

CHAPTER IV

RESULTS

4.1 Plant sample collection

4.1.1 Collection of *Aeschynanthus* cultivars from Jatujak market.

Some cultivated samples of *Aeschynanthus* were obtained from a plant-selling area of Jatujak flea market, Bangkok, on March 13th, 2003. Only one from about 30 shops was selling *Aeschynanthus* at that time. This shop had six *Aeschynanthus* cultivars which were different in morphology from each other, such as in their leaf characters and stem colour. The plants were named as *Aeschynanthus* sp. JJ_001 to *A.* sp. JJ_006 and then were photographed digitally, except *A.* sp. JJ_006 which died very soon after brought to the glass house. Moreover, as *A.* sp. JJ_001 had strange and interesting pinkish petal colour (discuss more in details in Chapter 5), a herbarium specimen of this plant was prepared and sent to Mary Mendum of Royal Botanic Garden Edinburgh, UK, to check whether *A.* sp. JJ_001 was actually a new species. Photos of the five cultivars *Aeschynanthus* from Jatujak market (*A.* sp. JJ_001-JJ_005) were shown respectively in Fig. 8, 9, 10, 11 and 12.

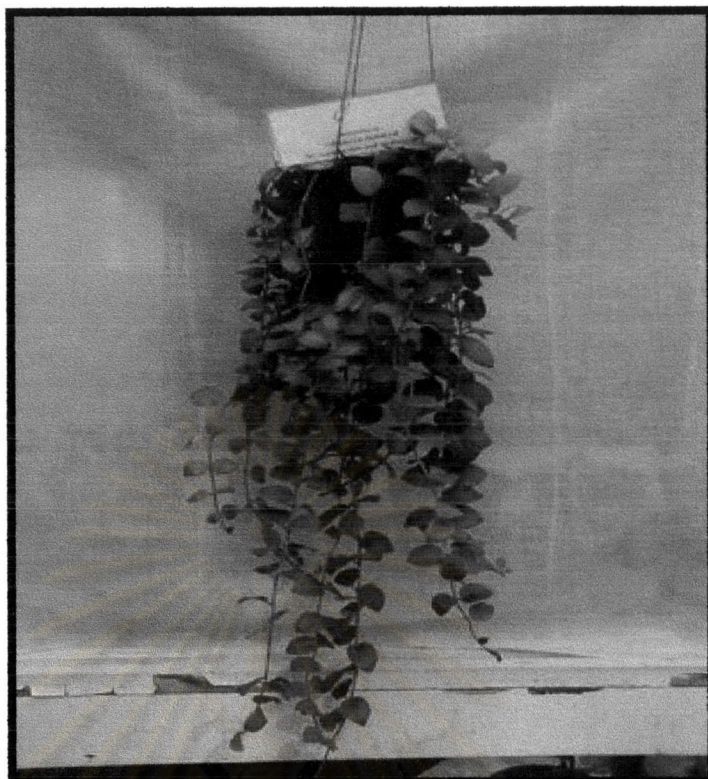


Fig. 8 Morphological characteristics of *Aeschynanthus* sp. JJ_001.



Fig. 9 Morphological characteristics of *Aeschynanthus* sp. JJ_002.



Fig. 10 Morphological characteristics of *Aeschynanthus* sp. JJ_003.

