

## Supplementary

**Supplementary Table S1:** List of the wild *Vigna* accessions used in this study and their region of provenance

Accessions number	Regions	Species
1	Thiès	<i>Vigna unguiculata</i> var. spontanea
2	Thiès	<i>Vigna unguiculata</i> var. spontanea
3	Thiès	<i>Vigna unguiculata</i> var. spontanea
5	Thiès	<i>Vigna unguiculata</i> var. spontanea
6	Thiès	<i>Vigna unguiculata</i> var. spontanea
7	Thiès	<i>Vigna unguiculata</i> var. spontanea
8	Thiès	<i>Vigna unguiculata</i> var. spontanea
9	Thiès	<i>Vigna unguiculata</i> var. spontanea
10	Thiès	<i>Vigna unguiculata</i> var. spontanea
11	Thiès	<i>Vigna unguiculata</i> var. spontanea
12	Thiès	<i>Vigna unguiculata</i> var. spontanea
13	Thiès	<i>Vigna unguiculata</i> var. spontanea
14	Thiès	<i>Vigna radiata</i>
15	Thiès	<i>Vigna unguiculata</i> var. spontanea
16	Thiès	<i>Vigna unguiculata</i> var. spontanea
17	Thiès	<i>Vigna unguiculata</i> var. spontanea
18	Thiès	<i>Vigna unguiculata</i> var. spontanea
19	Thiès	<i>Vigna unguiculata</i> var. spontanea
22	Diourbel	<i>Vigna unguiculata</i> var. spontanea
26	Thiès	<i>Vigna unguiculata</i> var. spontanea
27	Thiès	<i>Vigna unguiculata</i> var. spontanea
28	Thiès	<i>Vigna unguiculata</i> var. spontanea
29	Thiès	<i>Vigna unguiculata</i> var. spontanea
47	Fatick	<i>Vigna unguiculata</i> var. spontanea
48	Fatick	<i>Vigna unguiculata</i> var. spontanea
49	Fatick	<i>Vigna unguiculata</i> var. spontanea
50	Fatick	<i>Vigna unguiculata</i> var. spontanea
51	Fatick	<i>Vigna unguiculata</i> var. spontanea
52	Fatick	<i>Vigna unguiculata</i> var. spontanea

**Supplementary Table S1:** List of the wild *Vigna* accessions used in this study and their region of provenance (continued)

Accessions number	Regions	Species
53	Fatick	<i>Vigna unguiculata</i> var. spontanea
54	Fatick	<i>Vigna unguiculata</i> var. spontanea
55	Fatick	<i>Vigna unguiculata</i> var. spontanea
56	Fatick	<i>Vigna unguiculata</i> var. spontanea
58	Fatick	<i>Vigna unguiculata</i> var. spontanea
59	Fatick	<i>Vigna unguiculata</i> var. spontanea
60	Fatick	<i>Vigna unguiculata</i> var. spontanea
61	Fatick	<i>Vigna unguiculata</i> var. spontanea
66	Fatick	<i>Vigna unguiculata</i> var. spontanea
67	Fatick	<i>Vigna unguiculata</i> var. spontanea
68	Fatick	<i>Vigna unguiculata</i> var. spontanea
69	Fatick	<i>Vigna unguiculata</i> var. spontanea
71	Fatick	<i>Vigna unguiculata</i> var. spontanea
72	Fatick	<i>Vigna unguiculata</i> var. spontanea
75	Kolda	<i>Vigna racemosa</i>
77	Kolda	Unidentified accession
79	Kolda	<i>Vigna racemosa</i>
81	Sédhiou	<i>Vigna racemosa</i>
82	Sédhiou	<i>Vigna unguiculata</i> var. spontanea
84	Sédhiou	<i>Vigna racemosa</i>
88	Kolda	<i>Vigna racemosa</i>
90	Kolda	<i>Vigna unguiculata</i> (hybrid)
92	Kolda	<i>Vigna racemosa</i>
93	Kolda	<i>Vigna racemosa</i>
94	Kolda	<i>Vigna racemosa</i>
95	Kolda	<i>Vigna racemosa</i>

**Supplementary Table S2:** Agro-morphological characteristics of 55 wild *Vigna* accessions

Accession Number	Species	Leaf color	Terminal leaflet shape	Hypocotyl color	Growth habit	Plant hairi- ness	Plant pigmen- tation	Flower color	Leaf texture	Seed shape	Pod Dehiscence	Eye color of the seed	Texture of the seeds
1	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
2	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
3	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
5	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
6	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
7	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
8	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
9	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
10	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
11	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
12	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
13	<i>V. unguiculata</i> var. spontanea	Dark green	Globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
14	<i>V. radiata</i>	Intermediate green	Deltoide	Green	Climbing	Pubescent	Presence	Yellow	Cariaceous	Globuleuse	Dehiscent	White	Smooth
15	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
16	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
17	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
18	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
19	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
22	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
26	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
27	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
28	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
29	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough

**Supplementary Table S2:** Agro-morphological characteristics of 55 wild *Vigna* accessions (continued)

Accession Number	Species	Leaf color	Terminal leaflet shape	Hypocotyl color	Growth habit	Plant hairiness	Plant pigmentation	Flower color	Leaf texture	Seed shape	Pod Dehiscence	Eye color of the seed	Texture of the seeds
47	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
48	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
49	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
50	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
51	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
52	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
53	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
54	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
55	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
56	<i>V. unguiculata</i> var. spontanea	Dark green	Lanceolate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
58	<i>V. unguiculata</i> var. spontanea	Dark green	Lanceolate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
59	<i>V. unguiculata</i> var. spontanea	Dark green	Lanceolate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
60	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
61	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
66	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
67	<i>V. unguiculata</i> var. spontanea	Dark green	Hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
68	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
69	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
71	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
72	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
75	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
77	Unidentified accession	Pale green	Elliptical	Purple	Climbing	Pubescent	Absence	Yellow	Membranous	Cylindrical	Not Dehiscent	Black	Rough

**Supplementary Table S2:** Agro-morphological characteristics of 55 wild *Vigna* accessions (continued)

Accession			Terminal	Hypocotyl	Growth	Plant hairi-	Plant pigmen-	Flower	Leaf		Pod	Eye color of the	Texture of
Number	Species	Leaf color	leaflet shape	color	habit	ness	tation	color	texture	Seed shape	Dehiscence	seed	the seeds
79	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
81	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
82	<i>V. unguiculata</i> var. spontanea	Dark green	Sub-hastate	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
84	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
88	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
90	<i>V. unguiculata</i> (hybrid)	Dark green	Sub-globose	Green	Climbing	Glabrous	Presence	Violet	Cariaceous	Rhomboid	Dehiscent	White	Rough
92	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
93	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
94	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth
95	<i>V. racemosa</i>	Intermediate green	Oval	Purple	Climbing	Pubescent	Absence	Dark blue	Membranous	Rhomboid	Dehiscent	White	Smooth