

PAPILIONOIDEAE OF AN AREA OF VEGETATION IN NORTHEASTERN BRAZIL

ABSTRACT

Fabaceae is one the largest families of angiosperms, with species widely distributed in all the globe, presented for six subfamilies: Caesalpinioideae, Cercidoideae, Detarioideae, Dialioideae, Duparquetioideae and Papilionoideae. In the vegetation area studied in the Northeast of Brazil, Papilionoideae presented 21 species distributed in 14 genera. The most representative were *Aeschynomene* with four species (*A. brasiliensis*, *A. histrix*, *A. paniculata*, and *A. viscidula*); *Desmodium* with three species (*D. barbatum*, *D. incanum* and *D. subsecundum*); *Crotalaria* with two species (*C. retusa* and *C. stipularia*) and *Macroptilium* with two species (*M. atropurpureum* and *M. lathyroides*). About the habit of growth, the shrub type predominated, sampling 12 species. As for the physiognomy, there was a predominance in gallery forest type 14 species. Is presented description, geographic distribution, phytogeographical for each specie and key of identification of the taxa.

Keywords: *Aeschynomene*, Fabaceae, Brazilian vegetation

1. INTRODUCTION

With 770 genera and 19,500 species, Fabaceae (Lind.) constitute one of the largest families of Angiosperms, with widely distributed representatives throughout the globe [1,2], represented by six subfamilies: Caesalpinioideae (146 genera and 4400 species); Cercidoideae (12 genera and 335 species); Detarioideae (84 genera and 760 species); Dialioideae (17 genera and 85 species); Duparquetioideae (1 genus and 1 species) and Papilionoideae (503 genera and 14,000 species)[2], being the family with the largest number of trees in the world [3].

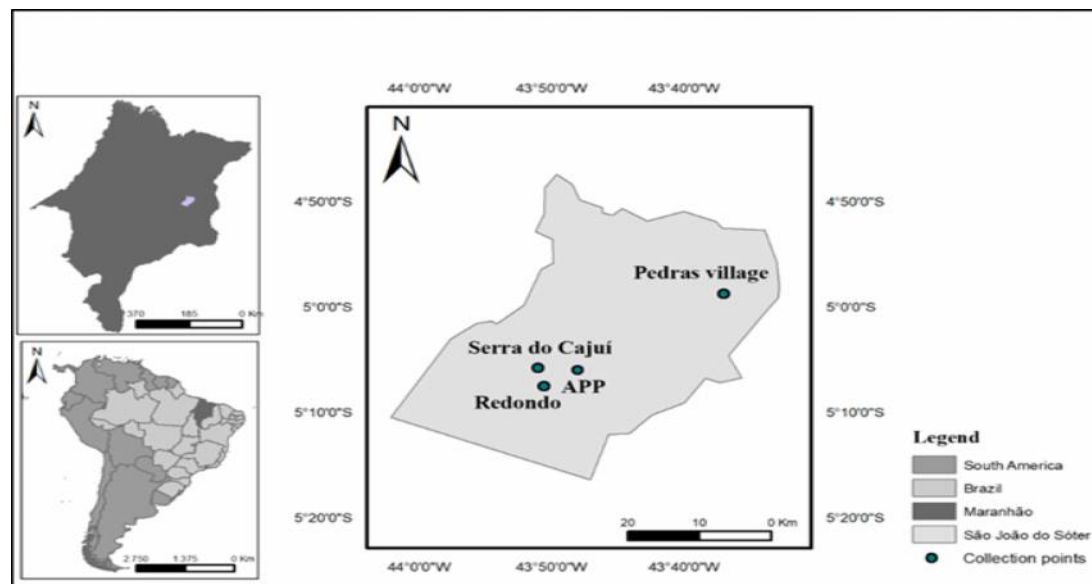
As the distribution in Brazil are recognized 2,848 species (1,539 endemic) grouped in 222 genera [4], found in most regions and distributed by almost all vegetation formations [5]. Papilionoideae is a subfamily Monophyly, being largest of the subfamilies of Fabaceae, comprising 503 genera, distributed in 14,000 species. In Brazil, are recognized approximately 100 genera and 1,100 species [5]. It differs from the other Subfamilies through foliar, floral and fruit characters such as pinnates leaves, never bipinnates, in most trifoliolates, Papilionaceous flowers with generally zygomorphous symmetry, corolla with disceding imbricate prefloration or vexilar, and seeds with well delimited hilum region and root axis of the inflated embryo [7,8].

The subfamily includes herbaceous, shrub, liane or arboreal representatives, the fruits vary greatly, including legume, Lomentum, Samara or drupe. The seeds vary in morphology and coloration, and possess conspicuous hilum and curved radicle axis [9,1]. It has ample distribution, occurring in various plant formations, moist forests to dry and cold deserts, prevailing in the Atlantic Forest [5,6].

Floristics surveys of Fabaceae indicate Papilionoideae as the most representative subfamily in number of species [1,10,8]. The state of Maranhão occupies a significant area of the Cerrado, forming an area of contact with the Amazonian domain in the Western region and specifically in the East region suffers strong influence of the Caatinga [11], possessing a unique biodiversity, but it should be considered that the Cerrado is conditioned to a strong anthropic pressure indicating the danger of extinction of the second domain plant species [12].

Thus considering the representativeness of the subfamily Papilionoideae in flora catalogues, the context of the Maranhão Cerrado and the lack of collections and botanical knowledge for the state of Maranhão. The research aimed to make a taxonomic treatment of the subfamily Papilionoideae (Fabaceae) for a Cerrado fragment to the East of the state of Maranhão/Brazil.

2. MATERIAL AND METHODS



The flora of Maranhão is extremely rich and diversified, but it is observed that there is little information about the total of species [13]. Flora reflects climate and soil in conditions of structural transition environments. The vegetation is very similar to the Amazon rainforest, with dominant species, little abundance serving as indicative of high diversity [14,13]. The municipality of São João do Sóter extends for 1,438.1 km². Situated at 108 meters of altitude, at the following geographical coordinates: 5 ° 6 ' 28 ' 's. and 43 ° 48 ' 34 ' ' W (Fig. 1). In the municipality, three areas of Cerrado were sampled: Village Stones, round town and Serra do Cajui and the APP (Permanent Protection Area) [15].

