The notes below are excerpted from an old project on Leguminosae chemistry that was never completed.
All entries are still very rough and only semi-completed but it has been suggested this is of value to put online pending its completion.

Table of contents

Mucuna spp.

L-DOPA
In defatted air dried seed meal
Mucuna sp. (Georgia) 3.1% L-Dopa
Mucuna sp. (Japan) 4.4% L-Dopa
Daxenbichler et al. 1971

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Mucuna andreana

L-Dopa
M. andreana (Costa Rica) excluding seed coat

wt of whole seed (gm)	% L-Dopa
6.0	6.3
7.6	8.9
9.4	6.9

Bell and Janzen 1971

(—)-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al.
citing
EA Bell, Nulu & Cone 1971 Phytochemistry 10: 2191-2194
and
Saito et al 1982 Phytochemistry 21: 474

Brazil: dried stems & roots
Reported allantoin, beta-sitosterol, daucosterol, stigmasterol, stigmasterol D-glycoside. Also mixtures of fatty acids and triacylglycerols.
Extract showed nematocidal activity.
Barbosa et al. 1999.

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Mucuna aterrima

(all defatted air dried seed meal

% L-Dopa	
5.0	Mexico
4.3	Florida
4.4	Colombia
4.6	Costa Rica
4.7	Nigeria

Daxenbuchler et al. 1971

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Mucuna cochinchinensis

Performed a generic phytochemical analysis without compound identifications.
Murthy et al. 2016
The fruits produced 0.96% L-dopa in an earlier work.
citing
Anonymous. 2006. The Wealth of India- Raw Materials. First Suppl Ser. NISCAIR; 166-167.

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Mucuna deeringiana

(USA & Argentina)
Has several non-protein amino acids
Hegart & Peterson

(—)-1-Methyl-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al 1986
citing
Daxenbichler et al 1972 Tetrahedron Letters 1801
and

(—)-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al 1986
citing
EA Bell, Nulu & Cone 1971 Phytochemistry 10: 2191-2194

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Mucuna birdwoodiana

In stembark:
3'-methoxycoumestrol
formononetin
genisten
8-0-methylretusin
7, 3'dihydroxy-5'-methoxyisoflavone
chrysophanol
syringaresinol
epifriedelanol
lupeol
Gong et al. 2010 Zhongguo Zhong yao za zhi, 35(13):1720-2

Isolated from the stems..
Structures elucidated through spectral analysis.
A novel coumarin (mucodianin A)
three new 2-arylbenzofurans (mucodianins B-D)
four known 2-arylbenzofurans
First report of 7-quinonylcoumarin as stable form in a natural product.
Gong et al 2010Chemical & Pharmaceutical Bulletin, 58(2), 254–256.

Two new isoflavone glycosides from stem
mucodianins E (retusin 7-O-beta-D-xylopyranosyl-(1 → 6)-beta-D-glucopyranoside)
mucodianins F (8-O-methylretusin 7-O-beta-D-xylopyranosyl-(1 → 6)-beta-D-glucopyranoside)
Gong et al 2010 Journal of Asian Natural Products Research, 12(3), 199–203.

Stems gave four triterpene sapogenols after hydrolysis and methylation.
The same extract gave four triterpene glycosides after methylation.
Basing their identifications on spectral analysis, they reported:
methyl asiatate,
methyl maslinate
methyl 1β,2α,3β,23-tetrahydroxyolean-12-en 28-oate (mucunagenin a)
the urs-12-en isomer (mucunagenin b)
3-O-(6-O-methyl-β-d-glucuronopyranosyl) methyl asiatate
3-O-[α-l-arabinopyranosyl(1 → 2)]-6-O-methyl-β-d-glucuronopyranosyl methyl maslinate

3-O-[α-l-arabinopyranosyl(1 → 2)]-6-O-methyl-β-d-glucuronopyranosyl methyl asiatate
3-O-(6-O-methyl-β-d-glucuronopyranosyl) asiatic acid 28-O-β-d-glucopyranoside.
Ding et al. 1991

