, verzameld in de verstoorde vegetatie. Naast Saramaccaanse plantennamen gaven de kinderen ook vaak plantennamen aan in het Sranantongo en het Surinaams Nederlands, vooral voor gecultiveerde planten.

Conclusies: De gebruikte methode leverde vooral informatie op over algemene plantensoorten die worden gebruikt tegen lichamelijke aandoeningen die regelmatig in het dorp voorkomen. Het correct schrijven van lokale plantennamen en de vertaling van de gebruiken in het Nederlands bleek soms een uitdaging voor de leerlingen, wat impliceert dat er een 'knowledge gap' bestaat tussen het officiële curriculum op scholen in Suriname, hun traditionele kennis en geletterdheid in het Saramaccaans. De gebruikte methode draagt bij aan de dialoog over medicinale planten gebruiken door het stimuleren van de kennisoverdracht tussen verschillende generaties. De huiswerkopdracht zou verder ontwikkeld en gebruikt kunnen worden op scholen voor het behoud van traditionele kennis.

Background

Ecosystems provide human beings, whether they live in cities or remote areas, with food, water, clean air, shelter and other basic needs to live. They are crucial for human well-being and so is their associated knowledge. Acquiring knowledge of plant species and their uses is essential for children living in any society, but particularly for those growing up in remote areas where people directly depend on the natural surroundings for their survival. As showed in a number of ethnographical studies, children already acquire extensive ethnobotanical knowledge during their childhood and continue to do so throughout their lives (Cruz-Garcia 2006, Dougherty 1979, Hunn 2002, 2008, Katz 1989, 2004, Ruddle and Chesterfield 1977, Setalaphruk and Price 2007, Stross 1973, Wyndham 2010, Zarger 2002, 2010, Zarger and Stepp 2004). The acquisition of this knowledge occurs mostly from the ages of 12-15, before adolescence (Hunn 2002, Hynes *et al*. 1997, Reyes-García *et al*. 2009, Ruddle and Chesterfield 1977, Stross 1973, Zarger 2002). It is therefore a critical period in which the basis for cultural knowledge and skills is set (Reyes-García *et al*. 2016). Several studies have shown that the transfer of this ethnobotanical knowledge to younger generations is hindered due to formal education and children's lack of time to spend in the forest with elders (Barreau *et al*. 2016, Cruz-García 2006, Reyes-García *et al*. 2010, Saynes-Vasquez *et al*. 2013, Shriti *et al*. 2009). The same seems to be the case for the Saramaccan Maroon children living in the interior of Suriname.

Maroons, descendants of African slaves that fled into the interior and settled themselves successfully in the forest next to the indigenous communities, have a tremendous ethnobotanical knowledge that has been documented only recently for Saramaccan and Aucan Maroons in Suriname (Hoffman 2009, Ruysschaert *et al*. 2018, Van Andel and Ruysschaert 2011, Van 't Klooster *et al*. 2016, 2018, Vossen *et al*. 2014). Unfortunately, the rapid exploitation of natural resources that has taken place in the interior of Suriname has negatively affected the forest cover, plant regeneration and biodiversity (ACT 2015, Peterson and Heemskerk 2001, Rahm *et al*. 2015), while conversion to Christianity and migration to urban areas have eroded traditional Maroon knowledge and practices (Price & Price 2017). Therefore, documentation of Maroon plant uses and knowledge, and the stimulation of knowledge transfer to the younger generation are of the utmost importance for bio-cultural conservation. Now that Saramaccan cultural systems are being eroded, their traditional knowledge and practices will most

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probably decline further due to schooling, but also due to employment, market exposure, acculturation, and changes in ecology, technology and values, which can lead to rapid cultural change as showed by Godoy *et al*. (2009) for other indigenous and traditional living societies. Several Saramaccan adults interviewed by Van 't Klooster *et al*. (2016), shared that the school had a negative influence on the transfer of their medicinal plant knowledge to their children by saying: "… *but now they go to school, so they do not have any time left for that, but if you make them a herbal bath they will take it*" or "… *they don't know certain things of the herbal bathing anymore, because they do not have time to ask someone*" (Van 't Klooster 2009). They also stressed the need to actively stimulate the transfer of their traditional oral knowledge to the younger generation and its documentation for conservation purposes before it is lost. As highlighted recently by Ramet *et al*. (2018), there is a strong demand to create programs for supporting the intergenerational dialogue that fosters traditional knowledge transmission.

In this paper, we present a case study of such dialogue for the Saramaccan village Pikin Slee. We describe the results of a biology classroom assignment on medicinal plants and their uses, conducted with primary school children during school hours. The overall objective of the assignment was to contribute to the conservation of traditional knowledge by stimulating an intergenerational dialogue on medicinal plants together with documentation of the plant species, the local names, and their uses. The method used in this case study serves as an example of how this dialogue can be stimulated through a classroom assignment. Our main research objective was to investigate what knowledge on herbal medicine the pupil's family members found important to share with the children for the school assignment and whether this information was shared randomly or whether there existed trends in gender-related or ecological patterns in the knowledge shared. We expected the pupils to bring mostly plants growing in and nearby the village and hypothesized that the knowledge shared with the children for the assignment would concentrate on illnesses familiar and useful to children and acceptable to share with the researcher and the school. Another objective was to analyze the languages used by the children during the assignment to investigate whether plant names were shared in Saramaccan only or possibly in other languages as well, such as Sranantongo, the unofficial lingua franca of Suriname. As showed by Van Andel *et al*. (2014), local plant names often contain elements referring to animals, their properties, their appearance or use. The Saramaccan use plant names as a tool to store their traditional ecological and cultural knowledge for future generations. Plant names or parts thereof adopted from other languages might interrupt this conservation process as the meaning of the plant name can get lost. We hypothesized that due to the existence of the Christian primary school, the medicinal plant trade outside the Saramaccan area, and the improved road conditions to the capital Paramaribo (which makes the research area less isolated), Saramaccan plant names would be influenced by other languages. We furthermore conducted a document analysis to score which languages next to Dutch (official school language) were used by the children in formulating sentences on their cards and analyzed the spelling to get a general impression of their writing skills.

Materials and Methods

Research area

Fieldwork was conducted in the Saramaccan village Pikin Slee, along the Upper Suriname River. This village is surrounded by tropical rainforest and can be reached by airplane or boat after a three-hour bus journey from the capital Paramaribo (Fig. 1). The Saramaccan use the forest plant species for food, fuel, construction, technology, medicinal and social purposes (Ruysschaert 2018). Traditional livelihood activities include hunting, fishing, slash-and-burn agriculture and gathering of forest products (Price 2011). Children learn about these activities from their family members and peers during their childhood by observing and participating in these activities.

Although the majority of the subsistence resources in Pikin Slee are still harvested from the forest and cultivated fields, the villagers also have access to products like sugar, salt, maggi cubes, soft drinks and beer, which are sold in the small village shops. The health post in the village, run by the Medical Mission, is responsible for providing primary health care (Medische Zending 2017). Modern and traditional health care practices coexist in the village of which the inhabitants make use based on their preferences and needs (Van 't Klooster *et al*. 2016). Like in the vast majority of the villages in Suriname's interior, the highest level of education in Pikin Slee is primary school. See for more ethnographic information on Saramaccan culture the extensive work conducted by Price and Price (Price R 1975, 1976, 1983, 1996, Price S 1984).

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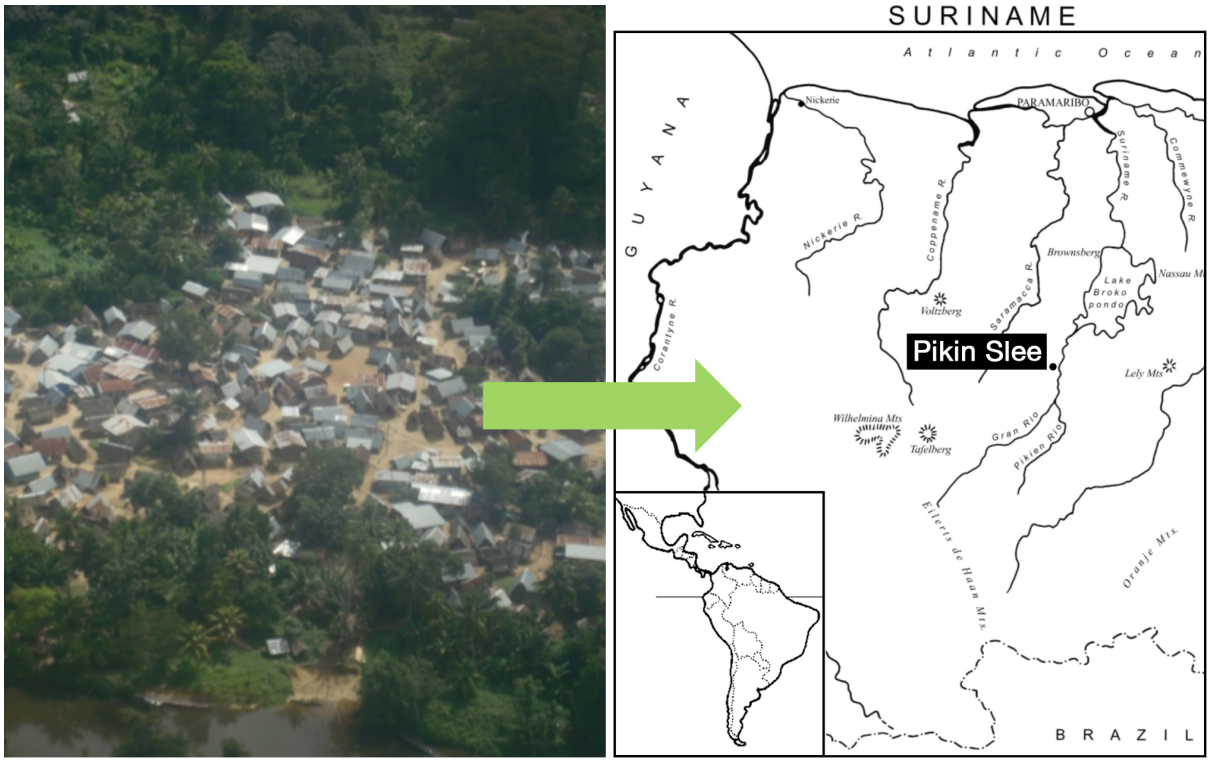

Figure 1. Research area Pikin Slee. Photograph by Van 't Klooster 2009. Map modified from Van 't Klooster et al. (2003).

Data collection

In the period of March-June 2009, ethnobotanical fieldwork was carried out in Pikin Slee, during which medicinal plant knowledge, practices and beliefs were studied among adult Saramaccans (Van 't Klooster 2009, Van 't Klooster *et al*. 2016, 2018). During this fieldwork period, the first author was invited by the private Roman-Catholic J.A.M. Willebrand school in the village to teach the pupils about plants. After the classroom session was finished the children received a homework assignment for which they needed to bring one medicinal plant to school the next day and collect the following ethnobotanical information on a card provided to them: (1) the local name of the plant; (2) its medicinal use; (3) preparation and administration methods; (4) the family member who supplied this knowledge; and (5) where it was collected. The assignment was given in Dutch, as this was the official language used at school. The results of the assignment were briefly discussed in the classroom during the next biology lesson.

The assignment, first given to children in the 5th standard on 30 March 2009, was repeated in the two 4th standard classes in the first week of April 2009, as requested by the teachers and with the permission of the headmaster, who supported the idea of contextualized environmental learning. Unfortunately, no children of the 6th standard class could participate due to school tests taking place at that time. All children of the 4th and 5th standard classes participated (age group 9 to 11 years old) and formed our research sample. No further selection of children took place as the assignment was part of their school homework.

Data analysis

We used a content analysis to examine the information written on the cards. We entered all data collected by the children in an excel sheet to further investigate the total number of different plant species, local names, collection localities, preparation and application methods, medicinal uses, possible gender-related uses, languages used, and whom they interviewed. All cards made by the children, together with the collected plant specimens, were photographed for plant identification purposes. Most plants could be identified directly to species or genus level, because many of them were already collected as botanical vouchers during forest collecting trips that took place with adults in the village in the same research period (Van 't Klooster *et al*. 2016, 2018). Some children wrote down extra plant names on their cards without bringing a specimen, but these were often plants collected already by the other children in the class. Plant species that were not brought to class by the children were identified by their local names written on the assignment cards, by using literature on

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Saramaccan useful plants (Van Andel and Ruysschaert 2011; Van 't Klooster *et al*. 2003, 2016, 2018). Plant names were checked with dictionaries of Sranantongo (Blanker & Dubbeldam 2005, SIL International 2007) and Surinamese-Dutch dictionaries (Van Donselaar 1989) and further checked by the second author (Saramaccan native and linguist) on the latest spelling rules for Saramaccan.

All botanical vouchers made during the research in the village were deposited at the National Herbarium of Suriname (BBS). Scientific plant names were updated with The Plant List (www.theplantlist.org, accessed 28/12/2018). The medicinal plant uses collected by the children from their family members (as written on the cards) were compared with medicinal plant knowledge collected during earlier semi-structured interviews and plant collecting trips with adults in Pikin Slee (Van 't Klooster *et al*. 2016). We used a comparative data analysis to explore whether the family members had transferred specific information to the children for the school assignment.

Methodological limitations

The data collected for this pilot study does not represent the whole Saramaccan community and does not necessarily reflect the knowledge held by the Pikin Slee adults in the year of publication. It was not our intention to conduct an impact study among school children on medicinal plant knowledge held by them, nor to produce an exhaustive list of medicinal plant species being used by the adults in the village via the children. Our focus was on finding possible trends in the knowledge shared with the children. Therefore, we did not collect additional demographic data on age or years of education. Due to time constraints at school, no additional lesson or interviews could be conducted that could have clarified some of the children's collected information (e.g., on reported health uses).