Figure 1. Map of the Municipality of São João do Sóter, Maranhão. **Source:** IBGE; 2006, Google Earth 2014

Were realized monthly excursions in the period from September 2016 to February 2017. In the field work were collected the specimens through hiking trails in the interior of the vegetation. The collection of botanical material in the field was performed at the reproductive stage, following the protocol of [15]. The specimens collected were identified by comparison with the type material, specialized bibliography such as [17,18,19,20], books, herbariums Virtual and taxonomic keys, following the classification of [21,2] and sending samples to specialist in the group for confirmation and/or identification of specimens. After the identification of the species and assembly of the exsiccates, they were deposited in the herbarium Professor Aluizio Bittencourt (HABIT). For the descriptions of the species was used morphological terminology of [22] and [9], being adopted the classification of [2] for the subfamily Papilionoideae. The data of the geographical distribution and domain phytogeographical were obtained by the [4], besides the indication of physiognomy and habit of the species according to the collection data.

3. RESULTS AND DISCUSSION

In the Cerrado fragment in the studied area, were found 21 species, from their to the genus *Aeschynomene* (*A. brasiliensis*, *A. histrix*, *A. paniculata*, e *A. viscidula*); Three to *Desmodium* (*D. barbatum*, *D. incanum* e *D. subsecundum*); two to *Crotalaria* (*C. retusa* e *C. stipularia*); two to

74 *Macroptilium* (*M. atropurpureum* e *M. lathyroides*) beside of *Abrus fruticulosus*, *Centrosema brasiliana*,
75 *Clitoria guianensis*, *Dioclea bicolor*, *Galactia jussiaeana*, *Indigofera suffruticosa*, *Periandra heterophylla*,
76 *Phaseolus vulgaris*, *Stylosanthes viscosa* and *Vigna lasiocarpa*, totalizing 14 genus. About growth habit,
77 the shrub type presented the largest species number (12spp), followed for herb (9spp).

78 14 species, *Aeschynomene brasiliana*, *Aeschynomene paniculata*, *Aeschynomene viscidula*, *Clitoria*
79 *guianensis*, *Crotalaria stipularia*, *Desmodium barbatum*, *Desmodium incanum*, *Desmodium incanum*,
80 *Desmodium subsecundum*, *Indigofera suffruticosa*, *Macroptilium atropurpureum*, *Macroptilium*
81 *lathyroides*, *Periandra heterophylla*, *Stylosanthes viscosa* e *Vigna lasiocarpa*, presented ample
82 distribution, occurring of shrubs to herbs, found only in gallery forest. Species as *Abrus fruticulosus*,
83 *Centrosema brasiliana*, *Crotalaria retusa*, *Dioclea bicolor*, *Aeschynomene histrix* e *Phaseolus vulgaris*,
84 occurred only in open field and only *Galactia jussiaeana* occurred in Cerrado limpo. Species as
85 *Centrosema brasiliana*, *Abrus fruticulosus*, *Crotalaria retusa* and *Macroptilium lathyroides* were listed for
86 [22] for the municipality of Coelho Neto/ Brasil, that is one the municipalities of East of Maranhão.

87 **Table 1.** Representation of the species of Fabaceae with their respective physiognomies and growth habits. (*) indicates a new registry for the
88 State of Maranhão; (**) indicates a new record for the Northeast Region.
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Nº	SPECIE	GEOGRAPHICAL DISTRIBUTION	PHYTOGEOGRAPHICAL DOMAINS	COLLECT PHYSIOGNOMY	HABIT
1	<i>Abrus fruticulosus</i> Wight & Arn.	AM, AP, PR, RR, AL, BA, CE, MA, PB, PE, PI, RN, SE, DF, GO, MS, MT, ES, MG, RJ, SP, PR, SC.	Amazon forest and Cerrado.	Open Field	Herb
2	<i>Aeschynomene brasiliana</i> (Poir.) DC.	AM, AP, PA, RO, RR, TO, AL, BA, CE, MA, PB, PE, PI, DF, GO, MS, MT, ES, MG, RJ, SP, PR.	Amazon forest, Caatinga, Cerrado, Atlantic forest and Pantanal.	Gallery forest	Shrub
3	<i>Aeschynomene histrix</i> Poir.	AC, AM, AP, PA, RR, TO, AL, BA, CE, MA, PB, PE, PI, SE, DF, GO, MS, MT, MG, SP, PR	Amazon forest, Caatinga, Cerrado, Atlantic forest and Pantanal.	Open Field	Shrub
4	<i>Aeschynomene paniculata</i> Willd. ex Vogel	AC, AM, AP, PA, RO, RR, TO, BA, CE, MA, PI, SE, DF, GO, MS, MT, MG, RJ, SP, PA.	Amazon forest, Caatinga, Cerrado, Atlantic forest and Pantanal.	Gallery forest	Shrub
5	** <i>Aeschynomene viscidula</i> Michx.	TO, AL, BA, CE, PB, PB, PI, RN, SE, MS, ES, MG.	Caatinga, Cerrado and Atlantic forest.	Gallery forest	Herb
6	<i>Centrosema brasiliana</i> (L.) Benth.	AM, AP, PA, RR, AL, BA, CE, MA, PB, PE, PI, RN, SE.	Amazon forest, Caatinga, Cerrado Atlantic forest and Pantanal.	Open Field	Herb
7	<i>Clitoria guianensis</i> (Aubl.) Benth.	AM, AP, PA, RR, TO, BA, CE, MA, PE, PI, DF, GO, MS, MT ES, MG, SP, PR.	Amazon forest, Caatinga, Cerrado, Atlantic forest and Pantanal.	Gallery forest	Herb
8	<i>Crotalaria retusa</i> L.	PA, BA, MA, PI, MG, RJ, SP, PR, RS, SC.	Amazon forest, Caatinga, Cerrado, Atlantic forest and Pampa.	Open Field	Shrub
9	<i>Crotalaria stipularia</i> Desv.	AC, PA, RR, AL, BA, CE, MA, PB, PE, PI, SE; DF, GO, MS, MT, ES, MG, RJ, SP.	Amazon forest, Caatinga, Cerrado, Atlantic forest and Pantanal.	Gallery forest	Shrub
10	<i>Desmodium barbatum</i> (L.) Benth.	AC, AM, AP, PA, RO, RR, TO, AL, BA, CE, MA, PB, PE, PI, RN, SE,	Amazon forest, Caatinga, Cerrado, Atlantic forest,	Gallery forest	Shrub