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Mucuna holtonii

M. holtonii excluding seed coat

wt of whole seed (gm)	% L-Dopa
6.8	6.4
6.2	7.5

Bell and Janzen 1971

Guatemala
6.7% L-Dopa (defatted air-dried seed meal)
Purported to have the highest level of genus
Daxenbichler et al. 1971

(—)-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al 1986
citing
EA Bell, Nulu & Cone 1971 Phytochemistry 10: 2191-2194

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Mucuna mutisiana

L-Dopa (also the isoquinoline)
seeds 3.9% yield
Bell, Nulu and Cone 1971

L-Dopa
and
l-3-carboxy 6,7 dihydroxy 1,2,3,4 H^4 isoquinoline
200 g seeds gave 8 g L Dopa and 4.4 g of the isoquinoline
B Oliver Bever 1983
cited
Bell et al 1971

Colombia

wt of whole seed (gm)	excluding seed coat
7.4	6.8
7.3	6.3

Bell and Janzen 1971

(—)-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al 1986
cited
EA Bell, Nulu & Cone 1971 Phytochemistry 10: 2191-2194

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Mucuna pruriens

Mucuna pruriens (Linn.) DC
= Dolichos pruriens Linn.
= Mucuna prurita Hook.
= Stizolobium pruriens (Linn.) Medic.
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.

cowhage - cow-itch

5-HT
Mears and Mabry 1971 p. 147
cited
K. Bowden et al 1954 Nature London 174, 925

Serotonin in trichomes (stinging hairs) on pods.
Ghosal et al 1971 Planta Medica 19: 279-284:
&
Gibbs 1974
&
Stowe 1959
Also B Oliver-Bever 1983 J Ethnopharm 1-93
who cited
Broadbent 1953
&
Bowden et al 1954

Colombia	% L-Dopa
wt of whole seed (gm)	excluding seed coat
0.4	6.4
0.4	5.9

Bell and Janzen 1971

L-Dopa
1.5% of seed wt
Bell and Janzen 1971
also Bell, Nulu and Cone 1971
also ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited
Damodaran and Ramaswamy 1937 Biochem J 31: 2149.

L-Dopa
4% crude weight
Cultivation and Utilization of Medicinal Plants

(—)-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al 1986
citing
EA Bell, Nulu & Cone 1971 Phytochemistry 10: 2191-2194

Indole alkylamines
Hofmann and Schultes 1980
cited
Bhattacharya 1971 Ind. J. Physiol. Allied Sci 25(2): 53-56

DMT root, stem-leaf, pod
DMT-N-oxide root, stem
5-MeO-DMT root, stem
Serotonin trichomes
Bufotenine root, stem-leaf, pod
6-Methoxyharman stem-leaf
Ghosal 1972 Planta Medica 200-209

DMT-N-oxide leaf/stem/seed
Choline leaf/stem/seed
Ghosal, Banerjee, Banerjee 1970 Phytochem

6-Methoxy-1-methyl-9*H*-pyrido[3,4-*b*]indole
6-Methoxyharman
Allen and Holmstedt 1980
cited
116

Serotonin
5-MeO-DMT
DMT
DMT-N-oxide
Bufotenine
leaf/stem/flower
Smith 1977b

cited
74 Bhattacharya
and
75 Ghosal

In seeds:
mucunine
mucinadine
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited
Mehta and Majumdar 1944 Indian J Pharm 6: 92
and
Santra and Majumdar 1953 Indian J Pharm 15: 60

prurienine
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited
Majundar and Zalani 1953 Indian J Pharm 5: 62

5 indolic compounds
2 of which were tryptamine and 5HT
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited
Pant and Joshi 1970 Indian J Pharmacol 2: 24

