**Appendix 3. Morphological matrices**

**Matrix 1**

Randia aculeata 0

Acrosynanthus trachyphyllus 2

Antirhea lucida 1

Arachnothryx afinnis 2

Arachnothryx aspera 2

Arachnothryx buddleioides 2

Arachnothryx capitellata 2

Arachnothryx guerrerensis 2

Arachnothryx heteranthera 2

Arachnothryx juerguensenii 2

Arachnothryx leucophylla 2

Arachnothryx manantlanensis 2

Arachnothryx pumae 2

Arachnothryx pyramidalis 2

Arachnothryx secundiflora 2

Arachnothryx stachyoidea 2

Arachnothryx tabascensis 2

Arachnothryx villosa 2

Phyllomelia coronata 3

Calycophyllum candidissimum 2

Casasia clusiifolia 0

Casasia jacquinoides 0

Ceuthocarpus involucratus 2

Chiococca cubensis 1

Chomelia brachyopoda 1

Donnellyanthus deamii 2

Erithalis vaccinifolia 1

Erithalis fruticosa 1

Exostema spinosum 2

Exostema caribaeum 2

Exostema longiflorum 2

Gonzalagunia killipi 1

Gonzalagunia panamensis 1

Gonzalagunia rudis 1

Gonzalagunia thyrsoidea 1

Guettarda elliptica 1

Guettarda lamprophylla 1

Guettarda monocarpa 1

Guettarda pungens 1

Guettarda ferruginea 1

Guettarda prenleloupii 1

Guettarda camagueyensis 1

Isidorea leonardii 2

Isidorea veris 2

Javorkaea hondurensis 2

Machaonia pauciflora 4

Phialanthus sp 2

Picardea haitiensis 2

Rachicallis americana 2

Portlandia sp 2

Rogiera amoena 2

Rogiera cordata 2

Rogiera ligustroides 2

Rogiera nicaraguensis 2

Rogiera macdougalli 2

Rogiera stenosiphon 2

Rondeletia barahoensis 2

Rondeletia fuertesii 2

Rondeletia hypoleuca 2

Rondeletia merilloana 2

Rondeletia microphylla 2

Rondeletia camarioca 2

Rovaeanthus strigosus 2

Sabicea mexicana 0

Sabicea villosa 0

Suberanthus sp 2

Suberanthus cannellifoilus 2

Character list

1. Fruit type: Berry = 0; Drupe = 1; Capsule = 2; Samara = 3; Schizocarp = 4.

**Matrix 2**

Randia aculeata 00-

Acrosynanthus trachyphyllus 2--

Antirhea lucida ?11

Arachnothryx afinnis 2--

Arachnothryx aspera 2--

Arachnothryx buddleioides 2--

Arachnothryx capitellata 2--

Arachnothryx guerrerensis 2--

Arachnothryx heteranthera 2--

Arachnothryx juerguensenii 2--

Arachnothryx leucophylla 2--

Arachnothryx manantlanensis 2--

Arachnothryx pumae 2--

Arachnothryx pyramidalis 2--

Arachnothryx secundiflora 2--

Arachnothryx stachyoidea 2--

Arachnothryx tabascensis 2--

Arachnothryx villosa 2--

Phyllomelia coronata 3--

Calycophyllum candidissimum 2--

Casasia clusiifolia 00-

Casasia jacquinoides 00-

Ceuthocarpus involucratus 2--

Chiococca cubensis ?00

Chomelia brachyopoda ?11

Donnellyanthus deamii 2--

Erithalis vaccinifolia ?00

Erithalis fruticosa ?00

Exostema spinosum 2--

Exostema caribaeum 2--

Exostema longiflorum 2--

Gonzalagunia killipi ?00

Gonzalagunia panamensis ?00

Gonzalagunia rudis ?00

Gonzalagunia thyrsoidea ?00

Guettarda elliptica ?11

Guettarda lamprophylla ?11

Guettarda monocarpa ?11

Guettarda pungens ?11

Guettarda ferruginea ?11

Guettarda prenleloupii ?11

Guettarda camagueyensis ?11

Isidorea leonardii 2--

Isidorea veris 2--

Javorkaea hondurensis 2--

Machaonia pauciflora 4--

Phialanthus sp 2--

Picardea haitiensis 2--

Rachicallis americana 2--