		DF, GO, MS, MT, ES, MG, RJ, SP, PR, RS, SC.	Pampa and Pantanal.		
11	<i>Desmodium incanum</i> (Sw.) DC.	AC, AM, AP, PA, RO, RR, TO, AL, BA, MA, PB, PE, PI, RN, DF, GO, MS, MT, ES, MG, RJ, SP, PR, RS, SC.	Amazon forest, Caatinga, Cerrado, Atlantic forest, Pampa and Pantanal.	Gallery forest	Shrub
12	<i>**Desmodium subsecundum</i> Vogel.	AC, PA, TO, BA, DF, GO, MS, ES, MG, RJ, SP, PR, RS, SC.	Amazon forest, Cerrado and Atlantic forest.	Gallery forest	Shrub
13	<i>Dioclea bicolor</i> Benth.	AC, AM, PA, CE, MA, GO, MT.	Amazon forest, Caatinga and Cerrado.	Open Field	Herb
14	<i>Galactia jussiaeana</i> Kunth.	AM, AP, PA, RO, RR, BA, MA, PI, GO.	Amazon forest, Caatinga and Cerrado.	Cerrado limpo	Herb
15	<i>Indigofera suffruticosa</i> Mill.	AC, AM, AP, PA, TO, RR, TO, AL, BA, CE, MA, PB, PE, PI, RN, SE, DF, GO, MT, ES, MG, RJ, SP, PR, RS, SC.	Amazon forest, Caatinga, Cerrado and Atlantic forest.	Gallery forest	Shrub
16	<i>Macroptilium atropurpureum</i> (Sessé & Moc. ex DC.) Urb.	AM, PA, RR, AL, BA, MA, PB, PE, RN, SE, DF, GO, MS, MT, ES, MG, RJ, SP, PR, RS, SC.	Amazon forest, Caatinga, Cerrado, Atlantic forest and Pantanal.	Gallery forest	Herb
17	<i>Macroptilium lathyroides</i> (L.) Urb.	AM, PA, RR, AL, BA, CE, MA, PB, PE, PI, DF, GO, MS, MT, ES, MG, RJ, SP, PR.	Amazon forest, Cerrado, Atlantic forest and Pantanal.	Gallery forest	Herb
18	<i>Periandra heterophylla</i> Benth.	PA, TO, BA, MA, PI, GO, MS, MT, MG, SP.	Amazon forest e and Cerrado.	Gallery forest	Shrub
19	<i>Phaseolus vulgaris</i> L.	PA, AL, BA CE, MA, PB, PE, PI, SE, DF, MS, MT, ES, MG, RJ, SP, PR, RS, SC.	Amazon forest, Caatinga, Cerrado and Atlantic forest.	Open Field	Shrub
20	<i>Stylosanthes viscosa</i> (L.) Sw.	AC, AM. AP, PA, RO, RR, TO, AL, BA, CE, MA, PB, PE, PI, RN, SE, DF, GO, MS, RJ, SP, PR, RS, SC.	Amazon forest, Caatinga, Cerrado, Atlantic forest, Pampa and Pantanal.	Gallery forest	Shrub
21	<i>*Vigna lasiocarpa</i> (Mart. ex Benth.) Verdc.	AM, AP, PA, RR, MS, MT, PR, RS, SC.	Amazônia, Cerrado, Atlantic forest and Pantanal.	Gallery forest	Herb

Meanings of the acronyms of brazilian geographical distribution: Acre-AC; Alagoas-AL; Amapá-AP; Amazonas-AM; Bahia-BA; Ceará-CE; Distrito Federal-DF; Espírito Santo-ES; Goiás-GO; Maranhão-MA; Mato Grosso-MT; Mato Grosso do Sul-MS; Minas Gerais-MG; Pará PA; Paraíba-PB; Paraná-PR; Pernambuco-PE; Piauí-PI; Rio de Janeiro-RJ; Rio Grande do Norte-RN; Rio Grande do Sul-RS; Rondônia-RO; Roraima-RR; Santa Catarina-SC; São Paulo-SP; Sergipe-SE;Tocantins-TO

Key of Subfamily Papilionoideae

1. Liane, fruit type vegetable with 3 seeds, without forming of articles, with 4 cm in length, margin revolute of legume.....**1Dioclea bicolor**
1. Herb or Subshrub, legume fruit with 3 more seeds or with formation of articles, without revolute margin.....2
 2. Subshrub with height equal to or greater than 1m, only erect growth.....3
 3. Composite leaves imparipinnates, with 8 to 12 pairs of leaflets, fruit legume type curved, forming in bunches in the main branch, with 8,0 cm of length.....**2Indigofera suffruticosa**
 3. Leaves simple or trifoliolate, fruit legume lomentum type, not form clusters in the main branch.....4
 4. Leaves simple large ovate, with 20 cm of length. and 10 cm long fruit forming branches, arranged alternate.....**3Desmodium subsecundum**
 4. Small trifoliolate leaves, small fruit forming branches, arranged not alternate leaves form.....5
 5. Elliptic leaflets, 2.4 cm long and 1.1 cm wide, fruit type lomentum, 1.1 cm long, with 3 to 5 articles.....**4Desmodium incanum**
 5. Elliptic leaflets, 7 cm long and 3.6 cm wide, fruit lomentum type, 3.3 cm long. and 0.8 cm long, has 3 to 6 items dressed.....**5Desmodium barbatum**
 2. Climbing or herbaceous herb with height equal to or less than 1,5m, erect, decumbent or prostrate growth.....6
 6. Decoding growth climbing herbs.....7
 7. Leaves composed of 8 to 15 pairs of leaflets, bipinnates with 2.3 cm of length. and 0.9 cm wide, pseudo-raceme inflorescence.....**6Abrus fruticosus**
 7. Leaves trifoliolate, inflorescence raceme or cimose.....8
 8. Long lanceolate leaflet..... 9
 9. Leaflet with 5,2 cm of length. and 3 cm long, papilionaceous flower, lilac dark to purple petals.....**7Centrosema brasiliiana**
 9. Leaflets with 5 cm of length. and 1 cm wide, papilionaceous flower, petals light to whitish lilac.....**8Clitoria guianensis**
 8. Leaflets ovate or obovate..... 10
 10. Leaflets ovate, with 10 cm of length. and 6.1 cm wide, mucronate leaf apex, marked penninerved vein, red papilionaceous flower.....**9Periandra heterophylla**
 10. Leaflets obovate 4.5 cm long. and 3 cm wide, acute leaf apex, unmarked penninerved vein, yellow papilionaceous flower.....**10Vigna lasiocarpa**
 6. Herbaceous herb of erect or prostrate growth..... 11
 11. Simple leaves, legume fruit capsule type..... 12
 12. Leaflet with 4.7 cm. and 2.0 cm long, winged petiole with 0.3 cm, fruit with 2.3 cm in length.....**11Crotalaria stipularia**
 12. Leaflet with 4,2 cm of length. and 1.5 cm wide, not winged petiole with 0.3 cm, fruit with 3.0 cm in length.....**12Crotalaria retusa**
 11. Composite leaves, typical legume fruit or lomentum..... 1
 13. Compound leaves bipinnates, legume lomentum..... 14