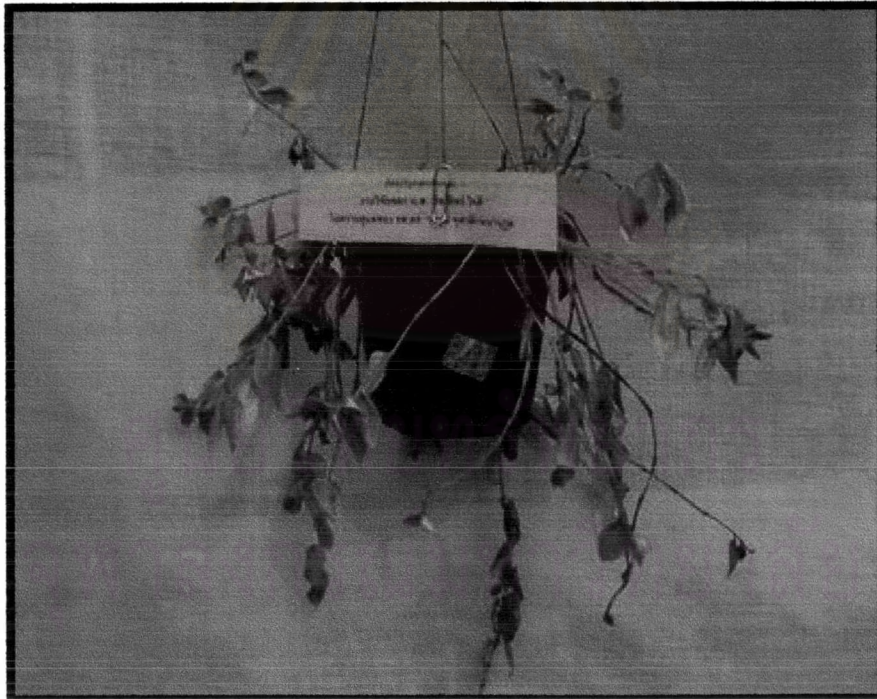


Fig. 11 Morphological characteristics of *Aeschynanthus* sp. JJ_004.



Fig. 12 Morphological characteristics of *Aeschynanthus*. sp. JJ_005.

4.1.2 Expedition in Chiangmai to collect wild *Aeschynanthus* samples.

The first expedition set off on December 19th-20th, 2003 to visit San-ku and Doi Pui areas of Sutep Mountains. These two areas were 600 and 800 metres above sea level, respectively. At San-ku area, many flowering *Aeschynanthus* were found along side the trail. Although this location was difficult to survey with limited walk-ways, the plants were easily recognised with their red colour flowers hanging from the tree trunks (Fig. 13). Majority of the large trees in San-Ku were in the family Palionaceae and most *Aeschynanthus* were found on these tree as high as 8-10 metres above the ground.

These *Aeschynanthus* specimens collected in San-Ku were identified as of *A. hildebrandii*.

Another field-work location of the first expedition was Doi Pui, this location was easier to survey than San-Ku as most plants were growing along the road. Various kinds and sizes of trees were recognised here. *Aeschynanthus* was common in this place (Fig.14). Many *Aeschynanthus* flowers were found falling on the ground and then were collected to keep in 70% ethanol. Although majority of large trees in this areas were both pines and Palionaceae, no *Aeschynanthus* was seen growing on pines

The second expedition to San-Ku and Doi Pui areas in Chiangmai province took place on June 5th – 12th, 2004. The survey date was not in the flowering season of *Aeschynanthus* and then gave difficulty on distinguishing the plant out of other vegetatives in the forest. In additionally, Doi Inthanon National Park in Sutep Mountains was also visited in this second expedition. Doi Inthanon is the highest mountain in Thailand and much higher than San-Ku and Doi Pui with an attitude over 2,500 metres above sea level. Most of *Aeschynanthus* were found on trunks of large trees along the road going up to the top of the mountain (Fig. 15). The weather on the top of Doi Inthanon was very cold, humid, and lightly raining. An expedition in this forest followed a man-made walking trail of the national park. Many *Aeschynanthus* were found on various kinds of trees along the trail (Fig. 16). These plants were supposed to be *A. macranthus* with their unique large-leaf characteristics. Several other plants which looked like

Aeschynanthus in both habit and morphology were also found in this area. Sample collection was prohibited by regulations of the national park. None of *Aeschynanthus* found in either San-Ku and Doi Pui or Doi Inthanon was flowering and only their vegetative parts were photographed in the second expedition.



