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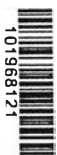
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APPENDIX



APPENDIX A

Morphology of plant samples used in this study





Figure A1 *Aristolochia anguicida* Jacq. The plant (A); leaf (B); flower (C); fruit (D).

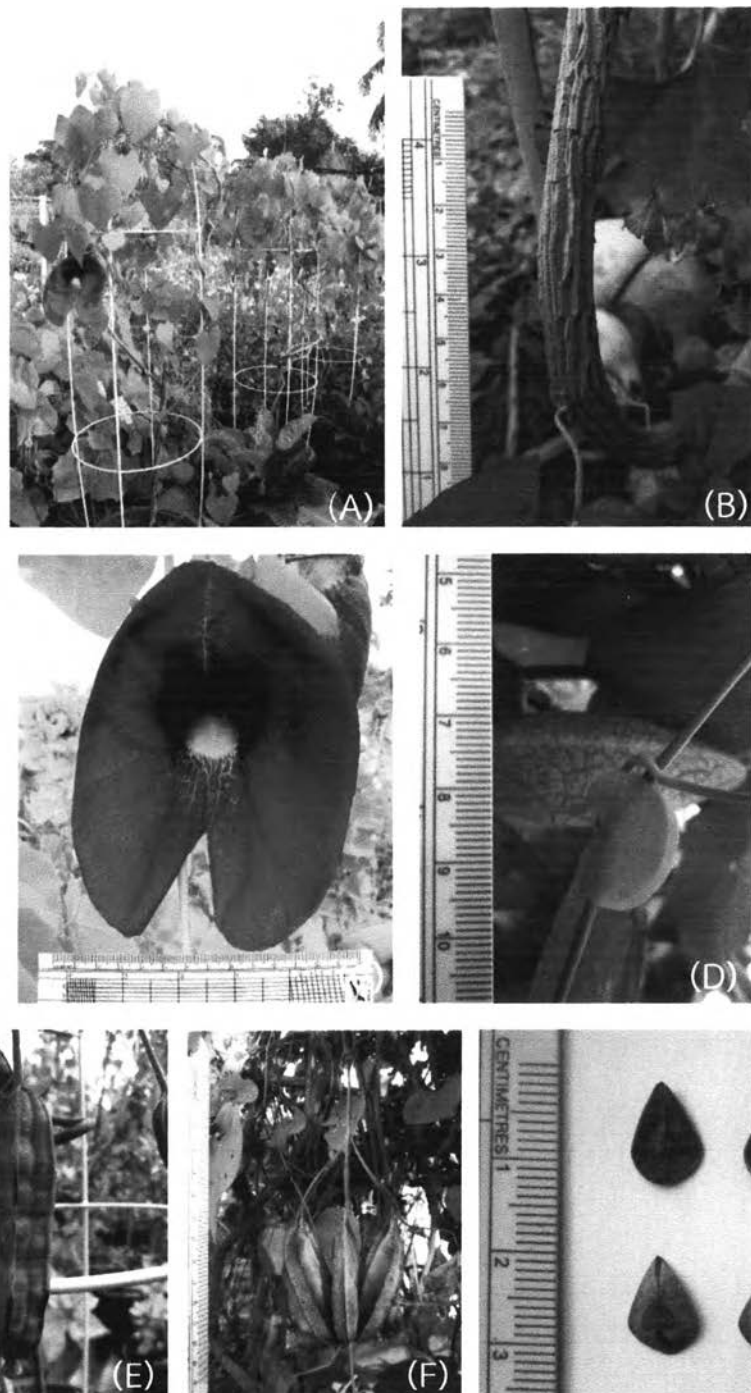


Figure A2 *Aristolochia gigantea* Mart. et Zucc. The plant (A); stem (B); flower (C); stipule (D), fruit (E); fruit (F); seeds (G).



Figure A3 *Aristolochia grandiflora* Sw. Leaf (A); flower (B); flower (C); flower (D).

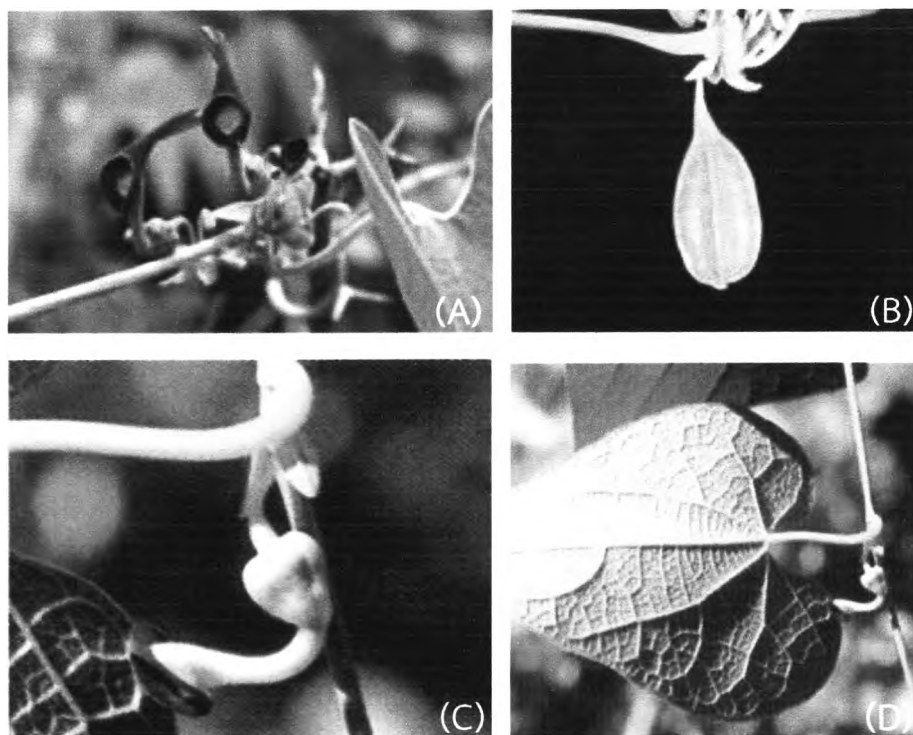


Figure A4 *Aristolochia kerrii* Craib.

Flowers (A); fruit (B) [cited 2015 March 12] Available from:

<http://web3.dnp.go.th/botany/detail.aspx?wordsnamesci=Aristolochia0kerrii0Craib>

Flower (C); leaf (D) [cited 2015 March 12] Available from:

http://www.rspg.or.th/plants_data/rare_plants/scien_name_a24.htm



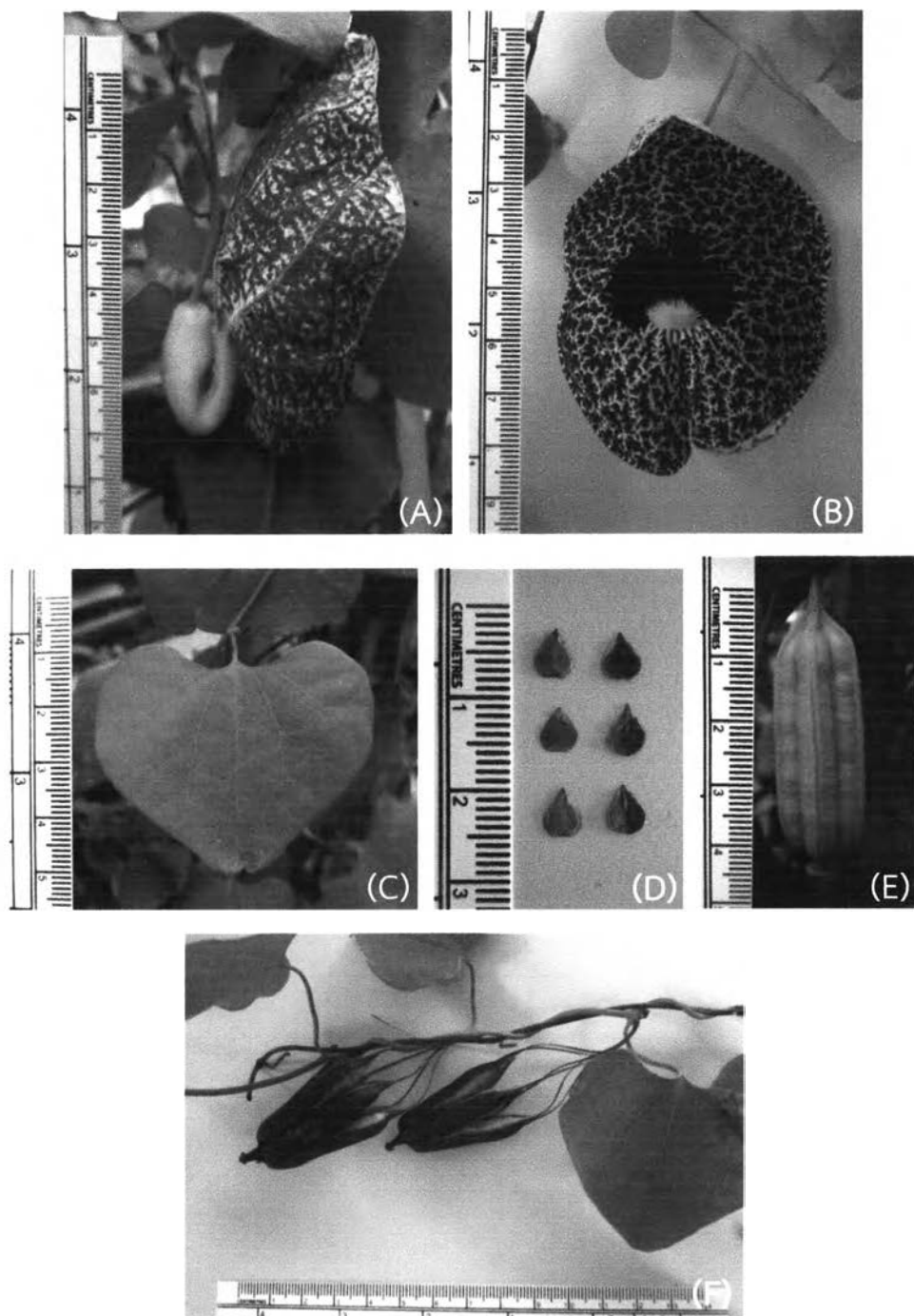


Figure A5 *Aristolochia littoralis* D. Parodi. Flower (A); flower (B); leaf (C); seeds (D); fruit (E); dry fruit (F).

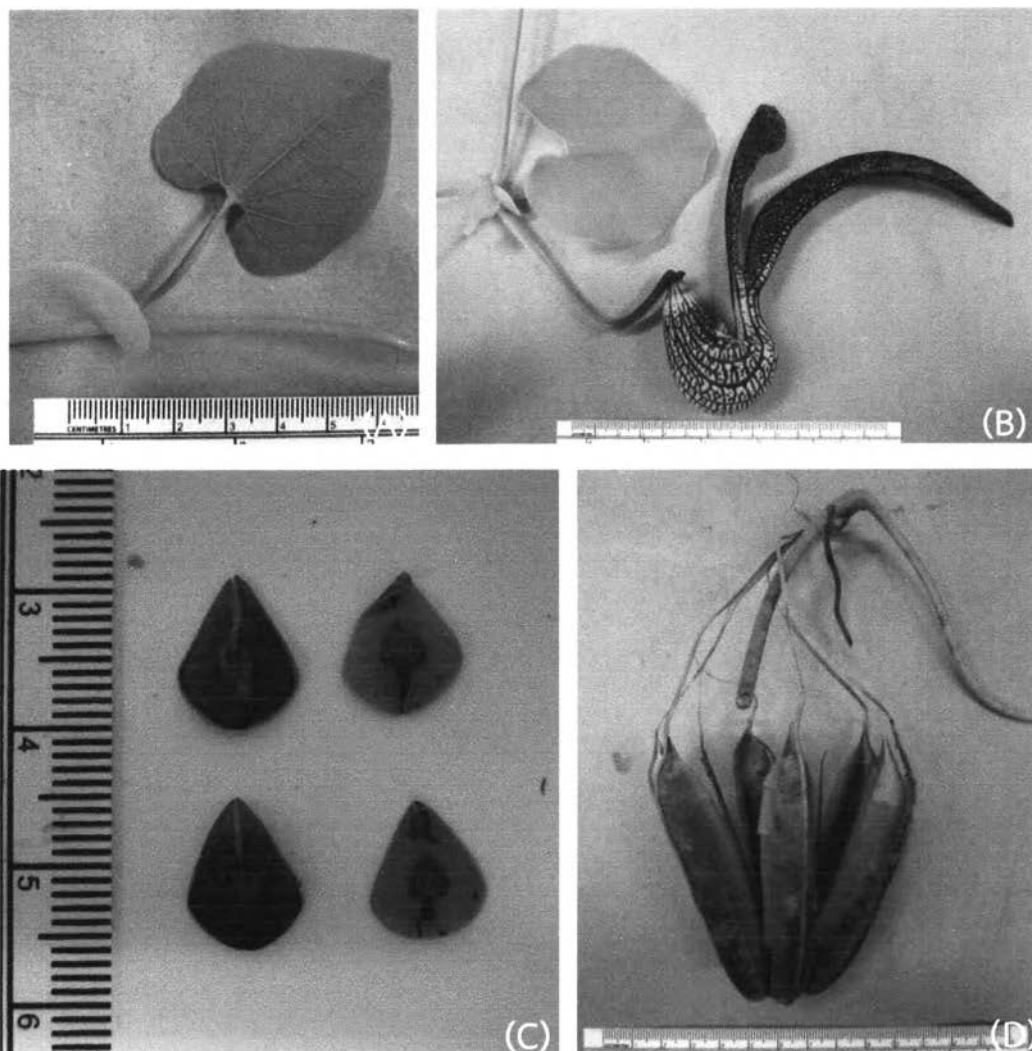


Figure A6 *Aristolochia ringens* Vahl. Leaf and stipule (A); flower and leaf (B); seeds (C); dry fruit (D).

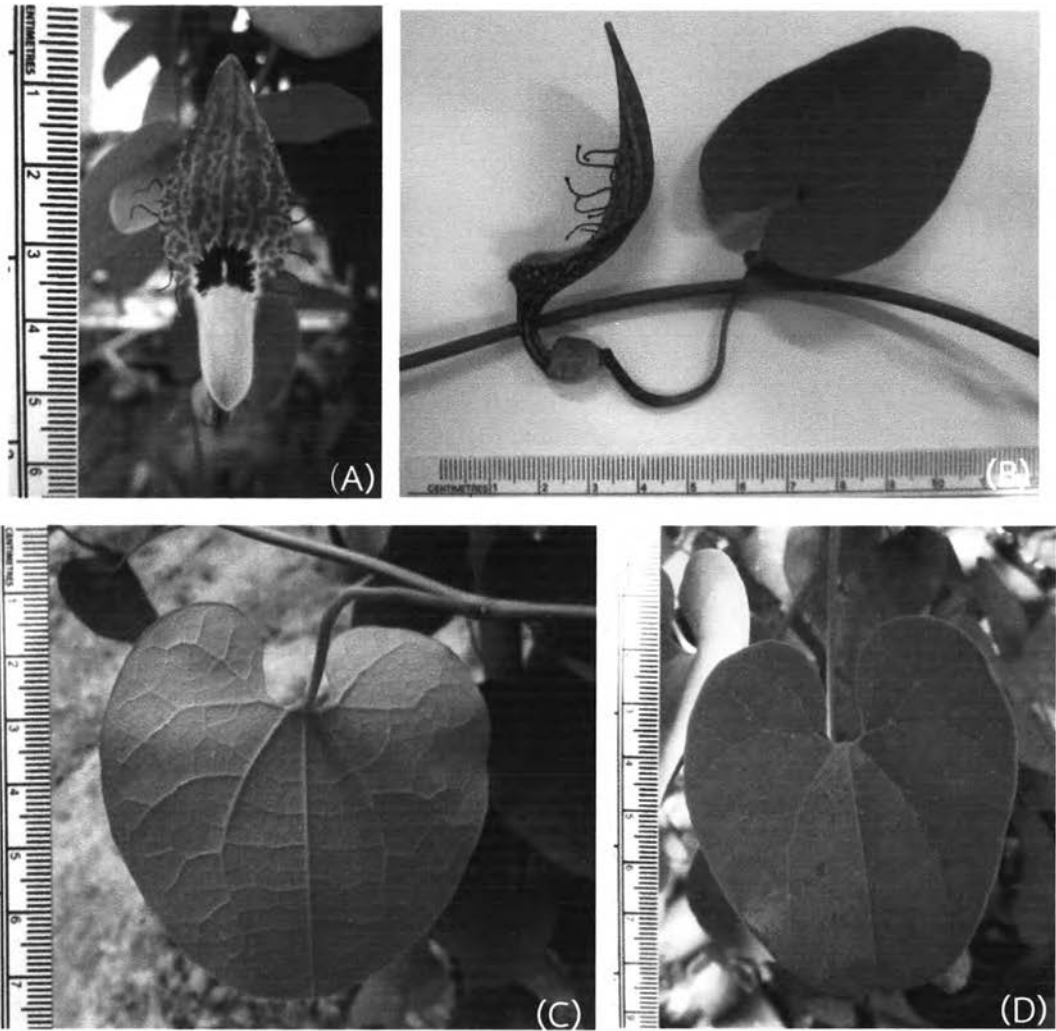


Figure A7 *Aristolochia tentaculata* Schmidt in Fedde. Flower (A); flower and leaf (B); leaf (C); leaf (D).