Results

Plant species

In total, 73 children participated in the assignment, of which 23 were male, 42 female and 8 remained unknown as they did not fill in their name on the assignment. Most children collected one species as requested with the corresponding information about the plant, but a few collected more plants, which led to a total number of 84 plant species brought to the classroom. Some children wrote down extra plant names and uses on their cards without bringing a specimen, but these were often plants collected already by other children. In total, 112 medicinal plant name entries were made, bringing the average number of plant species scored per child to 1.5. The names related to 36 different species, of which 33 could be identified to species level and two to genus level. One name remained unidentified as the plant was not collected and the local name written on the card was not familiar to us.

The plants could be easily identified, as many of them were common weeds or frequently used cultivated or wild plant species that had been collected as vouchers during interviews and plant collecting trips with adults in the village. Sterile specimens could be matched to specimens collected in flowering stage under the same local name. Thirteen children noted more than one use for a plant (17 uses in total), bringing the total number of use reports in this assignment to 129. The 36 plants comprised of 50% wild and 47% cultivated species. One species could not be identified. Most plants collected were herbs (53%) or trees (28%). The herbs often grew in and near the village and could therefore easily be collected by the children. The trees were all well-known species cultivated for their edible fruits, except for *Crescentia cujete* L., of which the fruits serve as small bowls to bathe with. The children reported to have collected their plants from the forest (48%), the village (20%) and their house yards (14%), while the rest (18%) remained unknown as this question was left unanswered by some children. Most of the plants collected in the forest were weeds or common species from the secondary forest surrounding the village. All plant material was collected fresh, except for one dry leaf of *Terminalia catappa* L.

The families best represented among the unique medicinal plant name entries (n=112) were Piperaceae (24), Verbenaceae (23), Myrtaceae (13), Annonaceae (9), Combretaceae (5) and Lamiaceae (5). The most collected (and scored) plant species by the children during the assignment were *Peperomia pellucida* (L.) Kunth (21), *Lantana camara* L. (10), *Stachytarpheta cayennensis* (Rich.) Vahl (10), *Annona muricata* L. (9) and *Psidium guajava* L. (7), *Terminalia catappa* L. (5), *Scoparia dulcis* (4) and *Campomanesia aromatica* (Aubl.) Griseb. (4), followed by species with lower numbers. A complete list with all information mentioned on the cards, plant species with their scientific names, original and official spelling of local plant names and specimen voucher collection numbers are available as supplementary data to this article (Supplementary file 1).

Health uses shared with the pupils

Out of the 129 plant use reports, 104 times a health-related use was mentioned. In 25 cases the child left the question open. The results could be narrowed down to more or less 26 different health uses shared with the children. The ten most-mentioned ailments were related to baby health (illness unspecified), headache, hand and foot fungus, high blood pressure, stomachache, eye infections, fever, dizziness, malaria and general illness (Fig. 2). To improve their baby's health, the informants gave them a herbal bathing.

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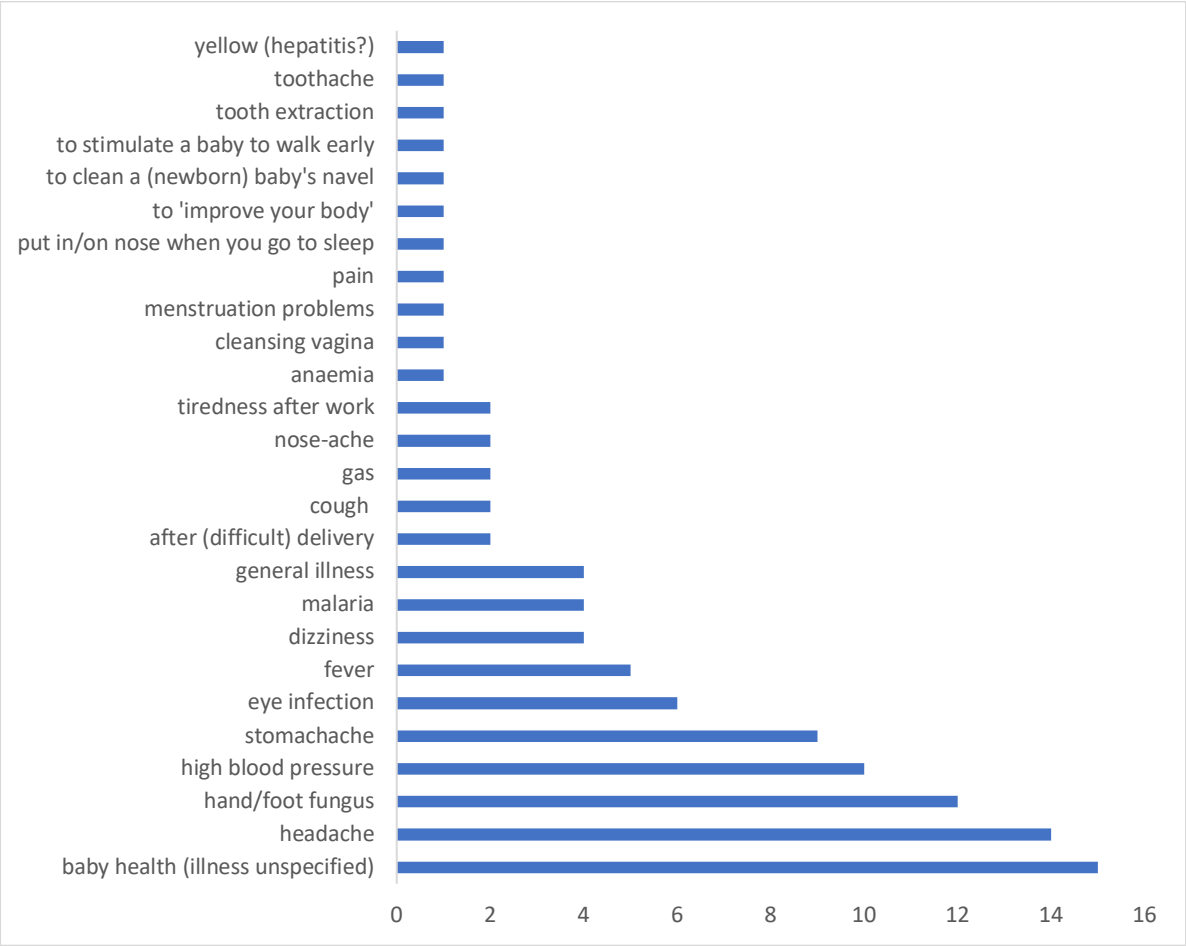

Figure 2. Number of different health uses mentioned by the children (n=104).

Trends in gender specific knowledge

The 42 girls that participated in the homework assignment collected information on 27 plant species (63% wild, 33% cultivated, 4% unknown), while the boys (23 in total) did this for 15 plants (33% wild, 67% cultivated). For the remaining 11 plant species that were collected, it remained unknown whether the information was from a boy or girl as eight children did not fill in their name on their card. Both genders mentioned and collected *P. pellucida* most often (11 times by girls vs. 8 times by boys, 2 times by unknown), followed by *S. cayennensis* (8, 1 unknown) and *L. camara* (5, 1 unknown) by the girls, and *A. muricata* (4, 2 unknown) and *L. camara* (4, 1 unknown) by the boys. The information collected by the pupils further showed that the girls collected most information on baby- related health uses (to walk early, healing navel, or use related to baby bathing but illness unspecified) (16, vs. 0 by boys, 1 unknown), headache (8, vs. 0 by boys, 5 unknown) and high blood pressure (5, vs. 3 by boys, 2 unknown), while the boys were responsible for most records on stomachache (6, vs. 3 by girls), fungus (5, vs. 3 by girls, 1 unknown) and fever (4, vs. 1 by girls). None of the boys reported on any of the baby health-related issues as mentioned above (for 1 out of 17 records it is unclear if child was a boy or girl), female-related health issues (0, vs. 2 by girls), or malaria (0, vs. 4 by girls). The boys reported on anemia (1, vs. 0 by girls), dizziness (4, vs. 0 by girls) and nose-ache problems (2, vs. 0 by girls), which the girls did not mention. Both groups mentioned cough (1/1) and plant use 'when you are ill' (unspecified illness) (1/1) with the same rate.

Language use

From the 112 unique plant name data records, only 108 were provided with a local name, as in four cases plants were brought to school without being mentioned on the cards. Nineteen children wrote two local names for one plant species, increasing the total number of reported vernacular plant names to 127. Most plant names were written in their mother tongue Saramaccan (52%), followed by Sranantongo, Surinamese-Dutch, Dutch or a mixture of these languages (Table 1).

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Table 1. Analysis of local plant names (n=127) and plant species (n=36) recorded per language.

	Plant names (frequency)	%	Different plant species	Cultivated (17 species)	Wild (18 species)
Saramaccan	66	52%	23	11 (48%)	12 (52%)
Sranantongo	34	27%	11	5 (45%)	6 (55%)
Surinamese Dutch	18	14%	9	9 (100%)	0 (0%)
Dutch	3	2%	2	2 (100%)	0 (0%)
Mixed languages*	6	5%	4	2 (50%)	2 (50%)

* One plant species remained unidentified.

More than half of the pupils (63%) wrote at least one plant name on their card in Saramaccan. All languages were used to name cultivated species. Typically, Surinamese Dutch and Dutch names were used only for cultivated species occurring in the village, such as *Annona muricata* L. (zuurzak, SD), *Artocarpus altilis* (Parkinson ex F.A. Zorn) Fosberg (manvanwoord, SD), *Cymbopogon citratus* (DC.) Stapf (citroengras, Du) and *Terminalia catappa* L. (amandel, SD), while wild species were known by their Saramaccan or Sranantongo names. In two cases a mixture of languages was used e.g., for *Justicia* cf. *segunda* Vahl (bloedbrat; bloed (SD) and brat (Sr)).

The 17 cultivated plant species (57 plant name records) were mostly named in Saramaccan (47%), followed by Surinamese Dutch (32%), Sranantongo (11%) and Dutch (5%) (Table 2). Only for the two cultivated species, *Citrus aurantiifolia* (Christm.) Swingle (lemmetje, SD) and *Gossypium barbadense* L. (rode katoen, SD), no Saramaccan plant name was given during the assignment. The 18 wild plant species (69 plant name records) were mostly named in Saramaccan (57%) and Sranantongo (41%), Surinamese-Dutch and Dutch names played no role. One plant remained unidentified (one plant name record). For 13 of the 36 species (6 cultivated, 6 wild and 1 unidentified), no Saramaccan plant name was provided by the pupils.

A further analysis showed that the 66 Saramaccan plant names written down, corresponded to 22 different Saramaccan plant names but written in various ways (*S. cayennensis* (Rich.) Vahl and *S. jamaicensis* (L.) Vahl had the same local name). Only in 35% of the cases were the Saramaccan plant names spelled correctly. Plant names written in Sranantongo were spelled correctly in 38% of the cases, Surinamese-Dutch names in 72% and Dutch ones in 33% of the cases.

The children participating in the assignment answered 92% of the questions required to complete the assignment, which was to collect information on one plant species only. Out of the 73 children, 71 wrote down some or all of the requested information next to the plant name, although not always in the same order. All pupils used the Dutch language, of which 79% used only Dutch, 14% Dutch and Saramaccan, 6% Dutch and Sranantongo, and 1% used all three languages on one card. None of the children wrote in Saramaccan only. The assignment was given and explained in Dutch, as this is the official language used in school (Fig. 3).

Table 2. Languages (with frequency) used to name a plant (n=127).

	Saramaccan	Sranantongo	Surinamese Dutch	Dutch	Mixed languages*
	Freq. (%)	**Freq. (%)**	**Freq. (%)**	**Freq. (%)**	**Freq. (%)**
Cultivated sp. (17)	27 (47%)	6 (11%)	18 (32%)	3 (5%)	3 (5%)
Wild sp. (18)	39 (57%)	28 (41%)	0	0	2 (2%)

* One plant species remained unidentified.

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Figure 3. Plant use information cards made by the participants (personal names removed). Information on upper left card: 1) alatulaboe, *Stachytarpheta* sp.; (2) if you are ill; (3) my grandmother; (4) you must boil to bathe; (5) in the village. Upper right: (1) alatulaboe wiwiri, *Stachytarpheta* sp.; (2) in the forest; (3) I asked my mother; (4) when you are sick; headache; (5) boil and drink. Lower right (only): (1) kuntu, *Eryngium foetidum* L.; (2) to heal your body when it is ill: yellow; (3) my mother; (4) in the forest; (5) to drink.

The information on the cards was mainly written down in Dutch, with a few Sranantongo or Saramaccan words or lines added to it when the children did not know the Dutch equivalent, such as the word '*febe*' for fever or '*konsaka*' for skin fungus. In 25 cases, the children did not mention the health issue to be treated, but only the way of administration, such as '*you will wash your eye*' or '*put in your nose when you want to go to sleep*'. Most likely, the children were unfamiliar with the Dutch term of the ailment and tried to describe in Dutch what was told to them in Saramaccan. Some children translated the Saramaccan health-related term literally into Dutch, like in 'broken hands'. Since bone fractures are treated by trained herbalists, it is more plausible that the family member spoke about cracks and clefts in the skin of hands (which are symptoms of fungal infections, referred to in Saramaccan as '*konsaka*'), as the associated plant species was also known to treat fungal infections. Plant names existing of Sranantongo and Saramaccan particles were also reported; especially the Sranantongo term '*wiwiri*' (leaf or herb) was regularly used instead of the Saramaccan term '*uwii*'.

Transfer of knowledge

Out of 73 children, 70 children had recorded whom they had interviewed for the assignment. The three children that did not provide this information were kept out of the calculation. Almost half of these 70 pupils interviewed their mother, while the rest had asked their grandmother, father or another family member. Three children interviewed both parents, while two interviewed their mother and grandmother (Fig. 4).