Fig. 13 The habitat of wild *Aeschynanthus* at San-Ku area on winter season. The plants were flowering and some of them had already been pollinated, turning to capsule-like fruits. The orange arrow indicates an *Aeschynanthus* flower.



Fig. 14 The habitat of wild *Aeschynanthus* at Doi-Pui on winter season. Capsule-like fruits of *Aeschynanthus* were also observed in this area. The orange arrow shows an *Aeschynanthus* flower.



Fig. 15 The habitat of wild *Aeschynanthus* at Doi-Pui on rainy season. The plants were not flowering on that time. The orange arrow indicates one *Aeschynanthus* plant growing on a tree trunk.



Fig. 16 The habitat of wild *Aeschynanthus* at Doi Inthanon National Park on rainy season. These plants did not have flowers. The orange arrow shows an *Aeschynanthus* which is supposed to be *A. macranthus* settling on the tree trunk.

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4.2 DNA extraction

Total genomic DNA of 45 *Aeschynanthus* samples was extracted from either fresh or dry leaf specimens of individual. The extracted genomic DNA was dissolved in 100 μ l of AE buffer of QIAGEN DNA minikit. An amount of each extracted DNA was estimated by agarose gel electrophoresis compared with the M23 1.5 kb + 100 bp DNA ladder marker and the estimated DNA concentration was mostly suitable for subsequent PCR experiments. All of *Aeschynanthus* samples gave high enough quality and quantity of yielded genomic DNA as shown in Fig. 18, 19, and 20. However, the DNA of *A. superbis* was not able to yield any genomic band product, though reextracted with either the QIAGEN DNA minikit or any other DNA extraction kit. Note that, although smear DNA bands caused by DNA fragmentation along extraction occurred in some samples, no PCR amplification problem was later found. Moreover, the genomic DNA band of *A. sp. CM_034* could not be observed with gel electrophoresis, the DNA gave nicely PCR amplified products.

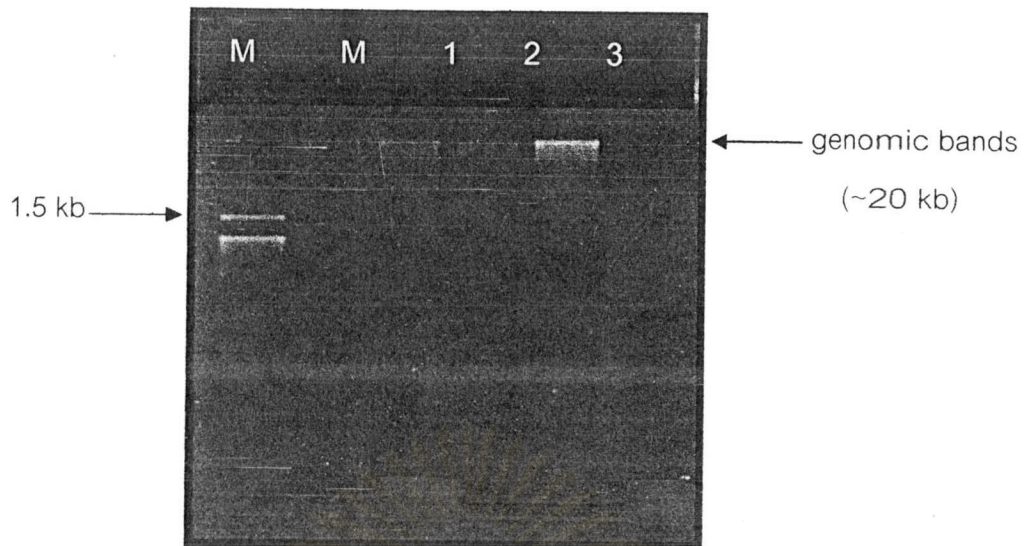


Fig. 17 Genomic DNA bands of some *Aeschynanthus* samples provided by RBGE compared with 1.5 kb + 100 bp DNA marker.