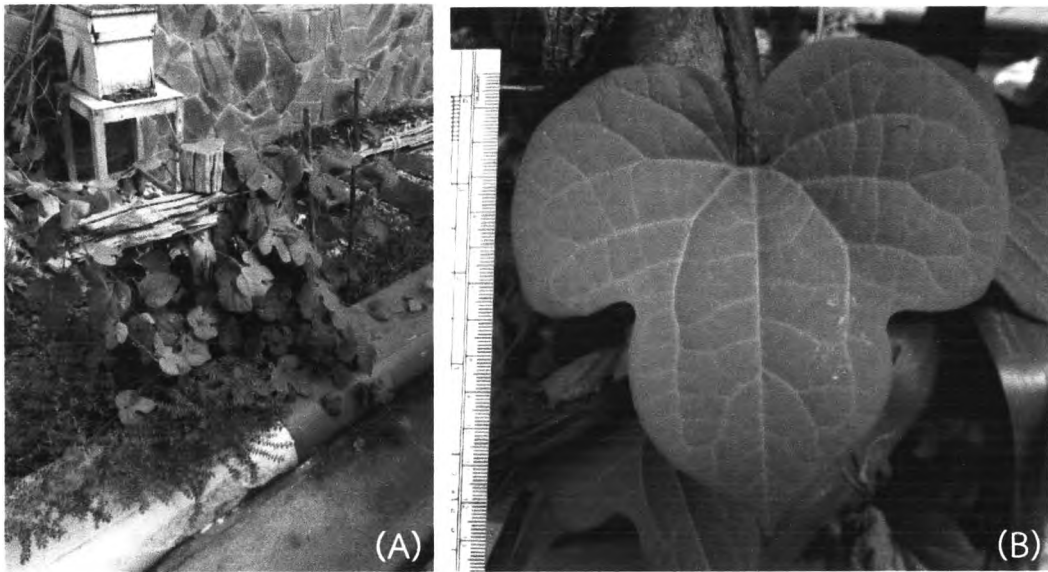


Figure A8 *Aristolochia pothieri* Pierre ex Lecomte. The plant (A); leaf (B); flowers and leaf (C); flowers (D).

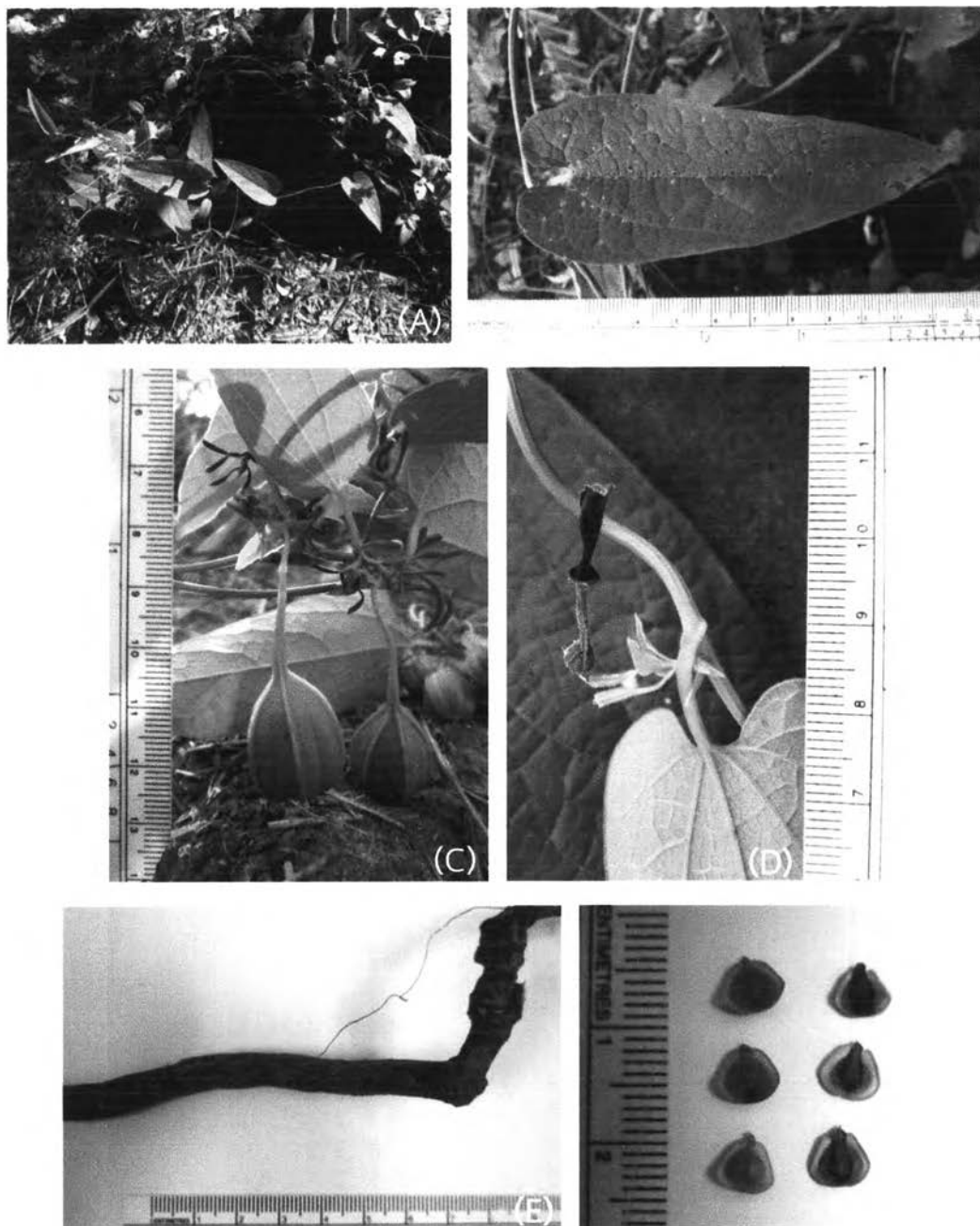


Figure A9 *Aristolochia pierrei* Lecomte. The plant (A); leaf (B); flowers and fruits (C); flower (D); stem and root (E); seeds (F).