The girls (37 in total) mostly interviewed their mothers (40%), grandmothers (33%) and fathers (11%), while the boys (28 in total) mostly went to their mothers (43%), fathers (29%) and grandmothers (21%). Since eight children did not fill in their names (gender unclear), they were left out of this calculation.

Discussion

Ethnobotanical knowledge shared with the children

Since the assignment was to bring a single plant to school and the primary forest was too far to reach after a normal school day, the children brought their species mainly from the village and the surrounding secondary forest and shrubby vegetation. This explains why they mainly reported information on common cultivated trees, weeds and other small plant species. The frequently collected species *P. pellucida*, *L. camara* and *S. cayennensis* are common pan-tropical weeds that grow abundantly in open spaces in Suriname. They are often spared during weeding activities and planted near houses for their medicinal purposes and sometimes for their

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colorful flowers in the case of *L. camara* (Van Andel & Ruysschaert 2011). *A. muricata* and *P. guajava* are commonly cultivated fruit trees in Suriname (Ostendorf 1962). All five species were easily recognized by the children and often used to treat common health issues such as stomachaches, headaches, fever and dizziness, for which no specialized herbalist of spiritualistic healer is required.

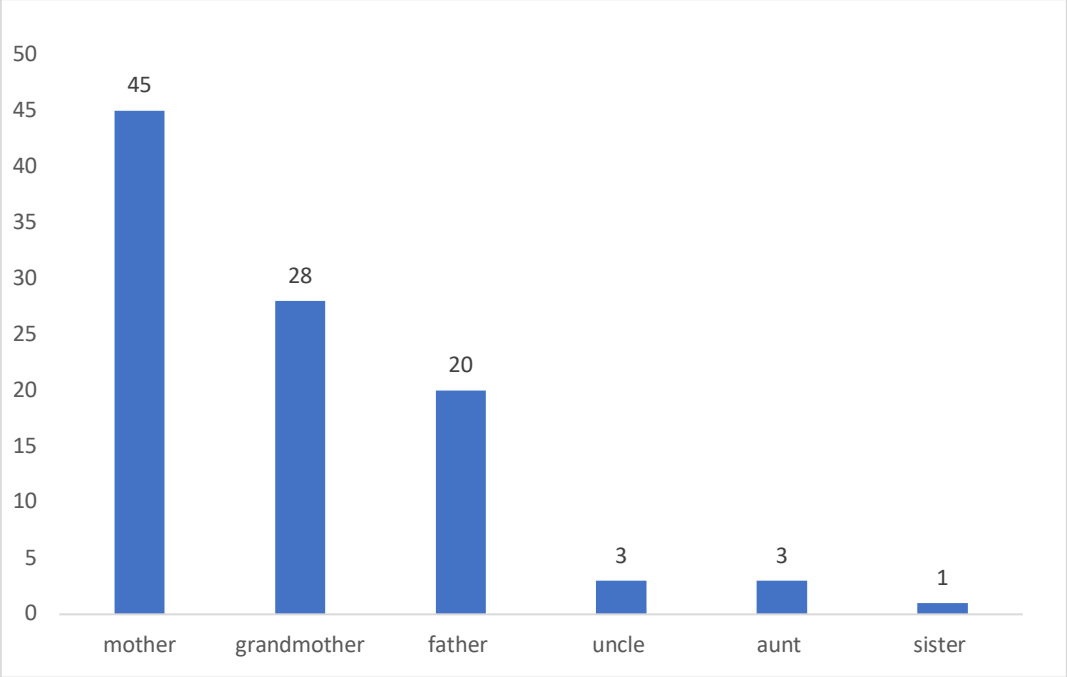

Figure 4. Family members (n=75) interviewed by the children (in percentages).

Most health uses recorded related to baby care, headache, high blood pressure, stomachache, hand/foot fungus and eye infections, which are all health issues that regularly occur in the village and are often treated by laymen with their family knowledge (Van 't Klooster *et al*. 2016). Keeping your baby healthy and strong with herbal medicines is very important for the Saramaccans and Maroons in general (Ruysschaert *et al*. 2009, Van 't Klooster *et al*. 2018, Vossen *et al*. 2014). Interestingly, mothers shared information only on female-related health issues and baby care (such as baby bathing and cleaning umbilical cords) with the girls, which suggests that this knowledge might be gender-specific. So far, no research has been conducted on gendered medical plant use transfer among Suriname Maroons, but our findings coincide with results from a recent study conducted by Díaz-Reviriego *et al*. (2016) in Bolivian Amazonia, which suggests that indigenous Tsimane' medicinal plant knowledge is gendered and results in women having a better knowledge of plant uses associated with reproductive and childhood ailments. Other studies have also suggested gendered differences in medicinal plant knowledge (Silva *et al*. 2011, Teklehaymanot & Giday 2007, Voeks 2007, Voeks & Leony 2004). However, Torres-Avilez *et al*. (2016), who conducted a systematic review and meta-analysis on the effect of gender on the knowledge of medicinal plants, detected no significant gender-based pattern for knowledge at the global, national and continental levels.

While fever and stomachaches are symptoms that can be caused by different ailments, hand or foot fungus infections (*tinea manuum*, *tinea pedum*) are specifically observed among farmers and other high-risk groups such as foresters, who spend most of their working time outside in humid conditions that greatly enhance the development of these fungal infections (Spiewak 1998). The Saramaccans, who grow their own rice, cassava and vegetables on their slash-and-burn fields in the forest, are daily exposed to warm and moist working conditions, which are excellent for the fungus to thrive and to spread infections. This explains why frequently information was shared on the treatment of skin fungi. *P. pellucida* is often used in the treatment of hand and foot fungus in Suriname (Ruysschaert 2018).

The children mentioned several plants used against high blood pressure, but also to treat dizziness or '*if you can't see anymore'* (vision loss), which are both symptoms of a high or raised blood pressure (WHO 2013, Wong & Mitchell 2007). The personnel of the biomedical health clinic in Pikin Slee identified hypertension as a health problem in Pikin Slee caused by the high amount of salt intake such as via maggi cubes in their diet (Van 't Klooster *et al*. 2016). Hypertension was also mentioned as a prominent

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health issue in other Saramaccan villages by Ruysschaert (2018).

None of the interviewees shared herbal medicines to cure supernatural illnesses although it is evident that Maroons use large numbers of ritual plants (Van Andel *et al*. 2013). Although some major ritual plant species, such as *Scoparia dulcis* L., were collected by the pupils, their reported uses were limited to physical diseases, which may indicate that this type of knowledge is not suitable to share with young children at the age of 9 to 11 (4th and 5th standard primary school) or with a school based on Christian principles. So far, no research has been conducted on how, when and at which age Saramaccan children acquire their ethnobotanical knowledge and learn about ritual plant uses. According to the second author of the article, who is a Saramaccan native, born and grown in Pikin Slee, there is not a specific age at which children should or should not learn about ritual plant uses. All children will be exposed from a young age onwards to plants being used in ritual practices conducted in the village. When they gain more in-depth knowledge about the specific ritual uses per plant, depends on whether the child's family has this knowledge, as well.

Other sensitive information on medicinal plant uses, such as those related to sexual disorders or pleasure, often mentioned when interviewing adults in the village (Van 't Klooster *et al*. 2016), were not commonly shared with the children. Only one girl (4th grade) wrote '*you will wash your eye to make your thing below good*'. 'This is a literal translation for the Saramaccan term '*wasiwoyo*', in which '*wasi'* means washing and '*woyo'* means eye. It is a common euphemism used by women for plants they use to wash their genitals. The comment was made for the plant species *Campomanesia aromatica* (Aubl.) Griseb., a plant often used in vaginal steam baths (Van Andel *et al*. 2008) and not for disinfecting eye inflammations. This example underscores that a good understanding of the Saramaccan language and cultural practices is important to interpret the obtained results. None of the family members shared knowledge on typical male aphrodisiac plants either such as *Quassia amara* L., *Strychnos melinoniana* Baill. or *Aristolochia consimilis* Mast. (Van Andel & Ruysschaert 2011). The type of knowledge generated with this assignment concentrated on physical ailments and health issues easily understandable for children and that could be treated by laymen. The fact that the interviewees knew their knowledge was going to be used for a school assignment, and that the school is based on Christian principles, might have influenced the type of knowledge shared.

In 11 cases, the children indicated they conduct self-medication with herbal medicines, as they wrote in Dutch '*I used it at home*'. As discussed by Reyes-García *et al*. (2009), the ability to identify and prepare medicinal plant remedies seems to be mastered before adolescence. Self- medication among children has also been reported by Geissler *et al*. (2000) and Prince *et al*. (2001) in Kenya, but no studies on this matter have been conducted among children in Suriname.

Languages used

More than half of the pupils provided plant names in Saramaccan. Most plant names were spelled incorrectly as an accurate spelling of Saramaccan (or Sranantongo or Dutch) plant names is not a part of their school curriculum. Unfortunately, this can have a negative effect on the transmission of their cultural knowledge, as plant names can provide users extra information on its life form, morphology or use (Martin 2004).

Almost one third of the plant names were given in Sranantongo, which shows the growing influence of the lingua franca in the Saramaccan area. Many medicinal plant species are nowadays brought to markets in Paramaribo where Maroon women sell their herbal medicines to people of different ethnicities (Van Andel & Havinga 2008). At these markets, Maroons become familiarized with Sranantongo plant names and start using them at home, although Saramaccan plant names still exist for these species. The use of Sranantongo (and Surinamese-Dutch) plant names might lead to a future loss of Saramaccan traditional knowledge, as ideas, customs and traditions are typically passed on in their mother tongue (Haabo 2008). One pupil wrote down nine plants on his card, using Saramaccan, Sranantongo, Surinamese-Dutch and Dutch names. A recent study in two indigenous communities showed that schoolchildren used Sranantongo and Surinamese-Dutch instead of their native languages to name plant species (Van den Boog *et al*. 2017). The pattern of using plant names in the country's lingua franca instead of their native languages was also reported in a recent study by Gallois *et al*. (2017) for Baka (Pygmie) children in Cameroon.

In Pikin Slee, the instructions given in Dutch did not seem to be a problem for the children to conduct the assignment, as 92% of the requested information was provided. However, writing proper sentences in Dutch still seemed a challenge as words often showed spelling mistakes, such as 'mufaaad' to refer to 'mijn vader' (my father). Although Dutch was the official language used at school, children spoke Saramaccan at home and among friends after school hours. It is plausible that the Dutch language used for the assignment might have influenced the results as the children needed to translate their interview results from Saramaccan (which they speak in the village) into Dutch (for school) and detailed information might have got lost in translation. To prove that education in the Dutch language and globalization is indeed affecting Maroon traditional knowledge, more research is needed on cultural change and loss of ethnoecological knowledge among Maroons with different levels of age, schooling and competency in the local language, like the study conducted by Saynes-Vasquez *et al*. (2013) in Mexico.

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Retrieval of novel ethnobotanical data

The medicinal plant species reported during this assignment were all mentioned previously by adults in Pikin Slee during earlier ethnobotanical inventories (Van 't Klooster 2016, 2018) or described in literature on Surinamese Maroons (Van Andel & Ruysschaert 2011). However, 49 new plant uses for Pikin Slee were recorded during the school assignment, which accounted for 47% of all plant uses recorded by the children. This indicates that there is much more medicinal plant knowledge available in the village than documented so far by Van 't Klooster *et al*. (2016, 2018). For the Saramaccan area and Suriname in general, 25 previously unpublished plant uses were found, which is almost one fourth of the total uses recorded during the school assignment. Of the 37 local plant names, written either in Saramaccan, Sranantongo or Surinamese Dutch, 13 (35%) were not mentioned earlier by the adults in Pikin Slee. One plant name (*saprosaar*) was not previously reported for Suriname, but possible spelling mistakes could have made this local name unrecognizable for us.

With this research we intended to support the intergenerational dialogue on medicinal plant uses in the village and therefore the research reveals only a part of the knowledge held by the adults. Our method captured mainly vertical transmission of plant knowledge (parent to child), which does not fully reflect how children gain all their medicinal plant knowledge in the village. Knowledge transfer can be vertical (between individuals from different generations related to kinship, e.g., from parent to child), horizontal (between two individuals of the same generation irrespective of their relationship, e.g., peers) and via oblique transmission, i.e., between individuals of different generations not related through kinship (Cavalli-Sforza *et al*. 1982, Reyes- Garcia *et al*. 2016). In many cultures, vertical transmission is complemented with horizontal transmission of knowledge (Eyssartier *et al*. 2008, Setalaphruk & Price 2007, Van den Boog *et al*. 2017). For future research, it would be interesting to investigate how children gain medicinal plant knowledge in the village, and children's own medicinal plant knowledge as children acquire knowledge from numerous sources they merge to create new knowledge (Gallois *et al*. 2017).

Safeguarding traditional knowledge at school

Transmission of Saramaccan ethnobotanical skills is still mainly experience-based and passed on orally within the family environment, and therefore not easily transmitted in a classroom-based learning setting. However, extracurricular activities could stimulate the transmission of Saramaccan traditional knowledge and could contribute to safeguarding traditional plant knowledge and positively impact biocultural conservation. Despite the caveats, our study proved that a school assignment can yield substantial ethnobotanical knowledge in two days. As showed by Ruiz-Mallén *et al*. (2009) for preparatory school adolescents from Zapotecan origin in Mexico, participation in extra-curricular education programs on the acquisition of school and local environmental knowledge improved the overall school learning. Reyes-García *et al*. (2010) argued that contextualized schooling not only enhances local environmental knowledge and school performance, but also counteracts the loss of traditional knowledge. In contrast to these and education programs run in the Andean highlands and Upper Amazon, in which local knowledge is incorporated in the existing school curriculum (Zent 2009), most schools in Suriname do not yet include local knowledge in their school curricula nor do they provide extensive extra-curricular education programs on local traditional knowledge. This implies that schooling hours disrupt vertical, horizontal, and oblique traditional knowledge transmission (Van den Boog *et al.* 2017). Schooling more contextualized for the Saramaccans by incorporating Saramaccan traditional knowledge in the school curriculum, would contribute to biocultural conservation. However, more research is essential to get a better understanding of the relationship between schooling and local environmental knowledge in the Surinamese interior to determine whether and how a new curriculum should be developed to complement, rather than substitute, traditional knowledge (Reyes-García *et al*. 2010).