M = 1.5 kb + 100 bp DNA marker 2 = *A. fulgen* 4 = *A. hookeri*
 1 = *A. fecandus* 3 = *A. garrettii*

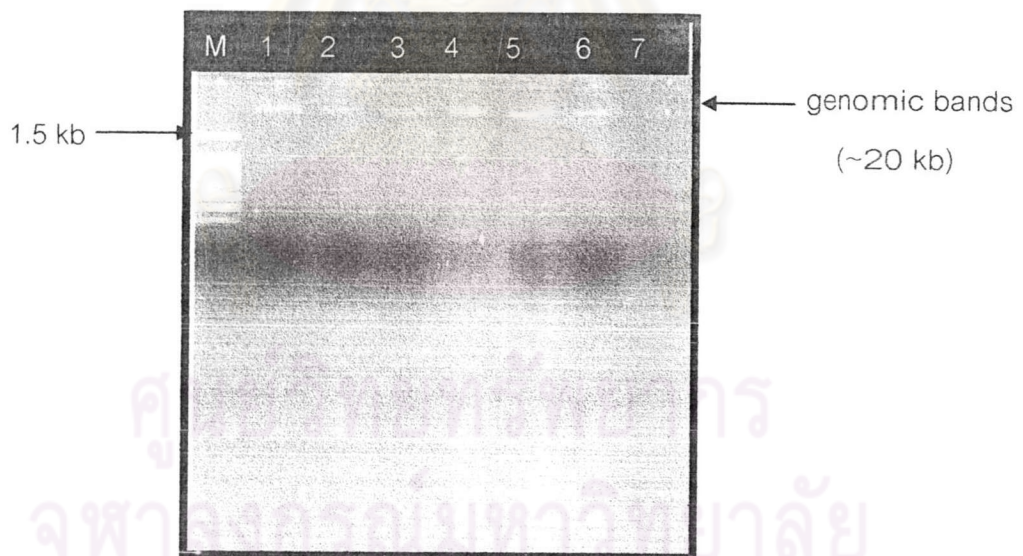


Fig. 18 Genomic DNA bands of *Aeschynanthus* samples collected from Chiangmai province compared with 1.5 kb + 100 bp DNA marker.

M = 1.5 kb + 100 bp DNA marker 4 = *A. sp. CM_022* 6 = *A. sp. CM_030*
 1 = *A. sp. CM_007* 3 = *A. sp. CM_013* 7 = *A. sp. CM_034*
 2 = *A. sp. CM_009* 5 = *A. sp. CM_026*