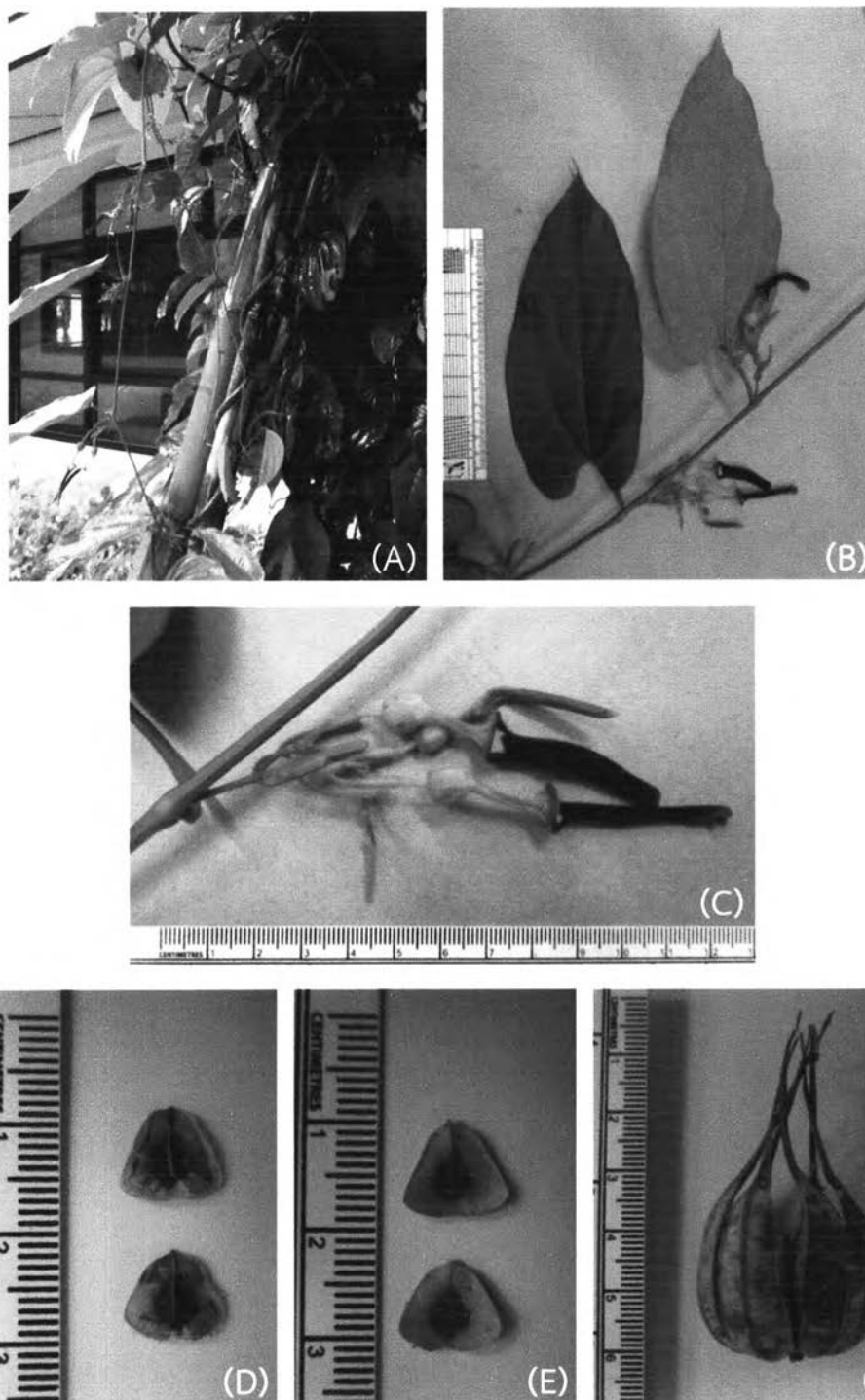


Figure A10 *Aristolochia tagala* Cham. The plant (A); flowers and leaves (B); flowers (C); seeds (D); seeds (E); dry fruit (F).

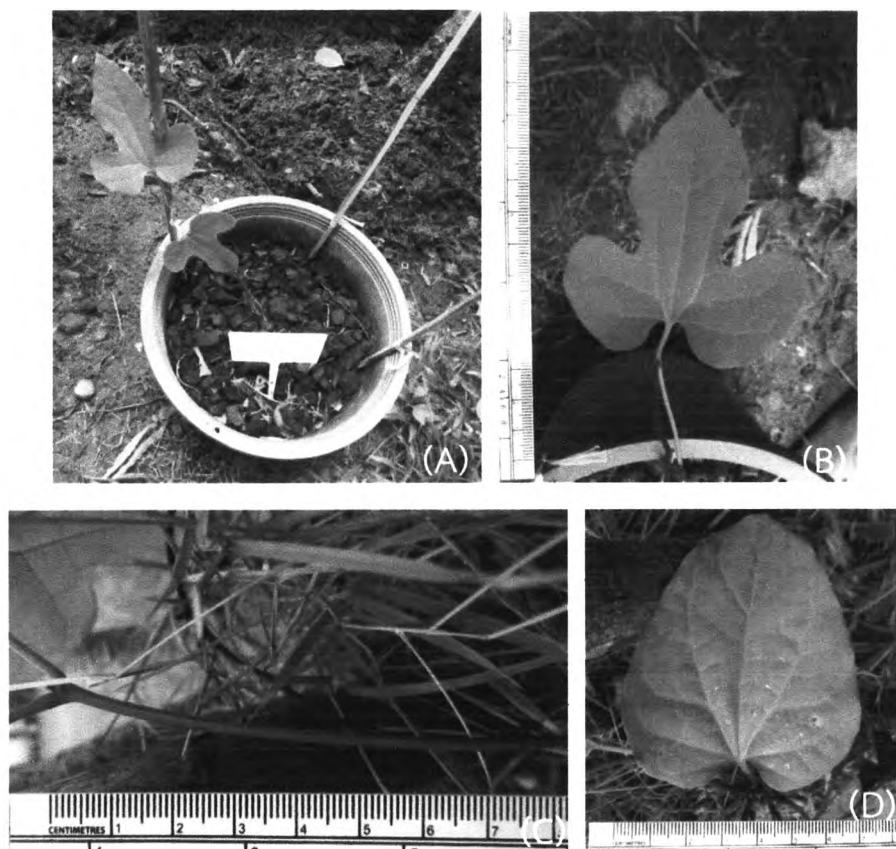


Figure A11 *A. sp.* The plant (A); leaves (B); stem (C); leaf (D).

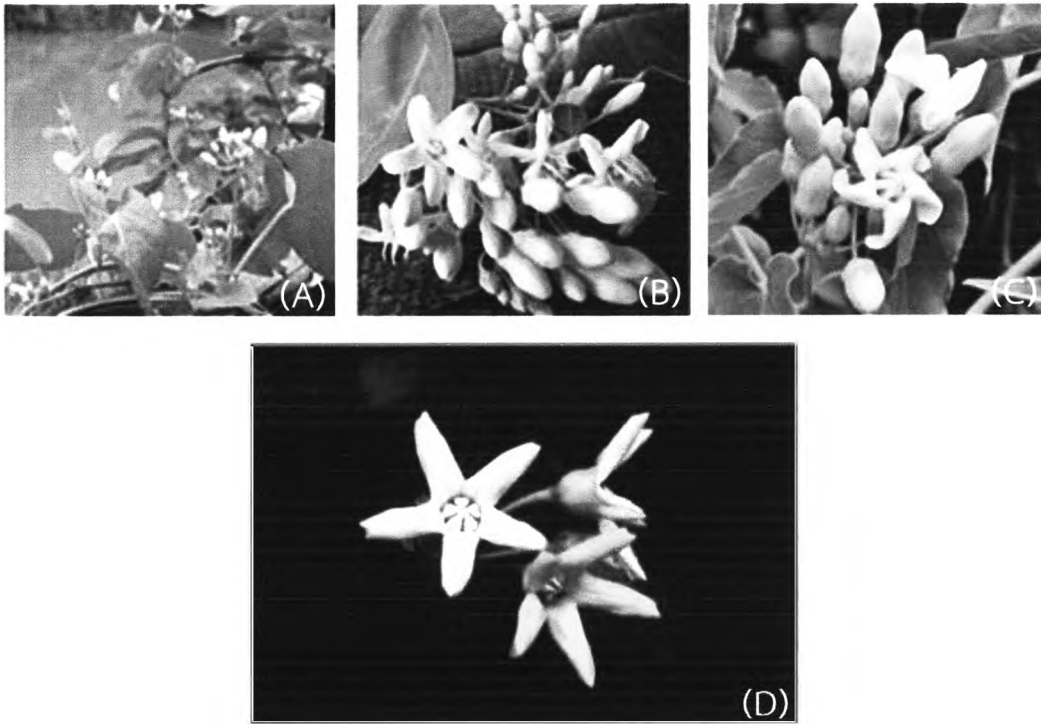


Figure A12 *Raphistemma pulchellum* (Roxb.) Wall Craib.