145	14. Leaflets with up to 6 pairs of pinnas, equal to or less than 0, 5cm in	
146	length, lomentum with up to 3	
147	articles.....	13Aeschynomene viscidula
148	14. Leaflets with more than 6 pairs of pinnas, greater than 0.5 cm long,	
149	legume lomentum with more than 3	
150	articles.....	15
151	15. Leaflets of the base of the pinna bigger than the apex, obovate,	
152	with the maximum of 12 pairs of pinnas.....	
153		14Aeschynomene brasiliana
154	15. Leaflets of the base never greater than the one of the apex,	
155	oblong, with the maximum of more than 12 pairs of	
156	pinnas.....	16
157	16. Leaflets 0.7 cm long, 0.2 mm wide, acuminate leaf apex,	
158	legume with up to 7 articles.....	15Aeschynomene
159		histris
160	16. Leaflets 1.0 cm long, 0.3 mm wide, rounded leaf apex,	
161	legume with up to 5 articles.....	16Aeschynomene
162		paniculata
163	13. Composite leaves trifoliolate, fruit legume type.....	17
164	17. Leaf lobes lateral, leaflet equal to or greater than 4cm in	
165	length.....	18
166	18. Leaflets with 8cm in length, truncated raquer com 8cm de length,	
167	rachis truncated.....	17Phaseolus vulgaris
168	18. Leaflets, 4 cm long, not truncated	
169	raquer.....	19
170	19. Lateral leaflets with diminutive petiole to sessile, fruit	
171	legume type with 6 cm of length. indehiscent.....	18
172		Macroptilium atropurpureum
173	19. Side leaflets with elongated petiole, fruit legume type with	
174	5.6cm of length.....	19Macroptilium lathyroides
175	17. Not lobulated lateral leaflets, leaflet smaller than 4cm in	
176	length.....	20
177	20. Leaf apex emarginate, leaflet with 3cm of length. and 1.7cm	
178	wide, oblong.....	20Galactia jussiaeana
179	20. Acute leaf apex, leaflet with 1.9 cm of length. and 0.6cm wide,	
180	elliptical.....	21Stylosanthes viscosa

1. *Dioclea bicolor* Benth. (Comm. Legum. Gen.) 69, 1837.

Common Name: Mucuna.

Specie description: Liane with woody stem, presents approximately 2 m high, erect growth, shape rope, present linear stipules with 0.6cm of length., trifoliolate composite leaves, distical alternate phyllotaxy, large oblong lanceolate leaflet with 8,4 cm long and 5.0 cm wide, petiole with 4.6 cm, and leaf with approximately 13.1 cm, whole leaf margin, rounded leaf apex, penninerved vein, raceme inflorescence, fruit legume type, with 4 cm long, few pilose, with 2 to 5 seeds.

Material Examined: Brazil. Maranhão: São João do Sóter, Permanent Protection Area, 08/X/16, G. S. Gomes; G. M. Conceição, 10 (HABIT).

Geographical distribution: North (Acre, Amazonas, Pará); Northeast (Ceará, Maranhão); Center-West (Goiás, Mato Grosso) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado (Flora do Brasil 2020).

2. *Indigofera suffruticosa* Mill. Gard. Dict. (Ed. 8) Indigofera no. 2,1768.

Common Name: Anil, Indigo, Anileira

Specie description: Shrub with woody stem, 2m long, symmetrical erect growth, present linear stipules with 0.5cm of length, imparipinnates composite leaves, with 8 to 12 pairs of leaflets, alternate phyllotaxy, lanceolate oblong leaflet, with 3.0 cm in length. and 1.2 cm wide, petiole with 2.0 cm, leaf 9.3 cm long,

crenellated leaf margin, mucronate leaf apex, penninerved vein, symmetric leaflet, raceme Inflorescence, curved legume type dry fruit, forming in bunches in the main branch, with 8.0 cm of length, with fruit with 1.5 cm of length approximately.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição 56 (HABIT).

Geographical Distribution: North (Acre, Amazonas, Amapá, Pará, Rondônia, Roraima, Tocantins); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe); Center-West (Distrito Federal), Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domains: Amazon forest, Caatinga, Cerrado, Atlantic forest (Flora do Brasil 2020).

3. *Desmodium subsecundum* Vogel. (Linnaea) 12: 99, 1838.

Common Name: Unknown

Specie description: Subshrub with approximately 1 m of height, erect growth, woody stem, triangular stipules with approximately 0.4 cm of comp. and 0.1 cm wide, single large ovate leaves with some 3.4 cm in length. and 2 cm long. others with 20 cm of length. and 10 cm wide, trichomes on the stem of approximately 0.1 cm long, and 0.1 long, rather, 3 cm long petiole. and 0.4 cm wide. rachis measuring 0.4 cm wide. whole margin, rounded apex, ovate leaflet, symmetrical, penninerved vein, absent flower, fruit legume type of approximately 0.1 cm of length. and 0.1 cm wide. arranged alternately no petiole, having 3 to 5 articles with adherent trichomes.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 65 (HABIT).

Geographical Distribution: North (Acre, Pará, Tocantins); Northeast (Bahia); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil, 2017). This species is a new occurrence for the State of Maranhão.

Phytogeographical Domains: Amazon forest, Cerrado, Atlantic forest (Flora do Brasil, 2020).

4. *Desmodium incanum* (Sw.) DC. Prodr. 2: 332, 1825.

Common Name: Pega-pegã, mata-pasto, amor-do-campo

Specie description: Herbaceous subshrub, decumbent erect growth, is approximately 1m high, triangular stipules present with 0.6cm of compost. at the base of the petiole, composite trifoliate leaf, alternating phyllotaxy, elliptic leaflets, 2.4 cm long and 1.1 cm wide, 1.5 cm petiole, approximately 4.0 cm long leaf, whole leaf margin, apex rounded, symmetrical, penninerved vein, presence of trichomes, medium pilosity, inflorescence raceme, absent flower, dry fruit lomentum type, with 1,1 cm in length. Possessing 3 to 5 articles with adherent trichomes.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 51, 52 (HABIT).