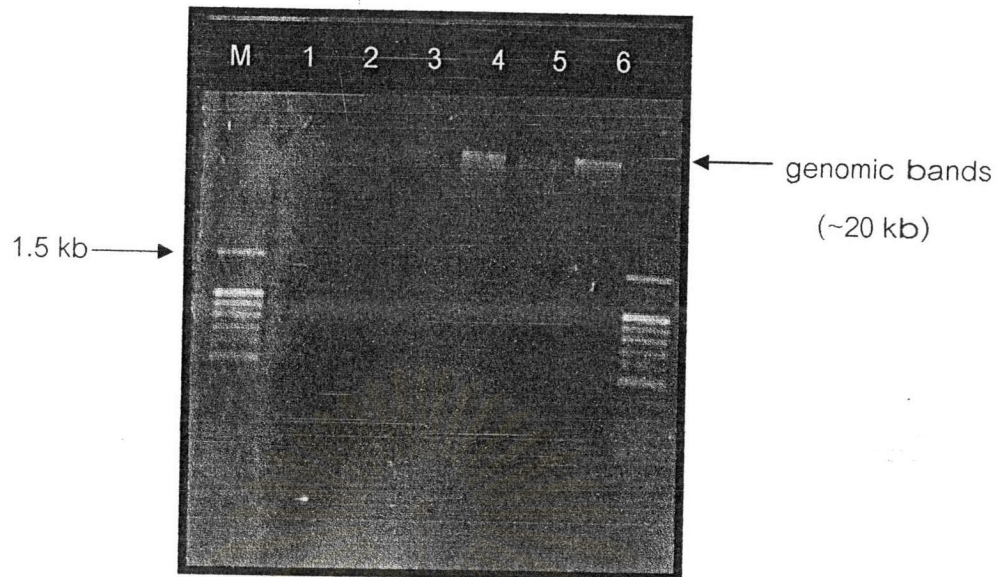


Fig. 19 Genomic DNA bands of *Aeschynanthus* samples collected from Jatujak market compared with 1.5 kb + 100 bp DNA marker.

M = 1.5 kb + 100 bp DNA marker	3 = <i>A. sp.</i> JJ_003	6 = <i>A. sp.</i> JJ_006
1= <i>A. sp.</i> JJ_001	4 = <i>A. sp.</i> JJ_004	
2 = <i>A. sp.</i> JJ_002	5 = <i>A. sp.</i> JJ_005	

4.3 PCR amplification of ITS regions

To amplify both ITS1 and ITS2 regions included 5.8S subunit all together, the 5P primer was used as a forward primer and the 8P primer as a reverse primer. The size of PCR products was around 800 bp compared to standard marker. Non-specific band was not found from all amplification. There was only one *Aeschynanthus* not successfully amplified *A. superbus*. Other remaining species were amplifiable and did not have to adjust the annealing temperature. Primer dimers were not found from all samples and the control reactions except *Aeschynanthus* bought from Jatujak market.

The approximated sizes of PCR products of ITS regions are about 800 bp as shown in Fig. 21, 22, and 23.

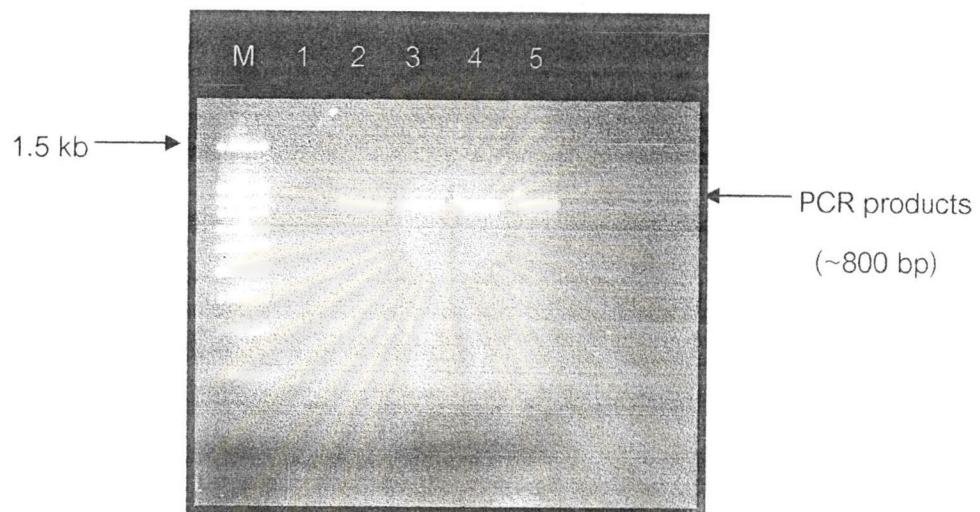


Fig. 20 PCR products of ITS regions of some *Aeschynanthus* samples (provided by RBGE) compared with 1.5 kb + 100 bp DNA marker.