The plant (A), flowers (B), flowers (C) [cited 2015 March 12] Available from:

http://www.rspg.or.th/plants_data/herbs/herbs_29.htm

Flowers (D) [cited 2015 March 12] Available from:

http://www.qsbg.org/database/botanic_book%20full%20option/search_detail.asp?botanic_id=2047



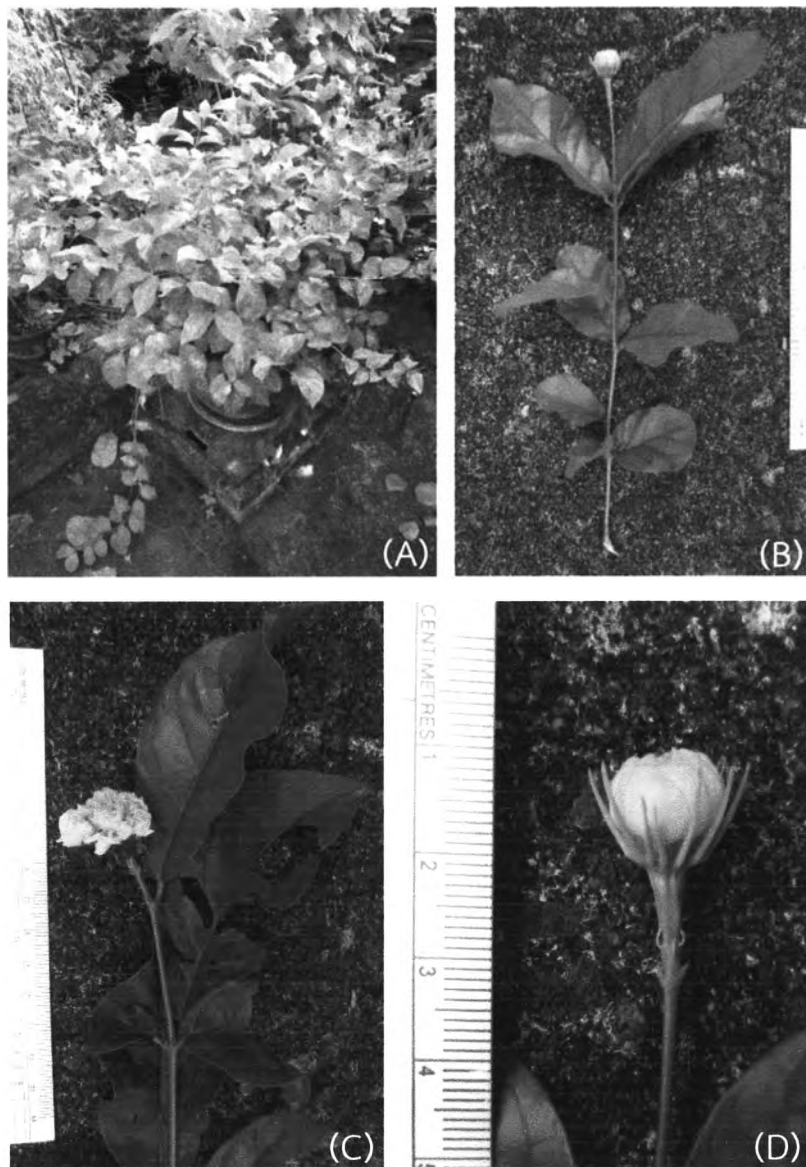


Figure A13 *Jasminum sambac* (L.) Aiton. The plant (A); flower and leaves (B); flower and leaves (C); flower (D).

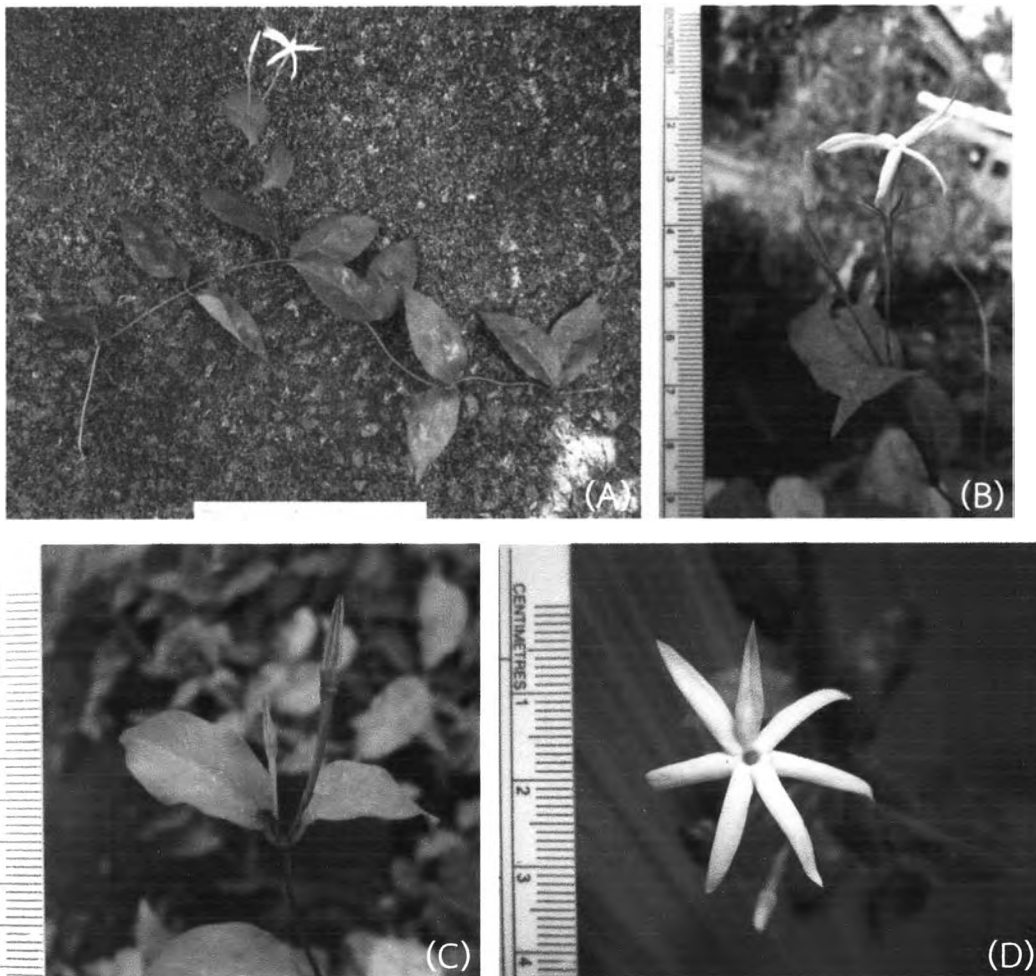


Figure A14 *Jasminum adenophyllum* Wall. Ex C.B. Clarke. Flowers and leaves (A); flowers and leaves (B); flowers (C); flower (D).