Geographical Distribution: North (Acre, Amazonas, Amapá, Pará, Rondônia, Roraima, Tocantins); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domains: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pampa, Pantanal (Flora do Brasil 2020).

5. *Desmodium barbatum* (L.) Benth. Vidensk. Meddel. Dansk Naturhist. Foren. Kjøbenhavn 1853 (1-2): 18, 1853.

Common Name: Pega-pegã.

Specie description: Subshrub with 80cm of height, woody stem, erect growth, triangular stipules present with 0.6cm of length., composite leaves trifoliolates, phyllotaxy distical alternate, leaflets elliptic symmetrical, with 7 cm of length and 3,6 cm of width, petiole with 1.5 cm length, leaf with approximately 4.0 cm of length, whole leaf margin, rounded apex, pilosity with whitish trichomes, penninerved vein,

inflorescence raceme, absent flower, dried fruit lomentum type, 3 cm of length, and 0.8 cm long, has 3 to 6 items, clingy, clingy.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 67 (HABIT).

Geographical Distribution: North (Acre, Amazonas, Amapá, Pará, Rondônia, Roraima, Tocantins); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domains: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pampa, Pantanal (Flora do Brasil 2020).

6. *Abrus fruticulosus* Wight & Arn. (Prod. Fl. Ind. Orient.) 1: 236, 1834.

Common Name: Unknown

Specie description: Herb with approximately 1m of length, with herbaceous stem, indumentum in the present branch. Persistent, tiny linear stipules at the base of the petiole, petiole with 3.5 cm of length. and 2 cm long; leaves composite of 8 to 15 pairs of leaflets, bipinnates with 2.3 cm of length. and 0.9 cm wide. obovate, linear leaflets; legume, rounded apex, symmetrical limb, Inflorescence: position of the pseudo-raceme inflorescence, flower absent, typical fruit with 3.5 cm of length. and 1 cm wide. apex sharp to curved.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 57 (HABIT).

Geographical Distribution: North (Amazonas, Pará, Rondônia); Northeast (Maranhão); Center-West (Mato Grosso do Sul, Mato Grosso) (Flora do Brasil 2020).

Phytogeographical Domains: Amazon forest, Cerrado (Flora do Brasil 2020).

7. *Centrosema brasiliense* (L.) Benth Comm. Legum. Gen. 54, 1837.

Common name: Feijão bravo

Specie Description: Herb, herbaceous stem, approximately 1.5m in length, presents triangular ochrea stipules at the base of the petiole of 0.3 cm in length. and 0.2 mm long, trifoliate composite leaves, with an opposite pair at the base and one elongated by the rachis, 7 cm long leaf, alternate phyllotaxy, leaflets 5.2 cm long. and 3 cm long. lanceolate to linear, smooth margin, acute apex, penninerved vein, little evident trichomes, papilionaceous flower, purple petals, with heterochlamydeous axillary inflorescence, dichlamydeous, dialystemonous, complete, typical legume fruit 7,0 cm length. and 0.3-0.4 cm wide, linear.

Material Examined: Brazil. Maranhão: São João do Sóter, Permanent Protection Area; Populated Stones, 08/X/16; 23/VI/2017, G. S. Gomes; G. M. Conceição, 9, 44, 45 (Habit).

Geographic Distribution: North (Amazonas, Amapá, Pará, Roraima); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domains: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

8. *Clitoria guianensis* (Aubl.) Benth. J. Proc. Linn. Soc., Bot. 2: 40, 1858.

Common Name: Feijão do Campo

Specie description: Herb, approximately 50 cm tall, herbaceous stem, ovate stipules, striated, at the base of the petiole with 0.3 cm of length. and 0.1 mm long, composite leaf trifoliate with 5 cm of length. and 1 cm wide, lanceolate leaflet, alternates phyllotaxy, acute apex, penninerved veins, symmetric,

present trichomes, axillary inflorescence, flower, monoicous, subsessile; long tubular calyx whitish, striated, papilionaceous corolla, unguiculated petals, lilac, orbicular banner, lato; free wings, obovados, keel falcates, unguiculates petals, heterochlamydeous, dichlamydeous, dialystemonous, absent fruit.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 60 (HABIT).

Geographic Distribution: North (Amazonas, Amapá, Pará, Roraima, Tocantins) Northeast (Bahia, Ceará, Maranhão, Pernambuco, Piauí) Southeast (Espírito Santo, Minas Gerais, São Paulo) South (Paraná) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

9. *Periandra heterophylla* Benth. (Comm. Legum. Gen.) 57, 1837.

Common Name: Unknown

Specie description: Herbaceous stem-type climbing vine, 1.20 m long, decumbent erect growth, presence of linear stipules with 0.4 cm of length, absence of nectary, composite leaves, trifoliolate, alternate, leaflet ovate-lanceolate, 10 cm long. and 6.1 cm wide, petiole with 5.0 cm, leaf with approximately 8.0 cm, whole margin, mucronate leaf apex, marked penninerved vein, symmetrical leaflet, presence of trichomes in leaflets, homogeneous pilosity, cimose inflorescence with 0.8 cm of length, flower absent, fruit absent.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 53 (HABIT).

Geographic Distribution: North (Pará, Tocantins); Northeast (Bahia, Maranhão, Piauí); Center-West (Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Minas Gerais, São Paulo) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Cerrado (Flora do Brasil, 2017).

10. *Vigna lasiocarpa* (Mart.ex Benth.) Verdc. (Kew Bull.) 24 (3): 539.1970.

Common Name: Feijãozinho-do-brejo.

Specie Description: Herb with approximately 30 cm in length, erect decumbent growth, herbaceous stem, greenish branches, triangular stipules of 3 mm of length. and 1 mm wide at the base of the petiole. Leaves composite trifoliolate, alternate, adaxial structure with secondary penninerved vein marked in leaflets, leaflets obovate with 4.5 cm of length. and 3 cm long, acute leaf apex, petiole with 4 cm of length. 1 mm wide, full margin, symmetrical, presence of trichomes in leaflets. Inflorescence raceme, axial, yellow flower, zygomorph, achlamydeous, papilionaceous, dry fruit of the long legume type with 3 cm of length. and 0.2 cm wide, with trichomes.

Material Examined: Brazil. Maranhão: São João do Sóter, Permanent Protection Area, 08/X/16, G. S. Gomes; G. M. Conceição, 63 (HABIT).