M = 1.5 kb + 100 bp DNA marker	3 = <i>A. flugen</i>
1 = negative control	4 = <i>A. garrettii</i>
2 = <i>A. fecandus</i>	5. = <i>A. hookeri</i>

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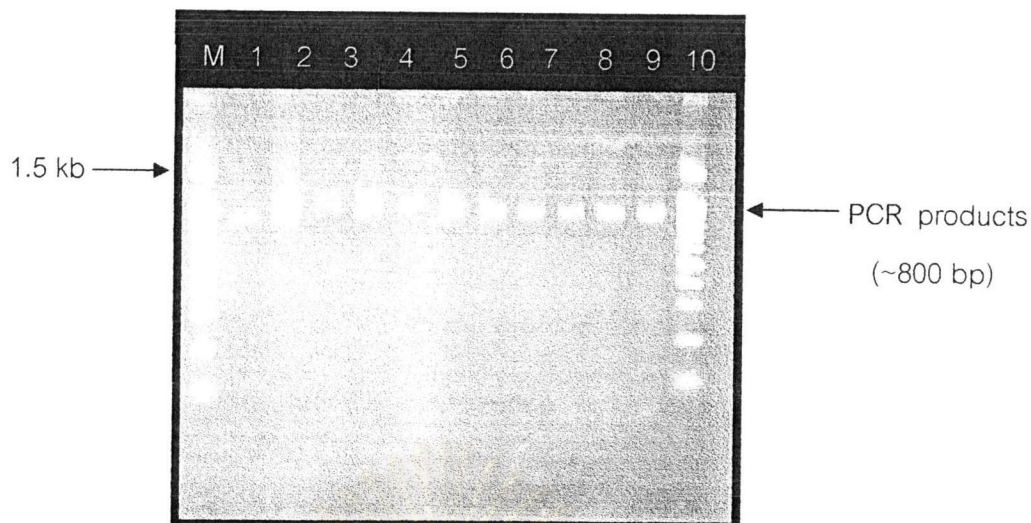


Fig. 21 PCR products of ITS regions of *Aeschynanthus* samples collected from Chiangmai province compared with 1.5 kb + 100 bp DNA marker.

M = 1.5 kb + 100 bp DNA marker	4 = <i>A. sp.</i> CM_013	8 = <i>A. sp.</i> CM_026
1 = <i>A. sp.</i> CM_007	5 = <i>A. sp.</i> CM_022	9 = <i>A. sp.</i> CM_030
2 = <i>A. sp.</i> CM_007	6 = <i>A. sp.</i> CM_022	10 = <i>A. sp.</i> CM_034
3 = <i>A. sp.</i> CM_013	7 = <i>A. sp.</i> CM_026	11 = <i>A. sp.</i> CM_034

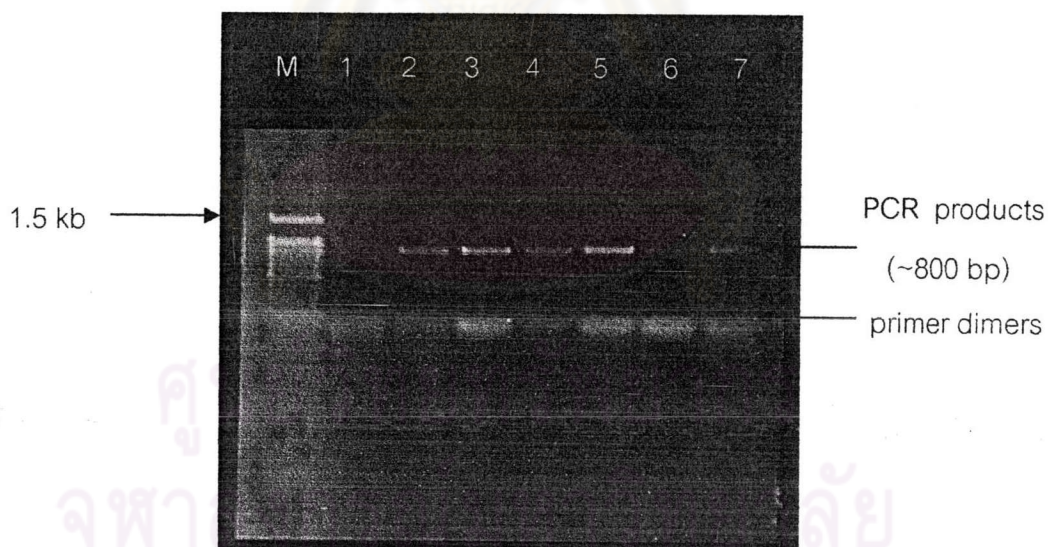


Fig. 22 PCR products of ITS regions of *Aeschynanthus* samples collected from Jatujak market compared with 1.5 kb + 100 bp DNA marker.