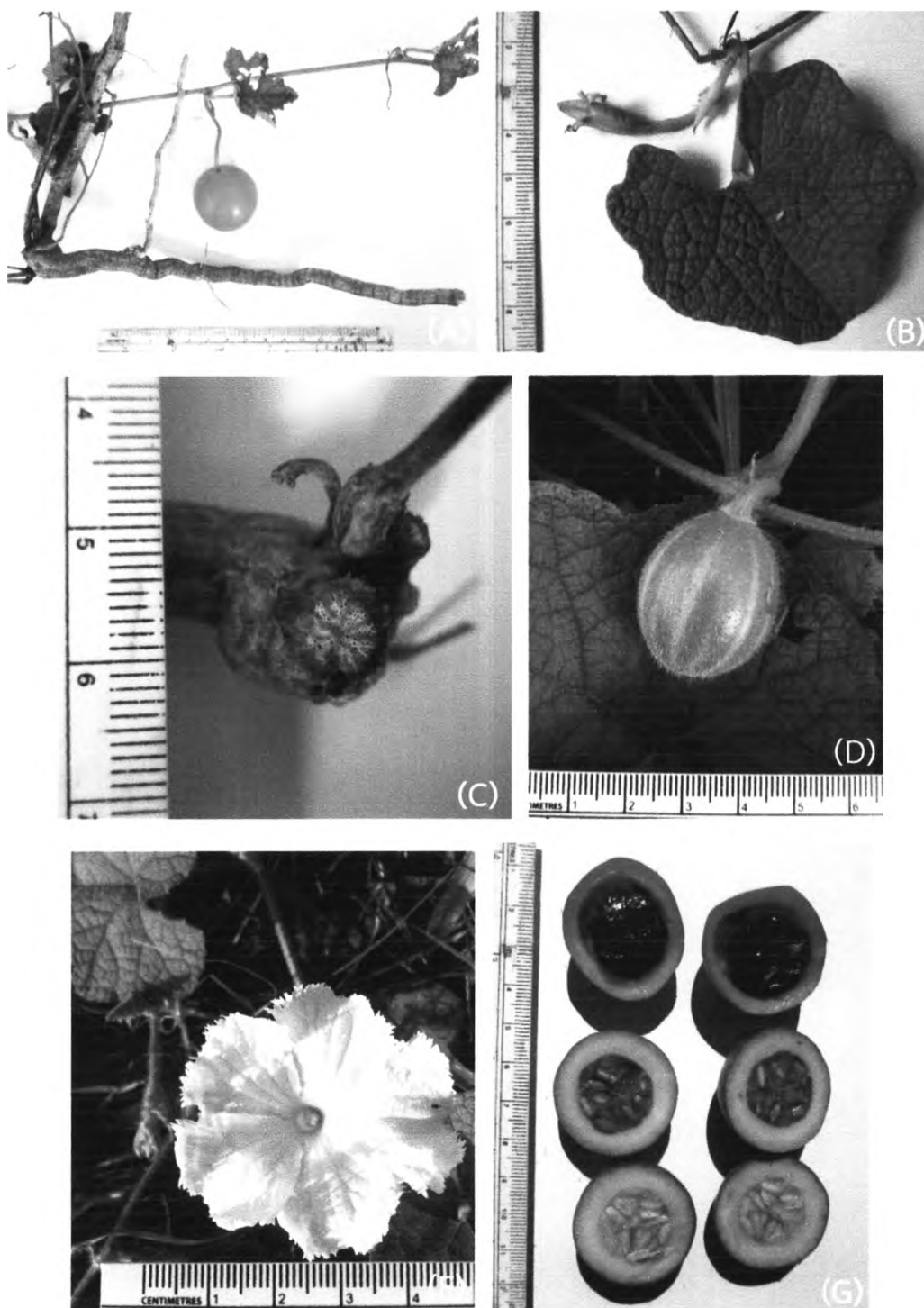


Figure A15 *Gymnopetalum integrifolium* Kurz. Fruit, stem and root (A); flowers and leaf (B); stem (C); fruit (D); flower (E); fruits (F)

APPENDIX B

Multiple sequence alignments of the eleven *Aristolochia* plants



Figure B16 Sequence alignment of full length *rbcl* genes of eleven *Aristolochia* plants.

The numbers on the top line represent the base numbers in sequence alignment. The altered bases indicate the sequence differences. '.' represents the base being identical to the first sequence.

	1	2	3	4	5
	1	0	0	0	0
<i>A. anguicida</i> (KP903720)	A	T	G	T	C
<i>A. gigantea</i> (KP998764)
<i>A. grandiflora</i> (KP998765)
<i>A. kerrii</i> (KP998766)
<i>A. littoralis</i> (KP998767)
<i>A. pierrei</i> (KP998768)
<i>A. pothieri</i> (KP998769)	A
<i>A. pothieri</i> (KP998776)	A
<i>A. ringens</i> (KP998770)
<i>A. tagala</i> (KP998772)
<i>A. tagala</i> (KP998774)
<i>A. tagala</i> (KP998775)
<i>A. tentaculata</i> (KP998773)
<i>A. sp.</i> (KP998771)

	5	6	7	8	9	10
	1	0	0	0	0	0
<i>A. anguicida</i> (KP903720)	T	A	A	G	A	T
<i>A. gigantea</i> (KP998764)
<i>A. grandiflora</i> (KP998765)	C
<i>A. kerrii</i> (KP998766)	C
<i>A. littoralis</i> (KP998767)
<i>A. pierrei</i> (KP998768)	C
<i>A. pothieri</i> (KP998769)	C
<i>A. pothieri</i> (KP998776)	C
<i>A. ringens</i> (KP998770)
<i>A. tagala</i> (KP998772)	C
<i>A. tagala</i> (KP998774)	C
<i>A. tagala</i> (KP998775)	C
<i>A. tentaculata</i> (KP998773)
<i>A. sp.</i> (KP998771)

	1	1	1	1	1	1
	0	1	2	3	4	5
	1	0	0	0	0	0
<i>A. anguicida</i> (KP903720)	C	T	G	A	T	A
<i>A. gigantea</i> (KP998764)
<i>A. grandiflora</i> (KP998765)
<i>A. kerrii</i> (KP998766)
<i>A. littoralis</i> (KP998767)
<i>A. pierrei</i> (KP998768)
<i>A. pothieri</i> (KP998769)
<i>A. pothieri</i> (KP998776)
<i>A. ringens</i> (KP998770)
<i>A. tagala</i> (KP998772)
<i>A. tagala</i> (KP998774)
<i>A. tagala</i> (KP998775)
<i>A. tentaculata</i> (KP998773)
<i>A. sp.</i> (KP998771)



101968121

Figure B1 Sequence alignment of full length *rbcL* genes of eleven *Aristolochia* plants.

(continued)

	3	3	3	3	3	3
	0	1	2	3	4	5
	1	0	0	0	0	0
<i>A. anguicida</i> (KP903720)	G	T	A	G	C	T
<i>A. gigantea</i> (KP998764)	A	C	C	T	T	T
<i>A. grandiflora</i> (KP998765)	A	C	C	T	T	T
<i>A. kerrii</i> (KP998766)	T	T	T	T	T	T
<i>A. littoralis</i> (KP998767)	G	A	A	G	A	A
<i>A. pierrei</i> (KP998768)	A	A	G	G	T	T
<i>A. pathieri</i> (KP998769)	C	T	T	C	T	T
<i>A. pathieri</i> (KP998776)	G	T	T	A	C	T
<i>A. ringens</i> (KP998770)	A	A	C	A	T	A
<i>A. tagala</i> (KP998772)	C	A	T	A	C	A
<i>A. tagala</i> (KP998774)	T	T	A	C	A	T
<i>A. tagala</i> (KP998775)	T	T	A	C	A	T
<i>A. tentaculata</i> (KP998773)	G	T	T	A	C	T
<i>A. sp.</i> (KP998771)	A	C	T	T	A	C
	3	3	3	3	3	4
	5	6	7	8	9	0
	1	0	0	0	0	0
<i>A. anguicida</i> (KP903720)	T	A	C	T	T	C
<i>A. gigantea</i> (KP998764)	C	A	T	T	G	T
<i>A. grandiflora</i> (KP998765)	A	T	T	G	G	G
<i>A. kerrii</i> (KP998766)	T	T	C	A	A	A
<i>A. littoralis</i> (KP998767)	G	C	T	T	A	C
<i>A. pierrei</i> (KP998768)	T	A	C	G	A	G
<i>A. pathieri</i> (KP998769)	C	T	T	A	C	T
<i>A. pathieri</i> (KP998776)	T	T	A	C	G	A
<i>A. ringens</i> (KP998770)	C	T	T	A	C	T
<i>A. tagala</i> (KP998772)	T	T	A	C	G	A
<i>A. tagala</i> (KP998774)	T	T	A	C	G	A
<i>A. tagala</i> (KP998775)	T	T	A	C	G	A
<i>A. tentaculata</i> (KP998773)	T	T	A	C	G	A
<i>A. sp.</i> (KP998771)	T	T	A	C	G	A
	4	4	4	4	4	4
	0	1	2	3	4	5
	1	0	0	0	0	0
<i>A. anguicida</i> (KP903720)	G	T	C	T	G	G
<i>A. gigantea</i> (KP998764)	A	T	C	T	A	C
<i>A. grandiflora</i> (KP998765)	G	A	T	T	C	G
<i>A. kerrii</i> (KP998766)	A	T	C	T	T	C
<i>A. littoralis</i> (KP998767)	A	T	C	T	T	C
<i>A. pierrei</i> (KP998768)	A	T	C	T	T	C
<i>A. pathieri</i> (KP998769)	A	T	C	T	T	C
<i>A. pathieri</i> (KP998776)	A	T	C	T	T	C
<i>A. ringens</i> (KP998770)	A	T	C	T	T	C
<i>A. tagala</i> (KP998772)	A	T	C	T	T	C
<i>A. tagala</i> (KP998774)	A	T	C	T	T	C
<i>A. tagala</i> (KP998775)	A	T	C	T	T	C
<i>A. tentaculata</i> (KP998773)	A	T	C	T	T	C
<i>A. sp.</i> (KP998771)	A	T	C	T	T	C



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Figure B2 Sequence alignment of full length *matK* genes of eleven *Aristolochia* plants.