Portlandia sp 2--

Rogiera amoena 2--

Rogiera cordata 2--

Rogiera ligustroides 2--

Rogiera nicaraguensis 2--

Rogiera macdougalli 2--

Rogiera stenosiphon 2--

Rondeletia barahoensis 2--

Rondeletia fuertesii 2--

Rondeletia hypoleuca 2--

Rondeletia merilloana 2--

Rondeletia microphylla 2--

Rondeletia camarioca 2--

Rovaeanthus strigosus 2--

Sabicea mexicana 00-

Sabicea villosa 00-

Suberanthus sp 2--

Suberanthus cannellifoilus 2--

Character list

1. Fruit type: Berry = 0; Drupe = 1; Capsule = 2; Samara = 3; Schizocarp = 4.

2. Fleshy layer origin: Undifferentiated mesocarp = 0; Outer mesocarp = 1.

3. Pyrene origin: Endocarpic pyren = 0; Inner mesocarpic pyren = 1.

**Matrix 3**

Randia aculeata 00---1

Acrosynanthus trachyphyllus 2----1

Antirhea lucida ?11010

Arachnothryx afinnis 2----1

Arachnothryx aspera 2----1

Arachnothryx buddleioides 2----1

Arachnothryx capitellata 2----1

Arachnothryx guerrerensis 2----1

Arachnothryx heteranthera 2----1

Arachnothryx juerguensenii 2----1

Arachnothryx leucophylla 2----1

Arachnothryx manantlanensis 2----1

Arachnothryx pumae 2----1

Arachnothryx pyramidalis 2----1

Arachnothryx secundiflora 2----1

Arachnothryx stachyoidea 2----1

Arachnothryx tabascensis 2----1

Arachnothryx villosa 2----1

Phyllomelia coronata 3----0

Calycophyllum candidissimum 2----1

Casasia clusiifolia 00---1

Casasia jacquinoides 00---1

Ceuthocarpus involucratus 2----1

Chiococca cubensis ?0?100

Chomelia brachyopoda ?11010

Donnellyanthus deamii 2----1

Erithalis vaccinifolia ?0?100

Erithalis fruticosa ?0?100

Exostema spinosum 2----1

Exostema caribaeum 2----1

Exostema longiflorum 2----1

Gonzalagunia killipi ?0?201

Gonzalagunia panamensis ?0?201

Gonzalagunia rudis ?0?201

Gonzalagunia thyrsoidea ?0?201

Guettarda elliptica ?11210

Guettarda lamprophylla ?11210

Guettarda monocarpa ?11210

Guettarda pungens ?11210

Guettarda ferruginea ?11210

Guettarda prenleloupii ?11210

Guettarda camagueyensis ?11210

Isidorea leonardii 2----1

Isidorea veris 2----1

Javorkaea hondurensis 2----1

Machaonia pauciflora 4----0

Phialanthus sp 2----1

Picardea haitiensis 2----1

Rachicallis americana 2----1

Portlandia sp 2----1

Rogiera amoena 2----1

Rogiera cordata 2----1

Rogiera ligustroides 2----1

Rogiera nicaraguensis 2----1

Rogiera macdougalli 2----1

Rogiera stenosiphon 2----1

Rondeletia barahoensis 2----1

Rondeletia fuertesii 2----1

Rondeletia hypoleuca 2----1

Rondeletia merilloana 2----1

Rondeletia microphylla 2----1

Rondeletia camarioca 2----1

Rovaeanthus strigosus 2----1

Sabicea mexicana 00---1

Sabicea villosa 00---1

Suberanthus sp 2----1

Suberanthus cannellifoilus 2----1

Character list

1. Fruit type: Berry = 0; Drupe = 1; Capsule = 2; Samara = 3; Schizocarp = 4.

2. Fleshy layer origin: Undifferentiated mesocarp = 0; Outer mesocarp = 1. .

3. Pyrene origin: Endocarpic pyren = 0; Inner mesocarpic pyren = 1. .

4. Number of pyrenes: 1 = 0; 2 = 1; 4 = 2.

5. Loculi number per pyrene: One locule per pyren = 0; Numerous locules per pyren = 1. .

6. Number of seeds per locule: One seed = 0; numerous seeds = 1.