M = 1.5 kb + 100 bp DNA marker	3 = <i>A. sp.</i> JJ_002	6 = <i>A. sp.</i> JJ_005
1 = negative control	4 = <i>A. sp.</i> JJ_003	7 = <i>A. sp.</i> JJ_006
2 = <i>A. sp.</i> JJ_001	5 = <i>A. sp.</i> JJ_004	

4.4 PCR product purification and DNA sequencing

After the ITS regions of each *Aeschynanthus* species was amplified with suitable primers, the PCR products were cleaned up before DNA sequencing. In this study QIAquick PCR purification kit was used to purify the DNA products. Although, the DNA concentration might have been decreased a little bit after purified, the DNA concentration was enough for sequencing. Each PCR product was sequenced 4 times with primer 5P, and 1P in the forward direction and with primers 4P and 8P in the reverse direction. After DNA sequencing was performed, Chromas computer program was used to compare each couple of the complementary sequences. Sequencing experiments were redone several times for some species and base-by-base comparison could help getting an accurate data. All of Thai *Aeschynanthus* gave clear ITS sequences without contaminated sequence signals from other plant samples or primer-dimers (Fig. 24) except *A. parviflorus* which had some intraindividual sequence polymorphism (Fig. 25). All DNA sequences were converted to FASTA format before further analysed with Clustal X alignment program. Not that, sequence retrieved from leaf material which same species either identical accession number or not same accession number with the previous study (Denduangboripant *et al.*, 2001) were used to compared in this study.

Complete sequences of the whole ITS regions were successfully generated from leaf materials of almost all 32 *Aeschynanthus* samples supplied by RBGE. The boundaries of ITS1 and ITS2 and adjacent-coding regions were determined by

comparing to published *Aeschynanthus* ITS sequences retrieved from GenBank. The lengths of ITS sequences from these 32 taxa varied from 634 to 665 bp. The lengths of ITS1 regions of these *Aeschynanthus* ranged from 222 bp to 233 bp and the 5.8s rDNA of all samples was 156 bp in length while the lengths of ITS2 was 240 to 259 bp. For *Aeschynanthus* specimens bought from Jatujak market and those collecting from Chiangmai province, the sequences lengths and the boundaries of ITS regions were similar to other *Aeschynanthus* from the previous study (Denduangboripant *et al.*, 2001). Almost all ITS sequences were clear except those of *Aeschynanthus* sp.JJ_005 which had intra-individual sequence polymorphism and then gave only a short readable sequence. All of the sequences were compared to Genbank nucleotide database to identify the species name.