Conclusions

The method described here generated mainly information on physical health issues that regularly occur in the village for which they use common plant species. The method could be repeated and developed further to capture more in-depth information on medicinal plant species and their uses. In Pikin Slee, there is a need for more contextualized environmental education as adults are concerned their traditional knowledge will disappear soon now that their children have less time to learn about their traditional plant uses due to school. Ethnobotanists could work together with researchers specialized in environmental education to study traditional knowledge and various ways to teach traditional knowledge in school to contribute to the preservation and conservation of this knowledge. Factors influencing the transmission of traditional plant knowledge and transmission patterns could be studied in the village to improve the transmission of traditional knowledge and could contribute to exploring alternative ways of safeguarding this knowledge in and outside of the school context. Our findings further suggest that Saramaccan traditional knowledge is increasingly influenced by other languages as showed in the plant names shared. The writing of proper Saramaccan plant names and the translation of health issues from Saramaccan into Dutch seemed to be a challenge, indicating a gap between the official school curriculum (in Dutch), traditional Maroon knowledge and literacy in Saramaccan.

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Declarations

List of abbreviations: Not applicable.

Ethics approval/consent to participate and research permits: Before the onset of the research in 2009, a traditional village council meeting was conducted (in 2003) by the village head for which all inhabitants of Pikin Slee were invited to discuss and approve the first author's request to conduct ethnobotanical research in the village among all the inhabitants. Approval was given orally by the village council (as is the Saramaccan custom) to the researcher directly after the meeting. A plant research and collection permit obtained from the Suriname Forest Service (SBB) in 2009, included a written Prior Informed Consent from the same village head, also the leader of the Foundation of Saramaccan Authorities. For the classroom assignment, oral permission was given by the headmaster and the teachers of the 4th and 5th standard. No children were further interviewed separately in or outside the classroom about their own plant knowledge.

Consent for publication: Not applicable.

Availability of data and materials: The data was not deposited in public repositories but made available as supplementary data to this article.

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Literature cited

Amazon Conservation Team (ACT). 2015. *Amazon gold rush, goldmining in Suriname.* Available at: http://amazonteam.org/maps/suriname-gold/ (Accessed 15.02.15).

Barreau A, Ibarra JT, Wyndham FS, Rojas A, Kozak RA. 2016. How can we teach our children if we cannot access the forest? Generational change in Mapuche knowledge of wild edible plants in Andean temperate ecosystems of Chile. *Journal of Ethnobiology* 36: 412-432.

Blanker JMC, Dubbeldam J. 2005. *Prisma woordenboek Sranantongo - Nederlands. Nederlands- Sranantongo.* Het Spectrum, Houten, The Netherlands.

Cavalli-Sforza LL, Feldman MW, Chen KH, Dornbusch SM. 1982. Theory and observation in cultural transmission. *Science* 218: 19-27.

Cruz-Garcia GS. 2006. The mother - child nexus. Knowledge and valuation of wild food plants in Wayanad, Western Ghats, India. *Journal of Ethnobiology and Ethnomedicine* 2: 39.

Díaz-Reviriego I, Fernández-Llamazares A, Salpeteur M, Howard PL, Reyes-García V. 2016. Gendered medicinal plant knowledge contributions to adaptive capacity and health sovereignty in Amazonia. *Ambio* 45 (Suppl 3): 263-275.

Dougherty JWD. 1979. Learning names for plants and plants for names. *Anthropological Linguistics* 21: 298-315.

Eyssartier C, Ladio AH, Lozada M. 2008. Cultural transmission of traditional knowledge in two

populations of North- Western Patagonia. *Journal of Ethnobiology and Ethnomedicine* 4: 25.

Gallois S, Duda R, Reyes-García V. 2017. '*Like Father, Like Son'? Baka children's local ecological knowledge learning in a context of cultural change*. In *Hunter-Gatherers in a Changing World*. Edited by V Reyes-García, A Pyhälä. Springer, Basel, Switzerland.

Geissler PW, Nokes K, Prince RJ, Odhiambo RA, Aagaard- Hansen J, Ouma JH. 2000. Children and medicines: self- treatment of common illnesses among Luo primary school children in western Kenya. *Social Science and Medicine* 50: 1771-1783.

Godoy RA, Reyes-García V, Broesch J, Fitzpatrick I, Giovannini P, Martinez Rodriguez MR, Jha N, Huanca T, Leonard WR, Tanner S, McDade TW. 2009. Long-term (secular) change of ethnobotanical knowledge of useful plants: Separating cohort and age effects. *Journal of Anthropological Research* 65: 51-67.

Haabo V. 2008. *The impact of globalization on cultural identity: The case of the Saramaccan people in Central Suriname.* MSc thesis. Wageningen University, Wageningen, The Netherlands.

Hoffman B. 2009. *Drums and arrows: ethnobotanical classification and use of tropical forest plants by a Maroon and Amerindian community in Suriname, with implications for biocultural conservation.* PhD thesis. University of Hawaii, Manoa, Hawaii.

Hunn ES. 2002. *Evidence for the precocious acquisitions of plant knowledge by Zapotec children. In Ethnobiology and Biocultural Diversity*. Edited by JR Stepp, FS Wyndham, RK Zarger. University of Georgia Press, Athens, Greece.

Hunn ES. 2008. *A Zapotec Natural History. Trees, herbs, and flowers, birds, beasts, and bugs in the life of San Juan Gbëë.* University of Arizona Press, Tuscon, USA.

Hynes AL, Brown AD, Grau HR, Grau A. 1997. Local knowledge and the use of plants in rural communities in the montane forests of Northwestern Argentina. *Mountain Research and Development* 17(3): 263-271.

Katz C. 1989. Herders, gatherers, and foragers: The emerging botanies of children in rural Sudan. *Children's Environment Quarterly* 6(1): 46-53.

Katz C. 2004. *Growing up globally. Economic restructuring and children's everyday lives*. University of Minnesota Press, Minneapolis, USA.

Martin GJ. 2004. *Ethnobotany: A Methods Manual*. Chapman & Hall, London, UK.

Medische Zending. 2017. *Mission*. Available at: http://www.medischezending.sr/mz-2/#mission (Accessed 11.04.19).

Ostendorf WF. 1962. *De nuttige planten van Suriname. Landbouwproefstation in Suriname*, Paramaribo, Suriname.

Peterson GD, Heemskerk M. 2001. *Deforestation and forest regeneration following small-scale gold mining in the Amazon: The case of Suriname.* University of Wisconsin, Madison, USA.

Price R. 1975. Sar*amaka social structure: analysis of a maroon society in Suriname* (Caribbean monograph series). Institute of Caribbean Studies, University of Puerto Rico, Rio Piedras, Puerto Rico.

Price R. 1976. *The Guiana Maroons: A Historical and Bibliographical Introduction*. Johns Hopkins University Press, London, UK.

Price R. 1983. *First-Time: The Historical Vision of an Afro-American People*. The Johns Hopkins University Press, Baltimore, Maryland, USA.

Price R. 1996. *Maroon societies: rebel slave communities in the Americas*. The Johns Hopkins University Press, Baltimore, Maryland, USA.

Price R. 2011. *Rainforest warriors: Human rights on trial.* University of Pennsylvania Press, Philadelphia, USA.

Price R, Price S. 2017. *Saamaka dreaming*. Duke University Press, London, UK.

Price S. 1984. *Co-wifes and calabashes*. Ann Arbor, USA.

Prince RJ, Geissler PW, Nokes K, Maende JO, Okatcha F, Grigorenko EL, Sternberg RJ. 2001. Knowledge of herbal and pharmaceutical medicines among Luo school children in western Kenya. *Anthropology and Medicine* 8: 211-235.

Rahm M, Jullian B, Lauger A, de Carvalho R, Vale L, Totaram J, Cort KA, Djojodikromo M, Hardjoprajitno M, Neri S, Vieira R, Watanabe E, do Carmo Brito M, Miranda P, Paloeng C, Moe Soe Let V, Crabbe S, Calmel M. 2015. *Monitoring the impact of gold mining on the forest cover and freshwater in the Guiana Shield. Reference year 2014*. REDD + for the Guiana Shield Project and WWF Guianas, Paramaribo, Suriname.

Ramet A, Benyei P, Parada M, Aceituno-Mata L,

Published: 01 May 2019

http://dx.doi.org/10.32859/era.18.11.1-47

García-del-Amo D, Reyes-García V. 2018. Grandparents' proximity and children's traditional medicinal plant knowledge: Insights from two schools in intermediate-rural Spain. *Journal of Ethnobiology* 38(2): 187-204.

Ruddle K, Chesterfield R. 1977. *Education for traditional food procurement in the Orinoco Delta*. University of California Press, California, USA.

Reyes-García V, Broesch J, Calvet-Mir L, Fuentes-Pelaez N, McDade TW, Parsa S, Martínez-Rodríguez MR. 2009. Cultural transmission of ethnobotanical knowledge and skills: An empirical analysis from an Amerindian society. *Evolution and Human Behavior* 30(4): 274-285.

Reyes-García V, Kightley E, Ruiz-Mallén I, Fuentes-Pelaez N, Demps K, Huanca T, Martínez-Rodríguez MR. 2010. Schooling and local environmental knowledge: Do they complement or substitute each other? International *Journal of Educational Developmen*t 30(3): 305-313.

Reyes-García V, Gallois S, Demps K. 2016. A *Multistage learning model for cultural transmission: Evidence from three Indigenous societies* (Chapter 4). In *Social Learning and Innovation in Contemporary Hunter-Gatherers, Evolutionary and Ethnographic Perspectives*. Edited by H Terashima, BS Hewlett. Springer, Tokyo, Japan.

Ruiz-Mallén I, Barraza L, Bodenhorn B, Reyes-Garcia V. 2009. Evaluating the impact of an environmental education programme: an empirical study in Mexico. *Environmental Education Research* 15: 371-387.

Ruysschaert SH, Van Andel TR, Van de Putte K, Van Damme P. 2009. Bathe the baby to make it strong and healthy: Plant use and child care among Saramaccan Maroons in Suriname. *Journal of Ethnopharmacology* 121: 148-170.

Ruysschaert SH. 2018. *Non-timber forest products in Suriname. diversity, knowledge and use in an Amerindian and Maroon community*. PhD thesis. Universiteit Gent, Gent, Belgium.

Saynes-Vasquez A, Caballero J, Meave JA, Chiang F. 2013. Cultural change and loss of ethnoecological knowledge among the Isthmus Zapotecs of Mexico. *Journal of Ethnobiology and Ethnomedicine 9: 40.*

Setalaphruk C, Price LL. 2007. Children's traditional ecological knowledge of wild food resources: A case study in a rural village in Northeast Thailand. *Journal of Ethnobiology and Ethnomedicine* 3: 33.

Srithi K, Balslev H, Wangpakapattanawong P, Srisanga P, Trisonthi C. 2009. Medicinal plant knowledge and its erosion among the Mien (Yao) in northern Thailand. *Journal of Ethnopharmacology* 123: 335-342.

Stross B. 1973. *Acquisition of botanical terminology by Tzeltal children*. In *Meaning in Mayan Languages*. Edited by MS Edmonson. Mouton, The Hague, the Netherlands.

Summer Institute of Linguistics (SIL) International. 2007. *Wortubuku fu Sranantongo. Sranantongo - Nederlands Woordenboek.* SIL International, Paramaribo, Suriname.

Silva, FDS, Ramos MA, Hanazaki N, de Albuquerque UP. 2011. Dynamics of traditional knowledge of medicinal plants in a rural community in the Brazilian semi-arid region. *Brazilian Journal of Pharmacognosy* 21(3): 382-391.

Spiewak R. 1998. Zoophilic and geophilic fungi as a cause of skin disease in farmers. *Annals of agricultural and environmental medicine* 5(2): 97-102.

Teklehaymanot T, Giday M. 2007. Ethnobotanical study of medicinal plants used by people in Zegie Peninsula, Northwestern Ethiopia. *Journal of Ethnobiology and Ethnomedicine* 3: 12.

Terborg J, Eiloof D, Ramdas S. 2006. *ICPD+10 Report: 10 years of program of action of the international conference population and development in Suriname* 1994-2004. ProHealth/ Ministry of Health Suriname/UNFPA, Paramaribo, Suriname.

Torres-Avilez W, de Medeiros PM, Albuquerque UP. 2016. Effect of gender on the knowledge of medicinal plants: Systematic review and meta-analysis. *Evidence-based Complementary and Alternative Medicine* 2016: Article ID 6592363.

Van Andel T, De Korte S, Koopmans D, Behari-Ramdas J, Ruysschaert S. 2008. Dry sex in Suriname. *Journal of Ethnopharmacology* 116(1): 84-88.

Van Andel TR, Havinga RM. 2008. Sustainability aspects of commercial medicinal plant harvesting in Suriname. *Forest Ecology and Management* 256(8): 1540-1545.

Van Andel T, Ruysschaert S. 2011. *Medicinale en rituele planten van Suriname.* KIT Publishers,

Published: 01 May 2019

http://dx.doi.org/10.32859/era.18.11.1-47

Amsterdam, The Netherlands.

Van Andel T, Ruysschaert S, Van de Putte K, Groenendijk S. 2013. *What makes a plant magical? Symbolism and sacred herbs in Afro-Surinamese Winti rituals.* In *African ethnobotany in the Americas*. Edited by R Voeks & J Rashford. Springer, New York, USA, Pp. 247-284.