(continued)

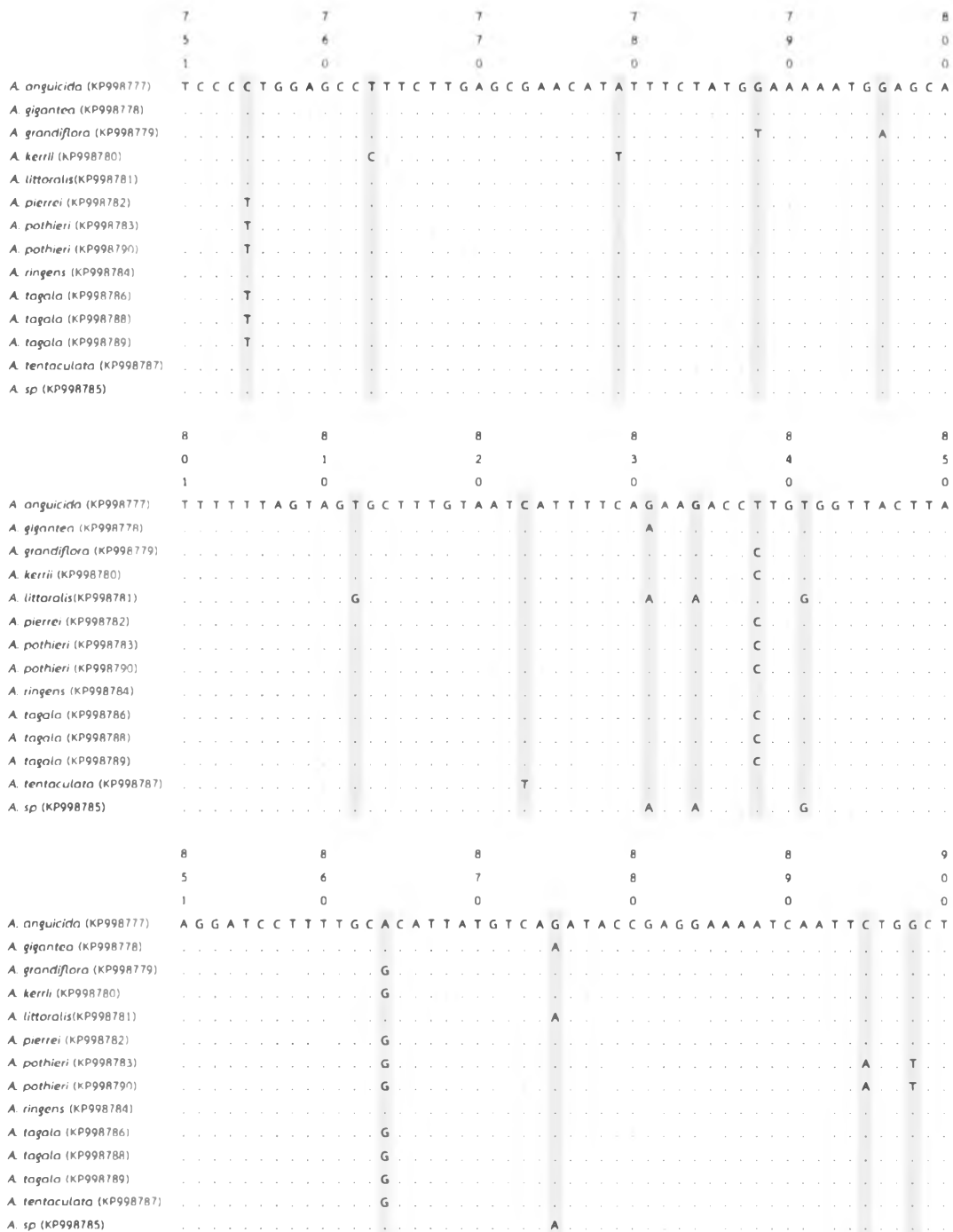


Figure B3 Sequence alignment of ITS regions of eleven *Aristolochia* plants. (continued)

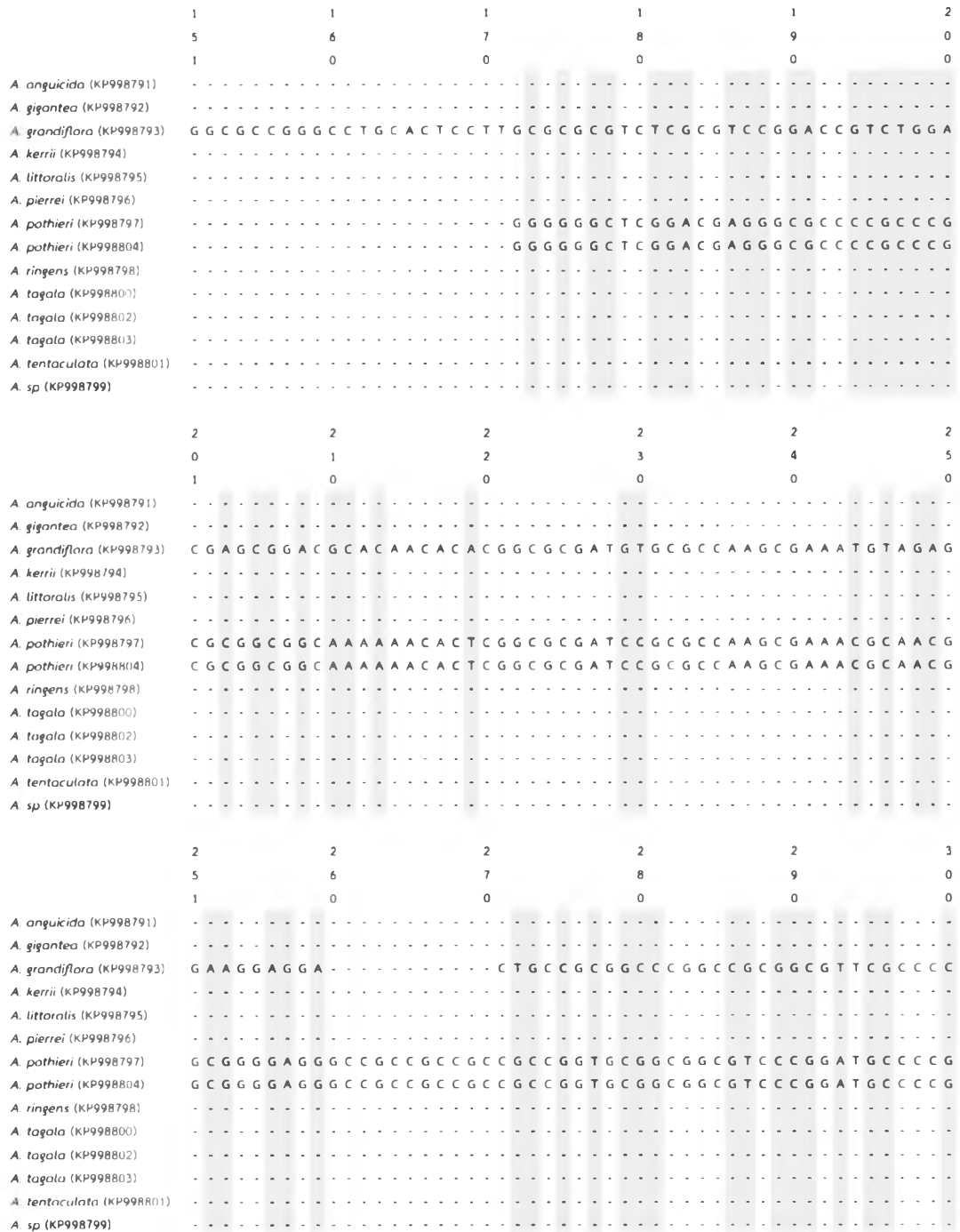


Figure B3 Sequence alignment of ITS regions of eleven *Aristolochia* plants. (continued)