Different parts (except trichomes of pods)
4 indole alkylamines:
DMT
DMT-N-oxide
bufotenine
5-MeO-DMT
plus 2 unidentified 5-oxy-indole-3-alkylamines
choline in all parts
trichomes of pods= onlt 5HT
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited
Ghosal and Singh 1970 2nd Soviet Symp Chem Nat Prod incl Pharmacology
and
Ghosal et al 1971 Planta Medica 19: 279

From fresh leaves
DMT 0.01%
DMT-N-oxide 0.003%
5-MeO-DMT 0.01%
Chloroform soluble bases:
unidentified beta carboline
unidentified 5-oxy-indol-3-alkylamine
choline in all parts
Water soluble base:
unidentified indole-3-alkylamine
Ghosal et al 1971 Planta Medica 19: 279-284:

In micrograms/gm.

Part	Bufotenine	5-MeO-DMT	
Seeds (Malawi)	1.2	0.63	(also saw tryptamine)

Szabo 2003
See also Szabo & Tebbett 2002.

Indole alkyl amines
Hofmann and Schultes 1980
cited
Bhattacharya 1971

Mucuna pruriens
6-methoxyharman
stem-leaf
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited
Ghosal 1972 Planta Medica 21: 200

In seed oil:
stearic acid
palmitic acid
myristic acid
arachidic acid
oleic acid
linoleic acid
a sterol
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited

Mehta and Majumdar 1944 Indian J Pharm 6: 92

also
cis-12,13-epoxyoctadec-trans-9-enoic acid
cis-12,13-epoxyoctadec-cis-9-enoic acid (vernolic acid)
ICMR 1987 Medicinal Plants of India vol. 2, p. 282-289.
cited
Hasan et al 1980 J India Chem Soc 57: 920

Beans used in aphrodisiac and for seminal weakness and impotency.
Roots and twigs used in certain magical curing.
Pushpangadan and Atal 1984

Leaf infusion for scorpion stings.
Seed decoction for snake bite and scorpion stings
1990 J. Ethnopharm 29(2): p 148

Leaf used for snake bite
Houghton & Osibogun 1993
cited
Houghton & Skari 1992

Also see:
Bell et al. 1971
Ghosal et al 1971b
Majumdar and Zalani 1953

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Mucuna sloani

wt of whole seed (gm)	excluding seed coat % L-Dopa
2.9	8.7%
3.5	9.0%

Bell and Janzen 1971

(—)-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al.
citing
EA Bell, Nulu & Cone 1971 Phytochemistry 10: 2191-2194

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Mucuna urens

air-dried defatted seed meal
(Florida)
5.2% L-Dopa

wt of whole seed (gm)	excluding seed coat % L-Dopa
6.3	6.4%
4.8	7.4%

Daxenbichler et al 1971

Root used for snake bite
Houghton & Osibogun 1993
cited
Houghton & Skari 1992

(—)-3-carboxy-6,7-dihydroxy-1,2,3,4-H^4-isoquinoline
Menachery et al.
cited
EA Bell, Nulu & Cone 1971 Phytochemistry 10: 2191-2194

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Mucuna utilis

L-Dopa
seeds 0.24%
IMCR 1987 Med Plants of India vol 2
cited
Ghosh 1982 Indian Drugs 20: 24

As *Mucuna pruriens* var. *utilis*

Indolealkylamines were reported in assorted plant parts (in micrograms/gm).

Part	Bufotenine	5-MeO-DMT	
Leaves	8.29	2.73	(also saw tryptamine)
Pods	<0.5	1.29	
Roots	5.96	1.76	
Seeds (Nord 98)	1.46	0.34	
Seeds (IITA 98)	1.25	0.39	
Stems	5.05	2.04	

Szabo 2003
See also Szabo & Tebbett 2002. in BM Flores et al (eds) *Mucuna* as a Food and Feed: Current Uses and the Way Forward, pages 120-141. The Chemistry and Toxicity of *Mucuna* Species.

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Dr. Duke's data needs viewing with caution as it often references itself rather than the sources of its information. If Dr. Duke performed the work

this is scceptable but in a number of instances errors are perpetuated in this database with no means of learning more about their origin.

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