Van Andel TR, Van 't Klooster CIEA, Quiroz D, Towns AM, Ruysschaert S, Van den Berg M. 2014. Local plant names reveal that enslaved Africans recognized substantial parts of the New World flora. Proceedings *of the National Academy of Sciences (PNAS)*: E5346-E5353.

Van den Boog T, Van Andel T, Bulkan J. 2017. Indigenous children's knowledge about non-timber forest products in Suriname. *Economic Botany* 71(4): 361-373.

Van Donselaar J. 1989. *Woordenboek van het Surinaams-Nederlands.* Coutinho, Muiderberg, The Netherlands.

Van 't Klooster CIEA, Lindeman JC, Jansen-Jacobs M. 2003. Index of vernacular plant names of Suriname. *Blumea Supplement* 15: 1-322.

Van 't Klooster CIEA. *Medicinal, Aromatic and Cosmetic (MAC) plants for local health care and bio-cultural diversity conservation in the Saramaccan village Pikin Slee in Suriname.* MSc. thesis. Medical Anthropology, University of Amsterdam, Amsterdam, The Netherlands.

Van 't Klooster C, Van Andel T, Reis R. 2016. Patterns in medicinal plant knowledge and use in a Maroon village in Suriname. *Journal of Ethnopharmacology* 189: 319-330.

Van 't Klooster, CIEA, Haabo V, Ruysschaert S, Vossen T, Van Andel TR. 2018. Herbal bathing: an analysis of variation in plant use among Saramaccan and Aucan Maroons in Suriname. *Journal of Ethnobiology and Ethnomedicine* 14: 20.

Voeks RA. 2007. Are women reservoirs of traditional plant knowledge? Gender, ethnobotany and globalization in northeast Brazil. *Singapore Journal of Tropical Geography* 28: 7-20.

Voeks RA, Leony A. 2004. Forgetting the forest: Assessing medicinal plant erosion in eastern Brazil. *Economic Botany* 58 (Supplement): 294-306.

Vossen TE, Towns AM, Ruysschaert S, Quiroz D, Van Andel TR. 2014. Consequences of the trans-Atlantic slave trade on medicinal plant selection: Plant use for cultural bound syndromes affecting children in Suriname and Western Africa. *PLoS ONE* 9 (11): e112345.

Wong T, Mitchell P. 2007. The eye in hypertension. *Lancet* 369: 425-35.

World Health Organization (WHO). 2013. *A global brief on hypertension. Silent killer, global public health crisis.* WHO Press, Geneva, Switzerland. Available at: https://www.who.int/cardiovascular_diseases/publications/global_brief_hypertension/en/ (Accessed on 22.12.18).

Wyndham FS. 2010. Environments of learning: Rarámuri children's plant knowledge and experience of schooling, family, and landscapes in the Sierra Tarahumara, Mexico. *Human Ecology* 38(1): 87-99.

Zarger RK. 2002. *Children's ethnoecological knowledge: Situated learning and the cultural transmission of subsistence knowledge and skills among Q'eqchi' Maya.* PhD thesis. University of Georgia, Athens, Greece.

Zarger RK. 2010. *Learning the environment. In: The anthropology of learning in childhood*. Edited by D Lancy D, J Bock, S Gaskins. Altamira Press, Walnut Creek (CA), USA, Pp. 341- 370.

Zarger RK, Stepp JR. 2004. Persistence of botanical knowledge among Tzeltal Maya children. *Current Anthropology* 45(3): 413-418.

Zent S. 2009. *Traditional ecological knowledge (TEK) and biocultural diversity: A close-up look at linkages, delearning trends, and changing patterns of transmission*. In *Learning and knowing in Indigenous societies today*. Edited by P Bates, M Chiba, S Kube, D Nakashima. UNESCO, Paris, France, Pp. 39-57.

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Supplementary file 1: Database ethnobotanical school assignment on medicinal plants. Legend is presented below.

Child	Class, Gender (m/f)	Information cards_ transcribed (Dutch)	Information cards_ translated (English)	Vernacular plant name on card	Official spelling of plant name	Plant use	Preparation & administration	Collection locality	Information from	Plant col.	Collected fertile or sterile	Scientific name & Family (voucher no)	Domestication status
1	4A, f	C1 1) asonoema 2) je gaat drinken 3) mijn moeder 4) je gaat koken, je gaat koken (tweede keer doorgekrast) hooft pijn 5) in het dorp	C1 1) asonoema 2) you drink it 3) my mother 4) you boil it, you boil it (second time it is deleted) headache 5) in the village	asonoema (Sa)	asonuma (Sa)	headache	boil and drink	village	mother	yes	sterile	*Cymbopogon citratus* (DC.) Stapf, Poaceae (CK110)	cultivated
2	4A, f	C2 Klas 4A 1) konsakawiwri 2) hoofpijn 3) Mijn ook de plant om te drinken (zin doorgestreept) Mama 4) Mijn kook de plant om te drinken 5 In mijn Thuis	C2 Class 4A 1) konsakawiwri 2) headache 3) They boil the plant to drink (deleted sentence) Mama 4) They boil the plant to drink 5 In my Home	konsakawiwri (Sr)	konsakawiwiri (Sr)	headache	boil and drink	house	mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
3	4A, f	Klas 4a naam C3 1 konsakawiwiri 2 voor hoofpijn 3 bij me oma 4 masi (wrijven in hand, en dan in oog, toevoeging door researcher op kaartje) 5 In het thuis	Klas 4a name C3 1 konsakawiwiri 2 headache 3 grandmother 4 mash (rub in hand, then apply in eye, comment researcher on card) 5 In het thuis	konsakawiwri (Sr)	konsakawiwiri (Sr)	use in eye	mesh in hands and then apply on the eyes	house	grand-mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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4	4A, f	C4 Klas 4a 1) makamaka 2) hoofpijn en buikpijn 3) oma 4) mijn kook de plant om te drinken 5) In mijn thuis	C4 Class 4a 1) makamaka 2) headache and stomachache 3) grandmother 4) they boil the plant to drink 5) At my home	makamaka (Sa)	makamaka (Sa)	headache	boil and drink	house	grand- mother	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
4	4A, f	idem	idem			stomach-ache	boil and drink	house	grand- mother	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
5	4A, m	Naam Klas 4A C5 (woord doorgestreept) 1 konsakawiwiri 2 waar je houftdraije (hoofd draaien) 3) papa 4) je gatten weerken op je honter (= hoofd, kop). (Smeren handen wassen hoofd, commentaar onderzoeker op kaartje) 5 In het dorp	Naam Klas 4A C5 (word deleted) 1 konsakawiwiri 2 dizzyness 3) papa 4) you will work on your 'honter' (= head). (apply on hands and wash head, omment researcher on card) 5 In the village	konsakawiwiri (Sr)	konsakawiwiri (Sr)	dizzyness	apply meshed leaves on head and wash	village	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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6	4A, m	C6, klas 4a (onderstreept) 1 konsakawiwiri u u.. (doorgestreept) 2 waneer je hoof draai maag hij stampen dan set water maag je hoofd nat In het dorp mijn heeft mijn moerder	C6, klas 4a (underlined) 1 konsakawiwiri u u.. (deleted) 2 when your head is turning, you may stamp him then set water make your head wet. In the village my got my mother	konsakawiwiri (Sr)	konsakawiwiri (Sr)	dizzyness	mash plant, add water and apply yo head	village	mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
7	4A, f	C7 klas 4-a 1) totobia 2) als je moe heb (masi, koken, baden = opmerking onderzoeker) 3) aan me oma 4) als je moe .. ben 5) In mijn thuis (tekening grote gele bloem)	C7 klas 4-a 1) totobia 2) if you have tired (mash, boil, bath (written by researcher as comment) 3) to my grandmother 4) if you are tired 5) In my home (drawing of big yellow flower)	totobia (Sa)	totobia (Sa)	tiredness	mash , boil and bathe	house	grand- mother	yes	fertile	*Eclipta prostrata* (L.) L., Compositae (CK30)	wild
8	4A, f	C8 klas 4a 1) kasoeblad 2) als je tanden weghalen dan kan je koken en dan drinken 3) aan mijn oma je kook het om te baden 5) ik heb het thuis gebruikt	C8 class 4a 1) kasoeblad 2) when your teeth are removed then you can boil and then drink 3) my grandmother 4) you boil it to bath with it 5) iI used it at home	kasoeblad (SD)	kasjoe (SD)	tooth extraction	boil and drink or bathe	house (*I used it at home)*	grand- mother	yes	sterile	*Anacardium occidentale* L., Anacardiaceae	cultivated

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9	4A, m	C9 las 4a altoelaboe 1) omttwassen, (baden, researcher comment) 2) ziken (febe? Comment researcher) 3) oma 4) ...omtdrken 5) in het bos	C9 klas 4a altoelaboe 1) to wash (bathing, comment researcher) 2) ziken (febe? Comment researcher) 3) grandmother 4) to drink 5) in the forest	altoelaboe (Sa)	alatulabu (Sa)	when you are ill	bathe or drink	forest	grand- mother	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
10	4A, m	C10 KLAS 4a 1) konsakawiwiri 2) als je konsaka kisi, no jo foeje noi lobie 3) oma 4) in mijn thuis (doorgekrast) 5) (doorgekrast) 4) als konsakawi kisie no ta lobine 5) in mijn thuis	C10 CLASS 4a 1) konsakawiwiri 2) if you get konsaka, no jo foeje noi lobie 3) grandmother 4) at my home (deleted) 5) (deleted) 4) if you get konsaka, no ta lobine 5) in mijn thuis	konsakawiwiri (Sr)	konsakawiwiri (Sr)	hand or foot fungus	?	house	grand- mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
11	4A, m	C11 1) lemmetje plant 2) Je kan het koken en er mee baden als je koorts heb 3) moeder 4) koken en er mee baden 5) Thuis op het erf	C11 1) lemmetje plant 2) You can boil it and bath with it if you have fever. 3) mother 4) boil and bath with it 5) At home at the courtyard	lemmetje plant (SD)	lemmetje (SD)	fever	boil and bathe	house	mother	yes	sterile	*Citrus* cf. *aurantiifolia* (Christm.) Swingle, Rutaceae	cultivated

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12	4A, f	Naam Klas 4A C12 1) odaija 2) om j (doorgekrast) je gaat oog wassen 3) om je lichaam 4) chtege strijken goed worden 5) me moeder om je onderste ding goed te worden in het bos (tekening bloem)	Name Classs 4A C12 1) odaija 2) to j (deleted) you will wash eye 3) to your body 4) really make it smooth well 5) mij mother to make your thing below good in the forest (drawing flower)	odaija (Sa)	adoya (Sa)	cleansing vagina, vaginal bath ('washing eye')	bathe	forest	mother	yes	sterile	*Campomanesia aromatica* (Aubl.) Griseb., Myrtaceae (CK28)	wild
13	4A, m	C13 Klas 4a 1) konsakawiwiri 2 als konsaka kisi na jo foeje noi babie 3 oom 4 als konsakawi kisie na ta bobine 5 in mijn thuis	C13 Klas 4a 1) konsakawiwiri 2 when you get konsaka na jo foeje noi babie 3 uncle 4 when you get konsakawi na ta bobine 5 at my home	konsakawiwiri (Sr)	konsakawiwiri (Sr)	hand or foot fungus	als konsakiwi kisie na ta bobine (?)	house	uncle	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
14	4A, f	C14 Klas 4A 1 makamaka 2 hoofpijn en buikpijn 3 papa 4 mijn kook de plant om te drinken 5 In mijn thuis (tekening met bloemen in kleur)	C14 Klas 4A 1 makamaka 2 headache and stomachache 3 dad 4 they boil the plant to drink 5 At my home (drawing with flowers in color)	makamaka (Sa)	makamaka (Sa)	headache	boil and drink	house	father	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
14	4A, f	idem	idem			stomach-ache	boil and drink	house	father	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild

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15	4A, f	C15 klas 4a 1 konsaka wiwiri 2 hoof pijn en buikpijn 3 mij oma 4 mij kook de konsakawiwiri als je buikpijn heb om te baden (3 woorden doorgestreept) 5 in mij thuis (3 woorden doorgestreept) in het drop (tekening bloem in kleur)	C15 class 4a 1 konsaka wiwiri 2 headache and stomachache 3 my grandmother 4 me boil the konsakawiwiri when you have a stomacheache to bath with (3 words deleted) 5 at my home (3 words deleted) in the village (drawing flower in color)	konsakawiwiri (Sr)	konsakawiwiri (Sr)	headache	boil and bathe	village	grand- mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
15	4A, f	idem	idem			stomach-ache	boil and bathe	village	grand- mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
16	4A, ?	naam Klas 4A 1) konsakawiwiri 2) hoofd pijn 3) oom 4) mijn kook de plant om te drinken 5) In mijn Thuis	name Class 4A 1) konsakawiwiri 2) head ache 3) uncle 4) they boil the plant to drink 5) At my Home	konsakawiwiri (Sr)	konsakawiwiri (Sr)	headache	boil and drink	house	uncle	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
17	4A, f	C17 1) Linzopauw 2) je gaat drinken als je hoofdpijn heb 3) moeder 4) je gaat koken 5) in het dorp (tekening bloemen in kleur)	C17 1) Linzopauw 2) you will drink when you have a headache 3) mother 4) je will boil 5) in the village (drawing flowers in color)	linzopauw (Sa)	linzopau (Sa)	headache	boil and drink	village	mother	yes	sterile	*Lippia alba* (Mill.) N.E.Br. ex Britton & P.Wilson, Verbenaceae	wild