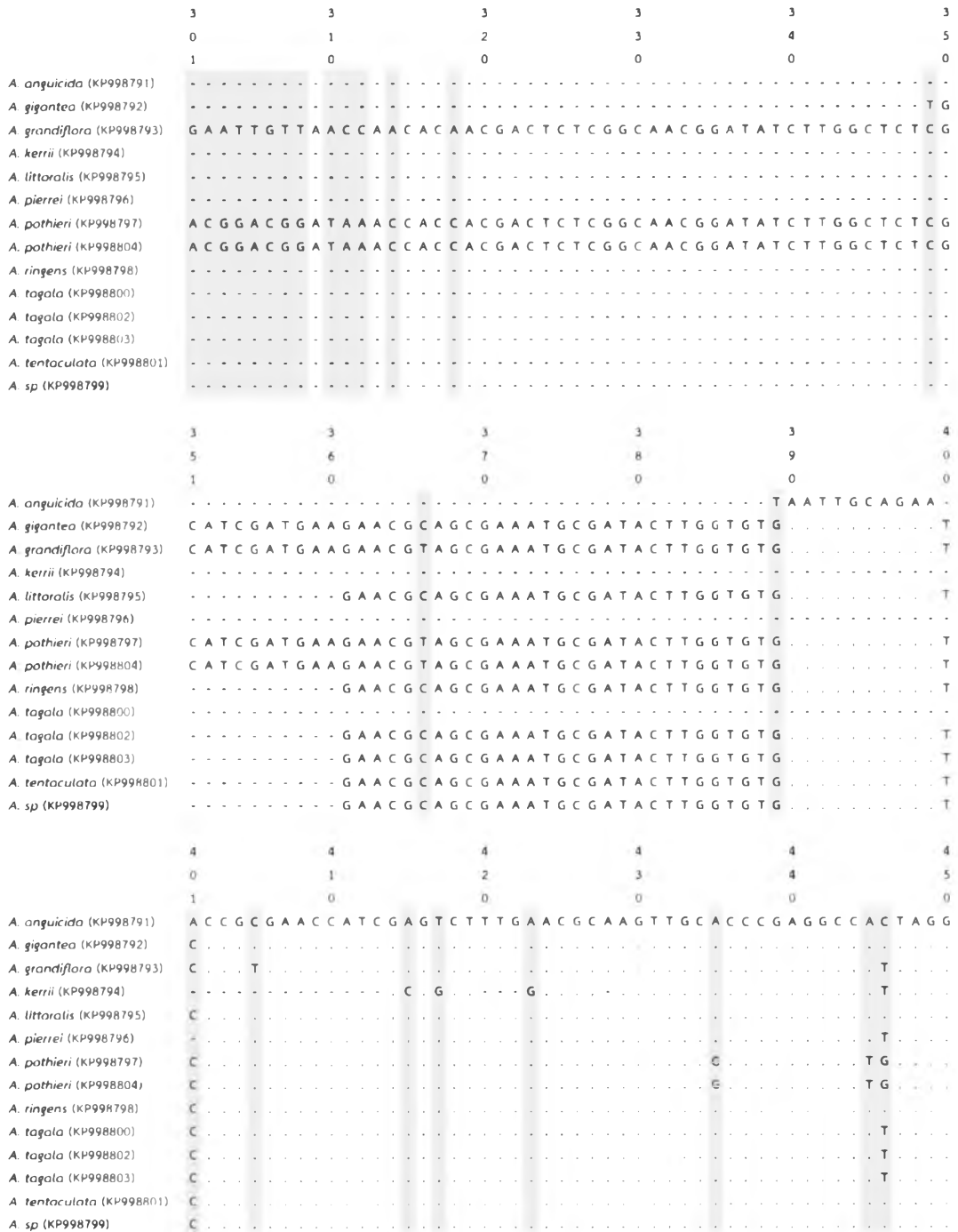
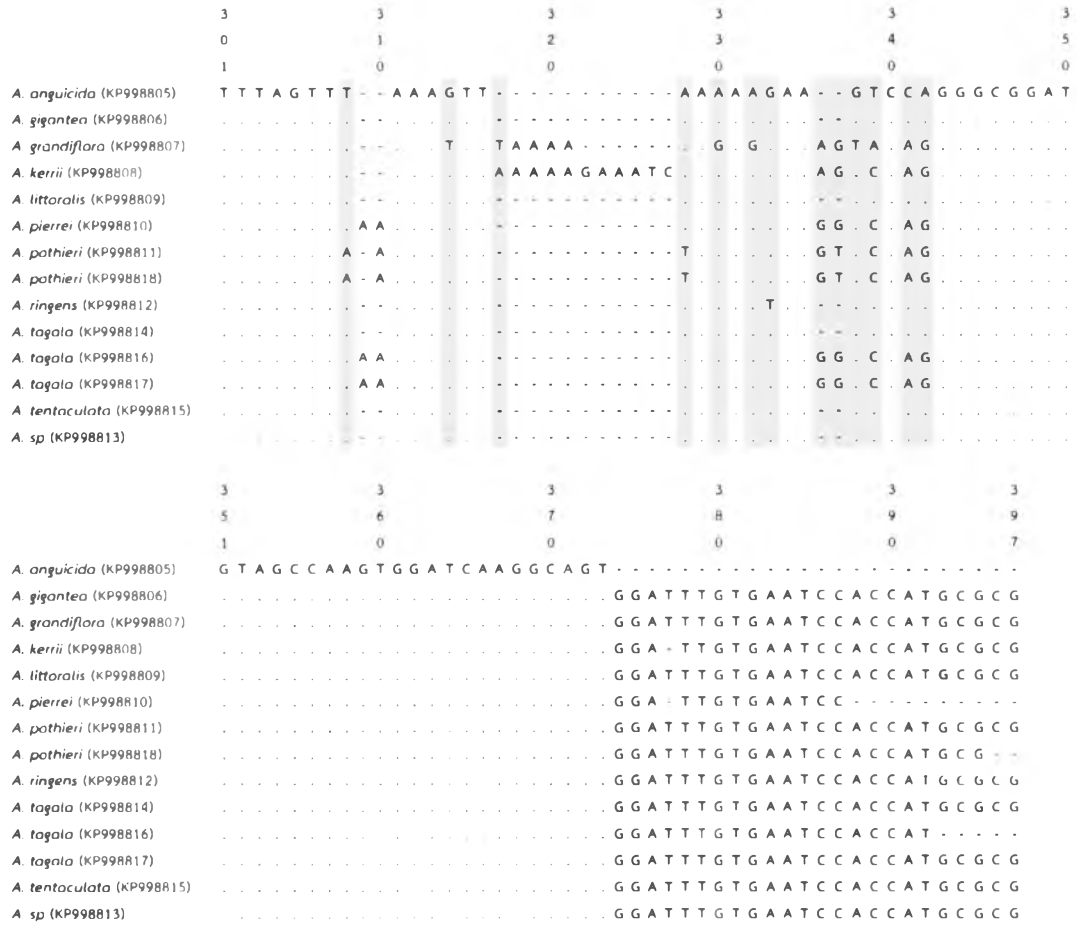


Figure B4 Sequence alignment of *trnH-psbA* regions of eleven *Aristolochia* plants.
(continued)



VITA

Miss Piroonrat Dechbumroong was born on October 26, 1988 in Phetchaburi, Thailand. She received her Bachelor's Degree of Science in Pharmacy in 2012 from the Faculty of Pharmaceutical Sciences, Chulalongkorn University, Thailand.

Poster presentation

1. Dechbumroong P., Amnuoypol S., Sukrong S.. 2015. Sequencing analysis of the matK DNA of Aristolochia plants used as "Krai-Krue" herb. The 5th National and International Graduate Study Conference 2015; "Creative Education: Intellectual Capital toward ASEAN", July, 16-17, 2015, Bangkok, Thailand.

Research

1. Senior project "Isolation of alpha-glucosidase inhibitors from *Mamecydon plebejum* Kurz. var. *ellipsoideum* Craib leaf located at Samae-san Island, Chonburi". Undersupervisor of Associate Professor Dr. Surattana Amnouypol.