Geographic Distribution: North (Amazonas, Amapá, Pará, Roraima); Center-West (Mato Grosso do Sul, Mato Grosso); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020). This species is a new occurrence for the Northeast region and the State of Maranhão.

Phytogeographical Domain: Amazon forest, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

11. *Crotalaria stipularia* Desv. J. Bot. Agric. 3: 76, 1814.

Common Name: Xique-xique

Specie Description: Herb stem-like stem herb, decumbent erect growth, 65cm long, linear stipules present with 0.3 cm of length. and 0.1 cm wide. nectaries absent, single leaves, alternate phyllotaxy, leaflets oblong lanceolate, with 4,7 cm of length. and 2,0 cm wide, winged petiole with 0.3 cm, leaf approximately 5.1 cm and 3 cm wide, leaf margin whole, apex emargined, penninerved vein, symmetric, presence of white trichomes, pilose, yellow papilionaceous flower with 0.3 cm of length. and 0.3 inches. with zygomorphic symmetry inflorescence cimose, heterochlamydeous, dichlamydeous, dialystemonous, dry fruit, capsule, with approximately 2.3 cm in length.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 47 (HABIT).

Geographical distribution: North (Acre, Pará, Roraima); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo) (Flora do Brasil 2020).

Phytogeographical Domains: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

12. *Crotalaria retusa* L. Sp. Pl. 2: 715, 1753.

Common Name: Chocalho de Cascavel, Guizo de cascavel, xique-xique.

Specie description: Herb stem type herb, 50 cm high, decumbent erect growth, linear stipules present with 0.4 cm of length, absent nectaries, single leaves, alternate phyllotaxy, obovate leaflets, 4.2 cm l bought 1.5 cm wide, 0.3 cm petiole, 4.6 cm long leaf and 4 cm wide, whole leaf margin, emarginated apex, penninerved vein, cuminous inflorescence, absent flower, dried fruit, capsule, with approximately 3.0 cm of length, and 0.8 cm wide. with legume acute terminal.

Material Examined: Brazil. Maranhão: São João do Sóter, Permanent Protection Area, 08/X/16, G. S. Gomes; G. M. Conceição, 12 (Habit).

Geographic Distribution: North (Pará); Northeast (Bahia, Maranhão, Piauí); Southeast (Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pampa (Flora do Brasil 2020).

13. *Aeschynomene viscidula* Mich. Fl. Bor.Amer. 2: 74-75, 1803.

Common Name: Unknown

Specie description: Herb with approximately 50 cm of height, herbaceous stem, prostrate growth, branches with 32 cm of length. and 19 cm wide, triangular stipules with 0.4 mm of length. and 0.2 mm wide, are found at the base of the petiole, composites bipinnates leaves, with 3 to 6 pairs of leaflets subopposed, leaflet with 1.7 cm of length. and 1 cm wide, petiole of 0.5 cm of length, and 0.1 mm wide, obovate leaflets 0.5 cm long, and 0.6 mm wide, trichomes, flower with campanulate calyx, papilionaceous, yellow cream, showy standard, heterochlamydeous, dialytemones, dialypetalous, Fruit lomentum legume type, with articles joined by isthmus with 1 cm of length. and 0.3 mm in length, features 3 hairpieces.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 59 (HABIT).

Geographical distribution: North (Tocantins); Northeast (Alagoas, Bahia, Ceará, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe); Center-West (Mato Grosso do Sul); Southeast (Espírito Santo, Minas Gerais) (Flora do Brasil 2020). This species is a new occurrence for the State of Maranhão.

Phytogeographical Domains: Caatinga, Cerrado, Atlantic forest (Flora do Brasil 2020).

14. *Aeschynomene brasiliiana* (Poir.) DC. Prodr. 2: 322, 1825.

Common Name: Unknown

Specie description: Herb with approximately 50 cm of height, woody stem, erect growth to decumbent, branches with gray parts, triangular stipules with 1 cm of length. and 0.3 cm wide, composite bipinnates leaves have 6 to 12 pairs of leaflets, with 6 cm of length, and 1.4 cm wide, leaflets obovates with 0.8 cm of length, and 0.4 cm wide, leaflets of the base larger than the leaflets of the apex of the pinnae, petiole with 1 cm of length, and 0.2 cm wide, presence of trichomes with 1 mm of length, smooth margin, apex of rounded leaflet, symmetrical, with penninerved veins, inflorescence raceme, flower absent, fruit legume with 0.3 cm of length. and 0.2 inches long, arranged in the petiole with 0.3 cm of length. e has 3 to 6 articles.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 64 (HABIT).

Geographic Distribution: North (Amazonas, Amapá, Pará, Rondônia, Roraima, Tocantins); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí); Center-West (Distrito Federal, Goiás,

Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná) (Flora do Brasil, 2017).

Phytogeographical Domains: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

15. *Aeschynomene hirta* Poir. Encycl., Suppl. 4 (1): 77-78, 1816.

Common Name: Lentilha do Campo; sensitiva modesta.

Specie description: Herb, presents on average 45 cm in height, erect decumbent growth, triangular stipules present with 0.3cm of length. to 0.1cm wide. it presents at the base of the petiole, striated, composite leaves bipinnates with 10 to 18 pairs of leaflets, alternate phyllotaxy; petiole 4-7 cm long and 0.4 cm wide; leaflets 0.7 cm. and 0.2 cm wide, opposite, oblong, whole leaf margin, apex acuminate, with whitish trichomes; flower absent; dry fruit, lomentum legume, with about 3cm length. presents from 4 to 7 items dressed.

Material Examined: Brazil. Maranhão: São João do Sóter, Permanent Protection Area, 08/X/16, G. S. Gomes; G. M. Conceição, 6, 7, 8 (Habit).

Geographic Distribution: North (Acre, Amazonas, Amapá, Pará, Roraima, Tocantins); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Minas Gerais, São Paulo); South (Paraná) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

16. *Aeschynomene paniculata* Willd. ex Vogel (Linnaea) 12: 95-96, 1838.

Common Name: Cortiça.

Specie description: Herb, with 60 cm height, decumbent erect growth, grayish branches, presence of triangular stipules with 0.1 cm of length. and 0.1 cm wide; garment with few whitish trichomes; 0.6cm petiole; leaves approximately 6,5 cm long. and 3 cm long. composed of 12 to 25 pairs of leaflets, bipinnates, alternating phyllotaxy, absence of nectaries; oblong leaflet, 1.0 cm long, 0.3 wide, whole margin, rounded leaf apex; median leaflets larger than the base and apex, cymose inflorescence with 0.3 cm of length, absent flower, fruit legume lomentum with 5 articles.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição 55 (HABIT).