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18	4A, f	C18 1) asonoema 2) je gaat dring (g doorgekrast) ken hoof p pei (p pei doorgekrast) pijn 3) oma 4) je gaat koken 5) bos (doorgekrast) 5) in het bos (doorgekrast) 5) in het dorp	C18 1) asonoema 2) you will drink headache 3) grandmother 4) jyou will boil 5) forest (deleted) 5) in the forest (deleted) 5) in the village	asonoema (Sa)	asonuma (Sa)	headache	boil and drink	village	grand- mother	yes	sterile	*Cymbopogon citratus* (DC.) Stapf (CK110)	cultivated
19	4A, f	C19 klas 4A 1) konsakawiwiri 2) je gat oog wasen 3) moeder 4) je gat koken 5) in het dorp	C19 klas 4A 1) konsakawiwiri 2) you will wash eye 3) mother 4) you will boil 5) in the village	konsakawiwiri (Sr)	konsakawiwiri (Sr)	wash your eye	boil and wash	village	mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
20	4A, f	C20 klas 4a 1) alatoelaboe 2) als je ziek ben 3) mijn oma 4) je moet kokke om te baden 5) in de dorp (tekening bloem in kleur)	C20 klas 4a 1) alatoelaboe 2) when you are sick 3) my grandmother 4) you must boil to bath 5) in the village (drawing flower in color)	alatoelaboe (Sa)	alatulabu (Sa)	when you are ill	boil and bathe	village	grand- mother	yes	sterile	*Stachytarpheta* cf. *jamaicensis* (L.) Vahl, Verbenaceae (CK53)	wild

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21	4A, m	C21 4a (alles oorgekrast) aloekoetoe konakawiri (alles doorgekrast) moede als je hoofd (alles doorgekrast) alsj e broetdruk (alles doorgekrast) is in het …. (alles doorgekrast) Raidel Doekoe 4a kosakawiwiri als je hoofd drai moeder in het bos	C21 4a (all deleted) aloekoetoe konakawiri (all deleted) mothe if your head (all deleted) when your blood pressure (all deleted) is in the …. (all deleted) Raidel Doekoe 4a kosakawiwiri when your head is turning mother in the forest	kosakawiwiri (Sr)	konsakawiwiri (Sr)	dizzyness because of high blood pressure	?	?	mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
21	4A, m	idem	idem	aloekoetoe (Sa)	alukutu (Sa)	dizzyness because of high blood pressure	?	forest	mother	no		*Annona muricata* L., Annonaceae (CK114)	cultivated
22	4A, f	C22 KLAS 4a 1) alatalaboe 2) malaria 3) oma 4) kook het om te baden 5) In het bos	C22 CLASS 4a 1) alatalaboe 2) malaria 3) grandmother 4) boil it to bath with 5) In the forest	alatalaboe (Sa)	alatulabu (Sa)	malaria	boil and bathe	forest	grand- mother	yes	sterile	*Stachytarpheta* cf. *jamaicensis* (L.) Vahl, Verbenaceae (CK53)	wild
23	4A, f	C23 (doorgekrast) C23 klas 4a 1 konskawiwiri 2 konska 3 … (doorgekrast) mijn moerder 4 in mijn han In het dorp 2) als is tegen konska	C23 (deleted) C23 class 4a 1 konskawiwiri 2 konska 3 … (deleted) my mother 4 in my han In the village 2) against konska	konskawiwri (Sr)	konsakawiwiri (Sr)	hand fungus	in mijn hand	village	mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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24	4B, m	C24, 4B (B omgekeerd opgeschreven) 1. saprosaar (omcirkeld) 2. konsamun (omcirkeld) mdeol (omcirkeld) 3. mufuaad (omcirkeld) 4. tpatsaik (omcirkeld) 5. luoer (omcirkeld)	C24, 4B (B written in opposite direction) 1. saprosaar (circumscribed) 2. konsamun (circumscribed) mdeol (circumscribed) 3. mufuaad (circumscribed) 4, tpatsaik (circumscribed) 5. luoer (circumscribed)	saprosaar (Sr?)	saprosaar (Sr ?)	hand or foot fungus	unclear writing	unclear writing	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
25	4B, m	3-/04\-09 C25 1. naam van de plant konsakawiwirie 2. waar voor gebuik je deze konsaka 3. aan wie heb je dit gvraagt aan mij moeder 4. hoe gebruik je de plant in mij hant 5. waar heb je de plant gev... in het dorp	3-/04\-09 C25 1. plant name konsakawiwirie 2. medicinal purpose konsaka 3. whom did you interview/ask my mother 4. how do you use the plant in my hand 5. where did you find the plant in the village	konsakawiwirie (Sr)	konsakawiwiri (Sr)	hand fungus	apply on hand	village	mother	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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26	4B, f	3-4-209 C26 1) konsakawiwirie 2) konsaka 3) ik heb maar me vader gevraagd 4) we koken om te dricht 5) in landbouw heb ik geplukt (daarna verticale lijn) 1 naam van de plant konsakawiwirie 2 waar voor geblruit je deze geneeskrachtige plant? om konsaka te weg uithalen 3 aan wie heb je dit gevraagd? ik heb maar me vade gevraagd 4 hoe gebruit je de plant? we koken om te dricht 5. waar heb je de plant geplucht? in landbouw heb ik geplukt	3-4-209 C26 1) konsakawiwirie 2) konsaka 3) I asked my dad 4) we boil it to drink 5) I collected it in agriculture (followed by vertical line) 1 plant name konsakawiwirie 2 for what do you use this medicinal plant? to get rid of konsaka 3 whom did you interview/ask? I asked my dad 4 how to you use the plant? we boil it to drink 5. where did you collect the plant in agriculture I collected it.	konsakawiwirie (Sr)	konsakawiwiri (Sr)	hand or foot fungus	boil and drink	village	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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27	4B, f	rode katoen blat 1 2 voor menstratie klachten 3 aan me moeder 4 uitkoken dan drinken 5 thuis bij mij op het erf. C27 (omcirkeld aan het einde van het kaartje) Extra note: name C27 was told to the first researcher	rode katoen blat 1 2 against menstruation issues 3 from my mother 4 boil and drink 5 at home at the courtyard C27 (circumscribed at end of the card) Additional note: Name Matini was told to the first researcher	rode katoen blat (SD)	rode katoen (SD)	menstruation problems	boil and drink	house	mother	yes	sterile	*Gossypium barbadense* L., Malvaceae (CK57)	cultivated
28	4B, m	Eduards Erik naam van plant makamaka je moet kookt en u wassen mij moeder op het dorp amandel als je gewekt heb Dan kan je kook en wassen omaa.. op het dorp	Eduards Erik plant name makamaka you must boil and wash yourself my mother on the village amandel when you worked then boil and wasch grandmother .. on the village	makamaka (Sa)	makamaka (Sa)	?	boil and bathe	village	mother	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
28	4B, m	idem	idem	amandel (SD)	amandel (SD)	after work	boil and bathe	village	mother	no		*Terminalia catappa* L., Combretaceae	cultivated

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29	4B, f	C29 alatalaboe voor je braby : koken en je kat wassen smiriwiwiri toefesiwiwiri smiriwiwi (doorgestreept) komsakauwiri makamaka koken en je kat wassen tjanavaya anisiwiwiri lebakondri papawiwiri (tekening grote groene bloem)	C29 alatalaboe for your baby: boil and you will wash smiriwiwiri toefesiwiwiri smiriwiwi (deleted) komsakauwiri makamaka boil and you will wash tjanavaya anisiwiwiri lebakondri papawiwiri (drawing of big green flower)	alatalaboe (Sa)	alatulabu (Sa)	baby bath	boil and bathe	?	?	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
29	4B, f	idem	idem	smiriwiriri (Sr)	smeriwiwiri (Sr)	baby bath	boil and bathe	?	?	no		*Ocimum* cf. *campechianum* Mill., Lamiaceae	wild
29	4B, f	idem	idem	toefesiwiwiri (Sr)	tufesiwiwiri (Sr)	baby bath	boil and bathe	?	?	no		*Acalypha* cf. *wilkesiana* Müll.Arg., Euphorbiaceae	cultivated
29	4B, f	idem	idem	komsakauwiri (Sr)	konsakawiwiri (Sr)	baby bath	boil and bathe	?	?	no		*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
29	4B, f	idem	idem	makamaka (Sa)	makamaka (Sa)	baby bath	boil and bathe	?	?	no		*Lantana camara* L., Verbenaceae (CK36)	wild
29	4B, f	idem	idem	tjanavaya (Sa)	dyanafaya (Sa)	baby bath	boil and bathe	?	?	no		*Hyptis* cf. *lanceolata* Poir., Lamiaceae (CK33)	wild
29	4B, f	idem	idem	anisiwiwiri (Sr)	aneisiwiwiri (Sr)	baby bath	boil and bathe	?	?	no		*Piper* cf. *marginatum* Jacq., Piperaceae (CK46)	wild

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29	4B, f	idem	idem	lebakondri (Sa)	lembekonde (Sa)	baby bath	boil and bathe	?	?	no		*Scoparia dulcis* L., Plantaginaceae (CK44)	wild
29	4B, f	idem	idem	papawiwiri (Sr)	papawiwiri (Sr)	baby bath	boil and bathe	?	?	no		*Justicia pectoralis* Jacq., Acanthaceae	wild
30	4B, f	C30 3-04-09 1 konsakawiwiri 2) men gebruikt voor coords 3 mijn vader je kan drunken en je kan koken 5) in het bos	C30 3-04-09 1 konsakawiwiri 2) one can use it for fever 3 my dad you can drink and you can boil 5) in the forest	konsakawiwiri (Sr)	konsakawiwiri (Sr)	fever	boil and drink	forest	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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31	4B, f	C31 aboekoeroosu 1 korsoewiwiri 2 konsakawiwiri 3 citroengras 4 smeriwiwiri (gevolgd door een streep op het kaartje) naam van de plant alatoelaboe waar voor gebruik je deze wanneer je handen gebreken is dan doe je dat aan wie heb je dit gevraagd. mij oma waar heb je de plant geplukt in het bos lembekonde lebikonde (doorgekrasd) gebruik voor en baybij (volgende tekst zijwaarts op kaart) 1 naam van de plant (doorgekrast) 2 waar voor gebruik je deze (doorgekrast) (tekening van bloem in kleur)	C31 aboekoeroosu 1 korsoewiwiri 2 konsakawiwiri 3 citroengras 4 smeriwiwiri (followed by a line made on the card) plant name alatoelaboe for what do you use this when your hands are broken you do this whom did you ask mij grandmother where did you collect the plant in the forest lembekonde lebikonde (deleted) use for a baby (next text written sideways on card) 1 plant name (deleted) 2 for what do you use it (deleted) (drawing of flower in colors)	alatoelaboe (Sa)	alatulabu (Sa)	skin problems hands	?	?	grand- mother	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
31	4B, f	idem	idem	aboekoeroosu (Sr)	apukurowsu (Sr)	?	?	?	grand- mother	no		*Psychotria* cf. *poeppigiana* Müll. Arg., Rubiaceae	wild
31	4B, f	idem	idem	korsoewiriri (Sr)	korsuwiwiri (Sr)	?	?	?	grand- mother	no		*Siparuna guianensis* Aubl., Siparunaceae	wild

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31	4B, f	idem	idem	konsakawiwiri (Sr)	konsakawiwiri (Sr)	?	?	?	grand- mother	no		*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
31	4B, f	idem	idem	citroengras (Du)	citroengras (Du)	?	?	forest	grand- mother	no		*Cymbopogon citratus* (DC.) Stapf, Poaceae (CK110)	cultivated
31	4B, f	idem	idem	smeriwiwiri (Sr)	smeriwiwiri (Sr)	?	?	?	grand- mother	no		*Ocimum* cf. *campechianum* Mill., Lamiaceae	wild
31	4B, f	idem	idem	lembekonde (Sa)	lembekonde (Sa)	baby (llness unspec.)	?	forest	grand- mother	yes	fertile	*Scoparia dulcis* L., Plantaginaceae (CK44)	wild
32	4B, m	C32 ….. (doorgekrast) 1) komsakawiri 2) mijn vader 3) komsaka 4) in mijn hant bos (doorgekrast) in mij hant 5) van mijn vader (doorgekrast) bos	C32 … (deleted) 1) komsakawiri 2) my dad 3) komsaka 4) in my hand forest (deleted all) in my hand 5) from my dad (deleted) forest	komsakawiri (Sr)	konsakawiwiri (Sr)	hand fungus	apply on hand	forest	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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33	4B, f	C33 klas 4B aan mijn vader je kook deze blad dan baden je Bayby. Deze plant heet alatoelaBoe en de andere is het wanneer je ziek ben dan gebruikt je deze plant dat heete lembekonde En ook wannneer je handen gebreeken is dan gebruikt z deze planten om je handen weer goed komen, dat is al mijn vraagen die 'k be (woord doorgekrast) heb (tekening hartje en bloem, kaartje is mooi versierd met planten erom heen)	C33 class 4B my dad you boil this leave and bath your baby. This plant is called alatoelaBoe and the other one it is when you are sick then you use this plant called lembekonde And also when your hands are broken then you use these plants to heal your hands, that is all my questions that I have (drawing with a heart and a flower, card nicely decorated with fresh plants)	alatoelaboe (Sa)	alatulabu (Sa)	baby bathing	boil and bathe	?	father	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
33	4B, f	idem	idem	lembekonde (Sa)	lembekonde (Sa)	skin problems hand ('when your hands are broken')	?	?	father	yes	fertile	*Scoparia dulcis* L., Plantaginaceae (CK44)	wild