Geographical Distribution: North (Acre, Amazonas, Amapá, Pará, Rondônia, Roraima, Tocantins); Northeast (Bahia, Ceará, Maranhão, Piauí, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

17. *Phaseolus vulgaris* L. Sp. Pl. 2: 723,1753.

Common Name: Feijão-base, feijão-comum, feijoeiro

Specie description: Herb stem climbing herb, prostrate erect growth, 20cm long, greenish branches, absent stipules, trifoliolate composite leaves, alternating, leaflets cordate to sagittate, 8cm in length, and 4.3 cm wide, petiole with 0.2 cm of length. and 0.1 cm in length, leaves 8.2 cm in length, entire undulate margin, penninerved vein, acute leaf apex, symmetrical, reduced pulvin, truncated raquer, absent fruit and flower absent.

Material Examined: Brazil. Maranhão: São João do Sóter, Permanent Protection Area, 08/X/16, G. S. Gomes; G. M. Conceição, 01 (HABIT).

Geographic Distribution: North (Pará); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domains: Amazon forest, Caatinga, Cerrado, Atlantic forest (Flora do Brasil 2020).

18. *Macroptilium atropurpureum* (Sessé & Moc. ex DC.) Urb. Symb. Antill. 9 (4): 457, 1928.

Common Name: Leucena, Siratro

Specie description: Herb with approximately 60 cm of length, Herbaceous stem, erect decumbent growth, green branches with 21,5 cm of length, and 16 cm wide. triangular stipules of approximately 0.2 cm in length, and 0.1 cm wide, composite leaves, alternate, trifoliolate with 6 cm of length. and 4 cm long. leaflets oblong-lanceolate to sagittate of 4 cm of length. and 1.8 cm wide. ondulate margin, rounded apex, penninerved vein, symmetrical, slightly pilose, lobed lateral leaflets sessile and main leaflet extended by rachis, absent flower, dry fruit legume type with 6 cm of length, and 0.4 cm wide, indehiscent.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 61, 62 (HABIT).

Geographic Distribution: North (Amazonas, Pará, Roraima); Northeast (Alagoas, Bahia, Maranhão, Paraíba, Pernambuco, Rio Grande do Norte, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

19. *Macroptilium lathyroides* (L.) Urb. Symb. Antill. 9 (4): 457, 1928.

Common Name: Feijão-de-rola.

Specie description: Herb, decumbent erect growth, approximately 30cm in length, greenish branches, triangular stipules present with 0.5cm of length. and 0.2 cm wide, presence of nectary rounded in the petiole, composite leaves trifoliolate, phyllotaxy distical alternate, leaflet lanceolate to linear, with 4cm of length. and 2.6 cm wide, 5 cm petiole, 7.0 cm long leaf, whole leaf margin, acute leaf apex, symmetrical, leaf apex obtuse to codiform, presence of scattered trichomes, absent flower, dry fruit type legume long, approximately 5.6cm.

Material Examined: Brazil. Maranhão: São João do Sóter, Pedras Village, 23/VI/17, G. S. Gomes; G. M. Conceição, 54 (HABIT).

Geographic Distribution: North (Amazonas, Pará, Roraima); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Cerrado, Atlantic forest, Pantanal (Flora do Brasil 2020).

20. *Galactia jussiaeana* Kunth. Mimos. 196-200, pl. 55, 1824.

Nome Vulgar: Unknow

Specie Description: Herb, decumbent erect growth, 1m long, presence of triangular stiples with 0.4cm, trifoliolate composite leaves, alternate phyllotaxy, oblong leaflets with trichomes, leaflet with 3cm of length. and 1.7 cm wide, petiole 3.0 cm, leaf approximately 6,0 cm, whole leaf margin, emarginated leaf apex, penninerved vein, trichomes on leaflets and branches, pilose, symmetrical leaflet, absent flower, fruit dry legume type with 6cm of length. and 0.3 cm wide, terminal apex of falcate fruit.

Material Examined: Brazil. Maranhão: São João do Sóter, Serra do Cajuí Village, 14/II/17, G. S. Gomes; G. M. Conceição, 18 (HABIT).

Geographic Distribution: North (Amazonas, Amapá, Pará, Rondônia, Roraima); Northeast (Bahia, Maranhão, Piauí); Center-West (Goiás) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado (Flora do Brasil 2020).

21. *Stylosanthes viscosa* (L.) Sw. Prodr. 108,1788.

Common Name: Unknow

Specie Description: Herb, 30cm long, decumbent erect growth, greenish branches, with triangular stipules of 0.5 cm length in the base of petiole, composite leaves trifoliolate, phyllotaxy distical alternate, leaflets elliptical, with 1.9 cm in length. and 0.6 cm wide, petiole with 0.5cm of length, and 0.2 cm wide, leaf with approximately 2.5 cm, whole margin, acute leaf apex, penninerved vein, presence of glandular trichomes in all branches, homogeneous pilosity, symmetrical leaflets, cimous inflorescence with 4,5 cm of length, dichlamydeous, heterochlamydeous, gamossepal with 0.4 cm of comp., gamopetal with zygomorph symmetry, papilionaceous yellow flowers with, striated standard marked with red coloration. Fruit absent.

Material Examined: Brazil. Maranhão: São João do Sóter, Permanent Protection Area, 08/X/16, G. S. Gomes; G. M. Conceição, 46 (HABIT).

Geographical Distribution: North (Acre, Amazonas, Amapá, Pará, Rondônia, Roraima, Tocantins); Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe); Center-West (Distrito Federal, Goiás, Mato Grosso do Sul, Mato Grosso); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, Santa Catarina) (Flora do Brasil 2020).

Phytogeographical Domain: Amazon forest, Caatinga, Cerrado, Atlantic forest, Pampa, Pantanal (Flora do Brasil 2020)

4. CONCLUSION

The subfamily Papilionoideae totalized for the study area, 21 species and 14 genera with three new occurrences for the state Maranhão. The species listed presents ample geographical distribution in Brazil, with occurrence in vary phytogeographical domains brazilian. Thus, the research contribute for the filling of gaps on knowledge of the Fabaceae species, which may contribute in other scientific fields, as assist in the elaboration of management plan and the knowledge on status of conservation of species.