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34	4B, f	3/4\09 C34 1) naam van de plant tabakoe 2) waarvoor gebruik je de plant je kat slapen, in je neus 3) aan wie heb je dit gevraagd mijn oma 4 hoe gebruik je de plant je zet op je neus 5 waar heb je plant geplukt In het dorp	3/4\09 C34 1) plant name tabakoe 2) plant use you go to sleep, in your nose 3) whom did you ask my grandmother 4 how do you use the plant you put it on your nose 5 where did you collect the plant In the village	tabaku (Sa)	tabaku (Sa)	put in/on your nose when you want to go to sleep	apply in/on your nose	village	grand- mother	yes	sterile	*Nicotiana tabacum* L., Solanaceae (CK116)	cultivated
35	4B, f	C35 4B 3-04-09 1) bookijsangie 2) omdat de bayby moet haasch zijn 3) me grote zus 4) Je moet ze kokke En je mob de bayby met ze baade 5) aan het landbieuw heb ik ze gepukt.	C35 4B 3-04-09 1) bookijsangie 2) because the baby myst be haasch 3) my big sister 4) you have to boil them. And you have to bath the baby with them 5) at agriculture I have collected them	bookojsangie (Sa)	bookopangi (Sa)	to stimulate a baby to walk early	boil and bathe	village	sister	yes	sterile	*Rolandra fruticosa* (L.) Kuntze, Compositae (CK31)	wild
36	4B, f	1 konsakawiwiri geneeskrachtige plant 2) I ta makis van wie heb je dit gevragaag mij vader hoe gebuik je de plant Joe moet zet op je voet waar heb je de plant geplukt In het dorp	1 konsakawiwiri medicinal plant 2) I ta makis from whom did you get this asked my dad how do you use the plant you have to put it on your foot where did you collect the plant In the village	konsakawiwiri (Sr)	konsakawiwiri (Sr)	foot fungus	mesh and apply on foot	village	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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37	4B, f	C37 1) aloekoetoewiriri 2 kan hooge bloed druk 3 in de bos moeder (doorgekrast woord) 4) als je ziek ben je moeder 6) als je niet meer zien 7) koken en drunken (tekening bloem)	C37 1) aloekoetoewiriri 2 can high blood pressure 3 in the forest mother (word deleted) 4) when you are sick your mother 6) when you cant see 7) boil and drink (drawing flower)	aloekoetoewiriri (SaSr mix)	n/a (alukutu, Sa)	high blood pressure (vision loss)	boil and drink	forest	mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
38	4B, f	naam C38 1 aan mijn vader. 2 wanneer je handen gebroken dan doe je dat. 3 je gebruikt om te stampen 4 in het bos 5 naam van de plant. lembekonde 6 als je ben ziek (ben ziek doorgestreept) ziek ben, als je baby ziek ben dan doe je dat gl (doorgestreept) klas vier B (tekening van bloemen in kleur)	name C38 1 my dad 2 when your hands are broken then you do that. 3 you use to stamp 4 in the forest 5 plant name. lembekonde 6 when you are ill (are ill deleted) are ill, when your baby is ill than you do that gl (deleted) class four B (drawing made of flowers in color)	lembekonde (Sa)	lembekonde (Sa)	skin problems hand ('if your hands are broken')	to mash	forest	father	yes	fertile	*Scoparia dulcis* L., Plantaginaceae (CK44)	wild
38	4B, f	idem	idem			baby (illness unspec.)	to mash	forest	father	yes	fertile	*Scoparia dulcis* L., Plantaginaceae (CK44)	wild

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39	4B, f	C39 (daarna een streep) konsakawiwiri in het bos ik heb me vader gevraagd je gebruikt om te stampen ..ber angalampoe (doorgestreept) fajalobi (doorgestreept) argen als je pijn op me argen na zet op je argen (woord doorgekrast) ogen (tekening met bloemen en hartjes in gekleurd)	C39 (followed by a vertical line) konsakawiwiri in the forest I asked my dad you use to stamp ..ber angalampoe (deleted) fajalobi (deleted) eyes when you have pain in my eyes, put on your eyes (word deleted) eyes (drawing with flowers and heart in color)	konsakawiwiri (Sr)	konsakawiwiri (Sr)	eye infection	?	?	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild
39	4B, f	idem	idem	angalampoe (Sr)	angalampu (Sr)	?	?	?	father	no		*Hibiscus* sp., Malvaceae	cultivated
39	4B, f	idem	idem	fajalobi (Sr)	fayalobi (Sr)	?	mash and apply in eye	forest	father	no		*Ixora coccinea* L., Rubiaceae	cultivated
40	4B, ?	1) name of the plant alatalaboe 2 for what do you use it I ta wasi Bibi hoeke 3 whom did you ask my mother 4 how do you use the plant I ta wasi hoeke 5 where did you collect the plant in the village	1) plant name alatalaboe 2 What do you use it for to wash Bibi hoeke 3 whom did you ask my mother 4 how you use the plant I ta wasi hoeke 5 waar heb je de plant geplukt in het dorp	alatalaboe (Sa)	alatulabu (Sa)	to clean a (newborn) baby's navel	bathe	village	mother	yes	fertile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild

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41	4B, ?	1) naam van de plant makamaka 2) waarvoor gebruik je deze geneeskrachig i ta wasi 3) aan wie heb je dit gevraad mijn moeder 4) hoe gebruik je de plant je moet koke 5) waar heb je de plant geplukt In het dorp	1) name of the plant makamaka 2) how do you use it medicinal you have to wash yourself 3) whom did you ask my mother 4) how do you use the plant you must boil 5) where did you collect the plant In the village	makamaka (Sa)	makamaka (Sa)	?	boil and bathe	village	mother	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
42	4B, ?	1) naam van de plant M… (doorgekrast) 2) waar voor gebruik je deze ….. konsakawiwiri geneeskrachtige (onderstreept) Plant ….. mijn vader (doorgekrast) 3) aan wie heb je dit gevraagd. mijn vader 4) hoe gebruik je de plant in mijn hant 5) waar heb je de plant geplukt bos	1) plant name M… (deleted) 2) for what do you use this ….. konsakawiwiri medicinal (underlined) Plant ….. my dad (deleted) 3) whom did you ask my dad 4) how do you use the plant in my hand 5) where did you collect the plant forest	komsakawiwirn (Sr)	konsakawiwiri (Sr)	hand fungus	mash and apply on hand	forest	father	yes	fertile	*Peperomia pellucida* (L.) Kunth, Piperaceae (CK37)	wild

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43	4B, f	1 malemebe malemebe 2 rood blaz/re wiwiri 3 oma (doorgekrast) naar me oma 4 als je bad…. (doorgekrast) babibreik moet je koken en baden 5 in het binnenland C43 (vertikaal op kaart geschreven links)	1 malemebe malemebe 2 rood blaz/re wiwiri 3 grandmother (deleted) to my grandmother 4 when you bad…. (deleted word) baby broke you must boil and bath 5 in the interior C43 (vertical on card left side)	malemebe malemebe (Sa)	malembelembe (Sa)	after (difficult) delivery	boil and bathe	?	grand- mother	yes	sterile	*Piper* cf. *marginatum* Jacq., Piperaceae (CK46)	wild
43	4B, f	idem	idem	roodblazewiwiri (DuSr mix)	n/a	after (difficult) delivery	boil and bathe	forest	grand- mother	no		?	?
44	4B, f	3-4-09 C44 alatalaboe wanneer handen (doorgestreept) wanneer je handen gebreken is dan doe je dat mijn vader alsj e ziek dan kat je baden In het bos	3-4-09 C44 alatalaboe when hands (deleted) when your hands are broken than you do this my dad when you are sick you will take a bath In the forest	alatalaboe (Sa)	alatulabu (Sa)	skin problems hand	bathe	forest	father	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
44	4B, f	idem	idem			general illness	bathe	forest	father	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
45	4B, m	C45 1 djanafaja 3/04/09 2 dat gebruik je als hoest drank 3 aan mijn Tante 4 fijn persen en met water drinken 5 ik heb het thuis gebruik	C45 1 djanafaja 3/04/09 2 that you use as cough sirop 3 my aunt 4 squeeze and drink with water 5 I used it at home	djanafaja (Sa)	dyanafaya (Sa)	cough	cough syrup made by mashing leaves in water	house	aunt	yes	sterile	*Hyptis* cf. *lanceolata* Poir., Lamiaceae (CK33)	wild

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46	4B, f	C46 (gevolgd door streep) alatoelaboe ..iwiri in het bos ik heb me moeder gevraagd als je ziek ben hoofpein koken en drunken (tekening bloemen in kleur)	C46 (followed by a line) alatoelaboe ..iwiri in the forest I asked my mother when you are sick headache boil and drink (drawing flowrs in color)	alatoelaboe wiwiri (SaSr mix)	n/a (alatulabu, Sa)	headache	boil and drink	forest	mother	yes	fertile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
47	4B, f	3-04-09 C47 ansiwiwiri malombemobe me moeder ik heb gevraag als je ziek is je gaan koet zijn (zin onderstreept) in het bos je moet baade met deze plant	3-04-09 C47 ansiwiwiri malombemobe I asked my mother When you are sick you will become better (sentence underlined) in the forest you must bath with this plant	malombemobe (Sa), anisi wiriri (Sr)	malembelembe (Sa), aneisiwiwiri (Sr)	general illness	bathe	forest	mother	yes	sterile	*Piper* cf. *marginatum* Jacq., Piperaceae (CK46)	wild
48	5, f	30-3-2009 1) alatalaboe 2) malaria 3) mama 4) in het bos 5) je kookt het om te baden. C48	30-3-2009 1) alatalaboe 2) malaria 3) mama 4) in the forest 5) you boil it to bathe with C48	alatalaboe (Sa)	alatulabu (Sa)	malaria	boil and bathe	forest	mother	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild

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49	5, m	C49 31-03-2009 1 appel 2 kiespijn 3 moeder 4 in het bos 5 koken en drinken	C49 31-03-2009 1 appel 2 toothache 3 mother 4 in the forest 5 boil and drink	appel (SD)	appel (SD)	toothache	boil and drink	forest	mother	yes	sterile	*Chrysophyllum* cf. *cainito* L., Sapotaceae	cultivated
50	5, f	C50 31-3-09 1) aloekoetoe zuurzak 2) als je bloed druk hoo (woord doorgekrast) hoog is 3) oma 4) in het bos 5) (doorgekrast) 5) je kookt het om te baden	C50 31-3-09 1) aloekoetoe zuurzak 2) when your blood pressure is high (word deleted) high. 3) grandmother 4) in the forest 5) (deleted) 5) you boil it to bathe with	aloekoetoe (Sa), zuurzak (SD)	alukutu (Sa), zuurzak (SD)	high blood pressure	boil and bathe	forest	grand- mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
51	5, m	C51 1 Makamaka. 2 Ogen, nuis, buik pijn. 3 van me oma. 4 In het bos. 5 koken en drinken.	C51 1 Makamaka. 2 Eyes, nose and stomach ache. 3 from my grandmother. 4 In the forest. 5 boil and drink.	makamaka (Sa)	makamaka (Sa)	eye-ache	boil and drink	forest	grand- mother	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
51	5, m	idem	idem			nose-ache	boil and drink	forest	grand- mother	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
51	5, m	idem	idem			stomach-ache	boil and drink	forest	grand- mother	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild

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52	5, f	C52 1) Bobibobi 2) Pijn 3) Oma 4) In het bos 5) kokken met water	C52 1) Bobibobi 2) Pain 3) Grandmother 4) In the forest 5) boil with water	bobibobi (Sa)	bobibobi (Sa)	pain	boil	forest	grand- mother	yes	fertile	*Euphorbia hirta* L., Euphorbiaceae (CK97)	wild
53	5, m	plantennaam alukutoe. Zuurzak. amandel. amanda. apel. apa. guyave. guyaba kalebas. kuja manjes. manja kajoe. kadjoe pemerak. pombalakie manvanwoord. bijibo C53	plant name alukutoe. Zuurzak. amandel. amanda. apel. apa. guyave. guyaba kalebas. kuja manjes. manja kajoe. kadjoe pemerak. pombalakie manvanwoord. bijibo C53	alukutoe (Sa), zuurzak (SD)	alukutu (Sa), zuurzak (SD)	?	?	?	?	no		*Annona muricata* L., Annonaceae	cultivated
53	5, m	idem	idem	amandel (SD), amanda (Sa)	amandel (SD), amanda (Sa)	?	?	?	?	no		*Terminalia catappa* L., Combretaceae	cultivated
53	5, m	idem	idem	apel (SD), apa (Sa)	appel (SD), apa (Sa)	?	?	?	?	no		*Chrysophyllum* cf. *cainito* L.,Sapotaceae	cultivated
53	5, m	idem	idem	guyave (Du), guyaba (Sa)	guave (Du), guyaba (Sa)	?	?	?	?	yes	sterile	*Psidium guajava* L., Myrtaceae	cultivated
53	5, m	idem	idem	kalebas (SD), kuja (Sa)	kalebas (SD), kuya (Sa)	?	?	?	?	yes	sterile	*Crescentia* cf. *cujete* L., Bignoniaceae	cultivated
53	5, m	idem	idem	manje (SD), manja (Sa)	manje (SD), manya (Sa)	?	?	?	?	yes	sterile	*Mangifera indica* L., Anacardiaceae	cultivated
53	5, m	idem	idem	kajoe (Sr), kadjoe (Sa)	kasyu (Sr), kadyu (Sa)	?	?	?	?	yes	sterile	*Anacardium occidentale* L., Anacardiaceae	cultivated
53	5, m	idem	idem	pemerak (Sr), pombalakie (Sa)	pomerak (Sr), pomalaki (Sa)	?	?	?	?	no		*Syzygium* cf. *malaccense* (L.) Merr. & L.M. Perry, Myrtaceae	cultivated

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53	5, m	idem	idem	manvanwoord (SD), bijibo (Sa)	manvanwoord (SD), beibo (Sa)	?	?	?	?	no		*Artocarpus* cf. *altilis* (Parkinson ex F.A.Zorn) Fosberg, Moraceae	cultivated
54	5, m	C54 1) bloedbrad. 2) als je geen bloed heb moet je ze koken om te drinken of te baaden. 3) van me oma. 4) als je ze planten gaan ze veel blad hebben. 5) als je ze planten gaan ze vee (doorgestreept) 5) je moet ze koken, dan zal ze als bloed zijn.	C54 1) bloedbrad. 2) if you do not have blood, you must boil them to drink of to bath with. 3) from my grandmother. 4) if you plant them they will have many leaves. 5) If you plant them they will have many ... (deleted) 5) You have to boil them, then they will be like blood.	bloedbrad (SDSr mix)	n/a (SDSr mix)	anaemia	boil and drink or bathe	?	grand- mother	yes	sterile	*Justicia* cf. *secunda* Vahl, Acanthaceae	wild
55	5, m	C55 makamaka ogenmoesoe, buikpijn, gasoe in het bos (doorgestreept) bos moeder ooma	C55 makamaka ogenmoesoe, stomachache, gas in the forest (deleted) forest mother, grandmother	makamaka (Sa)	makamaka (Sa)	stomach-ache	?	forest	mother and grand- mother	yes	fertile	*Lantana camara* L., Verbenaceae (CK36)	wild
55	5, m	idem	idem			high blood pressure ('tired eyes')	?	forest	mother and grand- mother	yes	fertile	*Lantana camara* L., Verbenaceae (CK36)	wild
55	5, m	idem	idem			farting	?	forest	mother and grand- mother	yes	fertile	*Lantana camara* L., Verbenaceae (CK36)	wild

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56	5, m	C56 1 cujaba 2 Buikpijn 3 Moeder 4 in het bos 5 koken en druppelen of drinken	C56 1 cujaba 2 Stomachache 3 Mother 4 in the forest 5 boil and drip or drink	cujaba (Sa)	guyaba (Sa)	stomach-ache	boil and drip or drink	forest	mother	yes	sterile	*Psidium guajava* L., Myrtaceae	cultivated
57	5, m	C57 1) zuurzak, alukutoe 2) als je broeddruk is. 3) in het bos 4) van me moeder en oma 5) Als je hebt vebe dan moet je baaden.	C57 1) zuurzak, alukutoe 2) when you have blood pressure 3) in the forest 4) from my mother and grandmother 5) If you have fever then you must have a bath.	alukutoe (Sa), zuurzak (SD)	alukutu (Sa), zuurzak (SD)	fever	bathe	forest	mother and grand- mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
57	5, m	idem	idem			high blood pressure	?	forest	mother and grand- mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
58	5, f	31-3-2009 1) plantennaam alatalaboe 2) voor welke ziekte mararia 3) geleerd van me moeder 4) waar geplukt? in het bos 5) hoe gebruikt je het? Je kan koken en baden C58	31-3-2009 1) plant name alatalaboe 2) for which disease mararia 3) taught from my mother 4) where collected? in the forest 5) how do you use it? You can boil it and bath C58	alatalaboe (Sa)	alatulabu (Sa)	malaria	boil and bathe	forest	mother	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild

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59	5, m	C59 1 cujaba 2) Buikpijn 3) Moeder 4) in het bos 5) om te eten als je bloeddrukt is	C59 1 cujaba 2) Stomachache 3) Mother 4) in the forest 5) to eat when your bloodpressure is	cujaba (Sa)	guyaba (Sa)	high blood pressure	eat plant	forest	mother	yes	sterile	*Psidium guajava* L., Myrtaceae	cultivated
59	5, m	idem	idem			stomach-ache	eat plant	forest	mother	yes	sterile	*Psidium guajava* L., Myrtaceae	cultivated
60	5, m	C60 1) MAKAMAKA 2) Ogen, neus, buikpijn 3) vader 4) in het bos 5) koken en druppelen of drinken	C60 1) MAKAMAKA 2) Eyes, nose, stomacheache 3) father 4) in the forest 5) boil and drip or drink	makamaka (Sa)	makamaka (Sa)	eye-ache	boil and use drops or drink	forest	father	yes	sterile	*Lantana camara* L., Verbenaceae	wild
60	5, m	idem	idem			nose-ache	boil and drip or drink	forest	father	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
60	5, m	idem	idem			stomach-ache	boil and drip or drink	forest	father	yes	sterile	*Lantana camara* L., Verbenaceae (CK36)	wild
61	5, m	C61 1) Amanda wiwirie 2) om je lichaam goed te zijn koorts 3) van mijn moeder 4) In het bos 5) koken en water baden	C61 1) Amanda wiwirie 2) to recover from fever 3) from my mother 4) In the forest 5) boil and bath with water	amanda wiwirie (SaSr mix)	n/a (amanda Sa)	fever	boil and bathe	forest	mother	yes	sterile	*Terminalia catappa* L., Combretaceae	cultivated

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62	5, ?	1) guyave en guyaba 2) als je hoge bloed (doorgekrast) bloeddruk heb 3) Moeder en vader 4) uit het bos 5) als je hoge bloed heb je moet het eerst koke	1) guyave en guyaba 2) when you have high blood (deleted) blood pressure 3) Mother and father 4) from the forest 5) when you have high blood, first you need to boil it	guyave (Du), guyaba (Sa)	guave (Du), guyaba (Sa)	high blood pressure	boil	forest	mother and father	yes	sterile	*Psidium guajava* L., Myrtaceae	cultivated
63	5, m	1) zuurzak Aloegoetoe 2 koken met water 3) bijkpein, dr….. 4) gasoe, ga (doorgekrast) koorts 5 moeder in het Bos	1) zuurzak Aloegoetoe 2 boil with water 3) stomachache, dr….. 4) gas, ga (deleted) fever 5 mother in the Forest	zuurzak (SD), aloegoetoe (Sa)	zuurzak (SD), alukutu (Sa)	stomach-ache	boil and drink	forest	mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
63	5, m	idem	idem			farting	boil and drink	forest	mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
63	5, m	idem	idem			fever	boil and drink	forest	mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
64	5, ?	Djanafaya 1 Alukutoe, Zuurzag, Cuyaba 2 van me moeder en me oma 3 om de ogen 4 uit het bos 5 als je hoge bloed hebt je moet het eerst koke en drinken	Djanafaya 1 Alukutoe, Zuurzag, Cuyaba 2 from my mother and grandmother 3 around the eyes 4 from the forest 5 when you have high blood you must first boil and drink	alukutoe (Sa), zuurzag (SD)	alukutu (Sa), zuurzak (SD)	high blood pressure	boil and drink	forest	mother and grand- mother	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
64	5, ?	idem	idem	djanafaya (Sa)	dyanafaya (Sa)	to use in eyes	drop in eye	forest	mother and grand- mother	yes	fertile	*Hyptis* cf. *lanceolata* Poir., Lamiaceae (CK33)	wild

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64	5, ?	idem	idem	cuyaba (Sa)	guyaba (Sa)	?	?	forest	mother and grand- mother	yes	sterile	*Psidium guajava* L., Myrtaceae	cultivated
65	5, ?	Plantennaam 1) alukutoe ….. (doorgekrast) zuurzak 2) Alakoetoe als je heb hoofdpijn (?) ja mag maar je met .. me moeder en me vader (tekst niet duidelijk leesbaar) amandel, amanda pommerak pomalaki …. …. manja, manja	Plant name 1) alukutoe ….. (… deleted) zuurzak 2) Alakoetoe when you have a headache (?), you can but you… … my mother and my father (.. tekst not very clear) amandel, amanda pommerak pomalaki …. …. manga, manja	alukutoe (Sa), zuurzak (SD)	alukutu (Sa), zuurzak (SD)	headache ?	?	?	mother and father	yes	sterile	*Annona muricata* L., Annonaceae (CK114)	cultivated
65	5, ?	idem	idem	amandel (SD), amanda (Sa)	amandel (SD), amanda (Sa)	headache ?	?	?	mother and father	no		*Terminalia catappa* L., Combretaceae	cultivated
65	5, ?	idem	idem	pommerak (Sr), pomalaki (Sa)	pomerak (Sr), pomalaki (Sa)	headache ?	?	?	mother and father	no		*Syzygium* cf. *malaccense* (L.) Merr. & L.M. Perry, Myrtaceae	cultivated
65	5, ?	idem	idem	manja (Sa)	manya (Sa)	headache ?	?	?	mother and father	no		*Mangifera indica* L., Anacardiaceae	cultivated
66	5, ?	Plantennaam Amanda wiwirie 2 voor welke zieke 3 geleer van 4 waar geplukt? 5 Hoe gebruik je het	Plant name Amanda wiwirie 2 for which disease 3 taught by 4 where collected? 5 How you use it	amanda wiwirie (SaSr mix)	n/a (amanda, Sa)	?	?	?	?	yes	sterile	*Terminalia catappa* L., Combretaceae	cultivated
66	5, ?	idem	idem	no name on card (identified as kwentu)	no name on card (identified as kwentu, Sa)	?	?	?	?	yes	fertile	*Eryngium foetidum* L., Apiaceae (CK32)	wild
66	5, ?	idem	idem	no name on card (identified as guyaba)	no name on card (identified as guyaba, Sa)	?	?	?	?	yes	sterile	*Psidium guajava* L., Myrtaceae	cultivated

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66	5, ?	idem	idem	no name on card (not able to identify)	no name on card (not able to identify)	?	?	?	?	yes	sterile	*Ziziphus* sp., Rhamnaceae	cultivated
67	5, f	1) Adoja 31-09 2) Het gaat hoge bloed zijn. 3) Mijn tante. 4) In het bos. 5) Je gaan het koken dan, ga je baby baden.	1) Adoja 31-09 2) It will be high blood. 3) My aunt. 4) In the forest. 5) you will boil it, go bath your baby.	adoja (Sa)	adoya (Sa)	high blood pressure	?	forest	aunt	yes	sterile	*Campomanesia aromatica* (Aubl.) Griseb., Myrtaceae (CK28)	wild
67	5, f	idem	idem			baby bathing	boil and bathe	forest	aunt	yes	sterile	*Campomanesia aromatica* (Aubl.) Griseb., Myrtaceae (CK28)	wild
68	5, f	C68. 1 makamaka. 2 Wanneer je hoest. 3 Oma. 4 In het bos. 5 Je moet ze eerst wrijven dan pas moet je een beetj zout zetten en drinken.	C68 1 makamaka. 2 When you cough. 3 Grandmother. 4 In the forest. 5 You must first rub them, only then you must put a bit salt and drink.	makamaka (Sa)	makamaka (Sa)	cough	macerate the leaves, add a little salt and drink the juice.	forest	grand- mother	yes	fertile	*Lantana camara* L., Verbenaceae (CK36)	wild
69	5, f	2) als je lichaam niet goed is dan wordt ze genezen. Voor je geel. 3) me moeder 4) in het bos 5) om te drinken C69	2) when your body is not good it will heal. For your yellow. 3) my mother 4) in the forest 5) to drink C69	kuntu (Sa)	kwentu (Sa)	yellow, illness unspec. (probably hepatitis/ yellow fever. Plant is drunk 'for yellow').	to drink	forest	mother	yes	fertile	*Eryngium foetidum* L., Apiaceae (CK32)	wild

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70	5, f	C70 aloekoetoe zuurkzak (alles doorgestreept) voor e..ke ziekt malaria van mijn moeder adoja in het bos guyaba (doorgestreept) als je bloed hoog druk (alles doorgestreept) is j.. Ook om te badden	C70 aloekoetoe zuurkzak (all deleted) for ….. disease malaria from my mother adoja in the forest guyaba (deleted) when your blood high pressure (all deleted) is j.. also to bath with	adoja (Sa)	adoya (Sa)	malaria	?	?	mother	yes	sterile	*Campomanesia aromatica* (Aubl.) Griseb., Myrtaceae (CK28)	wild
70	5, f	idem	idem	aloekoetoe (Sa), zuurzak (SD)	alukutu (Sa), zuurzak (SD)	high blood pressure	boil and bathe	forest	mother	no		*Annona muricata* L., Annonaceae (CK114)	cultivated
70	5, f	idem	idem	guyabe (Sa)	guyaba (Sa)	?	?	?	mother	no		*Psidium guajava* L., Myrtaceae	cultivated
71	5, f	C71 1) Adoja 2) om je lichaam …… (twee woorden doorgestreept) legaam goed te worden. 3) ik heb et geleer van me Moeder 4) in het bos 5) om kleine kinderen te baden als je kinderen (eren doorgestreept) ziek ben (doorgestreept) is.	C71 1) Adoja 2) to make your body healthy 3) I have learned it from my mother 4) in the forest 5) To bath young children when your child is sick.	adoja (Sa)	adoya (Sa)	To 'improve your body':	bathe	forest	mother	yes	sterile	*Campomanesia aromatica* (Aubl.) Griseb., Myrtaceae (CK28)	wild
71	5, f	idem	idem			baby (illness unspecified)	bathe	forest	mother	yes	sterile	*Campomanesia aromatica* (Aubl.) Griseb.,	wild

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												Myrtaceae (CK28)	
72	5, f	Naam. C72 1 makamaka 2 't kan hooge bloed zijn druk 3 je moeder baden en wassen 4 in het bos 5 als je ziekte ben	Name C72 1 makamaka 2 it can be high blood pressure 3 your mother bath and wash 4 in the forest 5 when you are ill	makamaka (Sa)	makamaka (Sa)	high blood pressure	bathe	forest	mother	yes	fertile	*Lantana camara* L., Verbenaceae (CK36)	wild
73	5, f	30-3-2009 C73 1 alatalabu 2 voor de baby om te baden 3 mij moeder 4 In het bos 5 je moet het eerst koken	30-3-2009 C73 1 alatalabu 2 for the baby to bath 3 my mother 4 In the forest 5 you first must boil it	alatalabu (Sa)	alatulabu (Sa)	baby bath	boil and bathe	forest	mother	yes	sterile	*Stachytarpheta cayennensis* (Rich.) Vahl, Verbenaceae (CK53)	wild
73	5, f	idem	idem	no name on card (identified as bobi bobi, Sa)	no name on card (identified as bobi bobi, Sa)	?	?	?	?	yes	fertile	*Euphorbia hirta* L., Euphorbiaceae (CK97)	wild

* Languages: Sa = Saramaccan, Sr = Sranantongo, Du= Dutch, SD= Surinamese-Dutch

* Collector: CK= Charlotte van 't Klooster

* Gender: m= male, f= female

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