5. REFERENCES

1. Lewis, GP, Schrire, BD, Mackinder, BA, Lock, JM. **Legumes of the World**. Royal Botanic Gardens, Kew. p. 577, 2005.
2. LPWG. Legume Phylogeny Working Group. A new subfamily classification of the Leguminosae based on a taxonomically comprehensive phylogeny. **Taxon**. v. 66, n.1, p. 44–77, 2017 DOI: 10.12705/661.3
3. Beech, E, Rivers, M, Oldfield, S, Smith, PP. GlobalTreeSearch: The first complete global database of tree species and country distributions. **Journal of Sustainable Forestry**, v. 36, n. 5, p. 454-489, 2017. DOI: 10.1080/10549811.2017.1310049
4. FLORA DO BRASIL. **Lista de Espécies da Flora do Brasil**. Jardim Botânico do Rio de Janeiro. 2018 Disponível em: <<http://floradobrasil.jbrj.gov.br/>>. Acesso em: 22/01/2018.
5. BFG. Growing knowledge: an overview of seed plant diversity in Brazil. **Rodriguésia**. v. 66, p. 1085-1113, 2015. DOI: <http://dx.doi.org/10.1590/2175-7860201566411>.
6. LPWG. Legume Phylogeny Working Group. Legume phylogeny and classification in the 21st century: Progress, prospects and lessons for other species-rich clades. **Taxon**. v. 62, p. 217–248, 2013. DOI: <https://doi.org/10.5167/uzh-78167>.
7. Wojciechowski, WF. Reconstructing the phylogeny of legumes (Leguminosae): an early 21st century perspective. In: Klitgaard, BB, Bruneau, A. **Advances in legume Systematics**, Kew Royal. Botanic Gardens, v. 10, p. 5-35, 2003.
8. Queiroz, LP. **Leguminosas da Caatinga**. Universidade Estadual de Feira de Santana. Royal Botanic Gardens; Associação Plantas do Nordeste, p. 467, 2009.
9. Polhill, RM. Papilionoideae. In: Polhill, RM, Raven, PH. **Advances in Legume Systematics**. Royal Botanic Gardens, Kew, v.1, pp. 191-208, 1981.
10. Andrade, AL, Miotto, STS, Santos, EP. **A Subfamília Faboideae (Fabaceae Lindl.) no Parque Estadual Guartelá, Município de Tibagi, estado do Paraná**. Dissertação (Mestrado). Programa de Pós-Graduação em Botânica Universidade Estadual do Paraná, Curitiba. p. 130, 2008.
11. Galinkin, M, Dias, A, Latrubesse, EM, Scardua, FP, Mendonça, AF, Arruda, MB. Projeto Corredor Ecológico Araguaia – Bananal. In: ARRUDA, M. B.; SÁ, L. F. S.

- N. **Corredores Ecológicos – Uma abordagem integradora de ecossistemas no Brasil**. Brasília: Ed. IBAMA. p. 81-132, 2004.
12. Strassburg, BBN, Brooks, T, Feltran-Barbieri, R, Iribarrem, A, Crouzeilles, R, Loyola, R, Latawiec, AE, Oliveira-Filho, FJB, Scaramuzza, CAM, Scarano, FR, Soares-Filho, B, Balmford, A. Moment of truth for the Cerrado hotspot. **Nature Ecology & Evolution**. On-line, 2017. DOI:10.1038/s41559-017-0099.
13. Chaves, LPFA, Silva, RA, Amaral, YT, Costa, MKL, Siqueira, GM. Biogeographical Diversity of North Mesoregion of the Maranhão State (Brazil). **Journal of Geospatial Modelling**, v.1, n.1, p. 19-32, 2016. DOI: <http://dx.doi.org/10.22615/jgm-1.1-5811>
14. Muniz, FH. Efeito do manejo florestal sobre a composição florística e fitossociologia da floresta na Amazônia maranhense. In: MARTINS, M. B.; Oliveira, T. G. **Amazônia Maranhense: Diversidade e Conservação**. Belém: MPEG, p.118-140, 2011.
15. IBGE. **Indicadores sociais municipais: uma análise dos resultados do universo do censo demográfico 2010**. Instituto Brasileiro de Geografia e Estatística. Rio de Janeiro. p. 151 2010. Disponível em: www.ibge.gov.br/home/estatistica/populacao/censo2010/indicadores_sociais_municipais/indicadores_sociais_municipais.pdf. Acesso em: 20/01/2018.
16. Bononi, VLR, Fidalgo, O. **Técnicas de coleta, preservação e herborização do material botânico**. Instituto de Botânica de São Paulo. p. 62, 1989.
17. Costa, JAS. **Estudos taxonômicos, biosistemáticos e filogenéticos em Copaifera L. (Leguminosae-Detarieae) com ênfase nas espécies do Brasil extra-amazônico**. Tese de Doutorado. Universidade Estadual de Feira de Santana, Feira de Santana. p. 249, 2007.
18. Garcia, JM, Kawakita, K, Miotto, STS, Souza, MC. O gênero *Crotalaria* L. (Leguminosae, Faboideae, Crotalarieae) na Planície de inundação do Alto Rio Paraná, Brasil. **Revista Brasileira de Biociências**. v. 11, n. 2, p. 209 -226, 2013. Disponível on-line in <http://www.ufrgs.br/seerbio/ojs/index.php/rbb/article/view/2361>
19. Sao-Mateus, WMB, Cardoso, D, Jardim, J.G, Queiroz, LP. Papilionoideae (Leguminosae) na Mata Atlântica do Rio Grande do Norte, Brasil. **Biota Neotropica**, v. 13, n. 4, p. 315 – 362, 2013.DOI: <http://dx.doi.org/10.1590/S1676-06032013000400028>.
20. Silva, WLS, Rocha, AE, Santos, JUM. Leguminosae em Savanas do Estuário Amazônico Brasileiro. **Rodriguésia**. v. 65, n. 2, p. 329-353, 2014.
21. APG IV. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. **Botanical Journal of the Linnean Society**. v. 181, p. 1–20, 2016 DOI: <https://doi.org/10.1111/boj.12385>.
22. Gomes, GS, Silva, GS, Silva, DLS, Oliveira, RR, Conceição, GM. Botanical Composition of Fabaceae Family in the Brazilian Northeast, Maranhão, Brazil. **Asian Journal of Environment & Ecology**. v.6, p.1 - 10, 2018. DOI: 10.9734/AJEE/2018/41207