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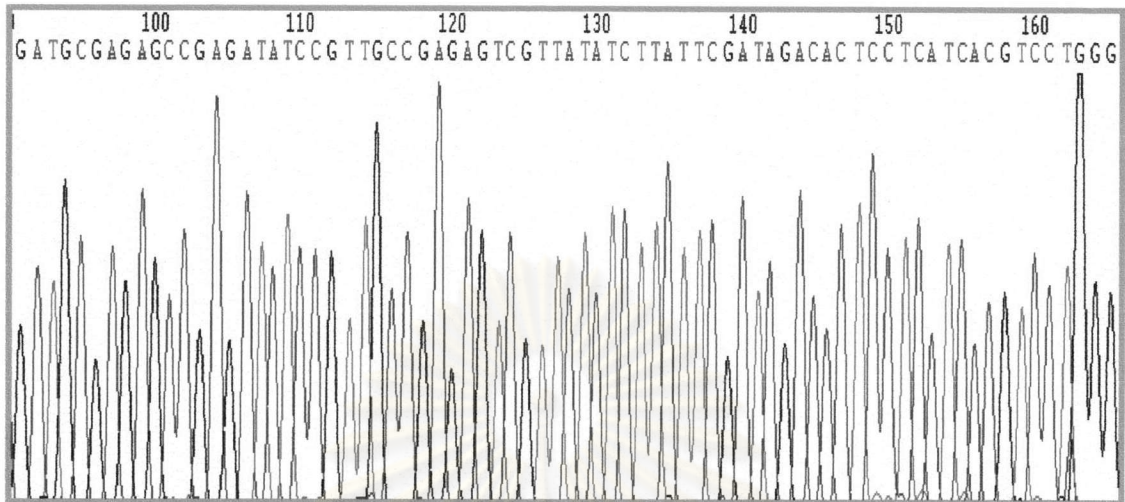


Fig. 23 Four-coloured electropherogram of ITS sequence of *A. javanicus* (clear sequence) with blue peaks represent Cytosine (C), red Thymine (T), green Adenine (A) and cyan Guanine (G) nucleotides.

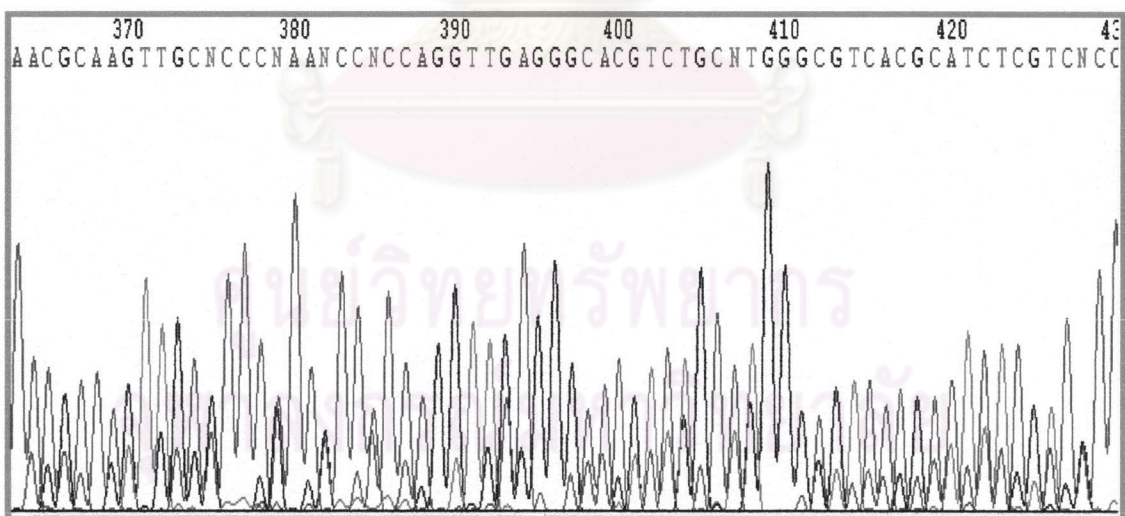


Fig. 24 Four-coloured electropherogram of ITS sequence of *A. parviflorus* (some intra individual sequence polymorphism) with blue peaks represent Cytosine (C), red Thymine (T), green Adenine (A) and cyan Guanine (G) nucleotides.

4.5 DNA data matrix preparation

After converting DNA sequences to FASTA format, Clustal X computer program was used to align the FASTA file. Three types of sequence data matrices were prepared (1) an ITS data matrix of all *Aeschynanthus* samples supplied from RBGE, aligned with all previously studied *Aeschynanthus* ITS sequence (Fig. 26) (2) an ITS data matrix of all *Aeschynanthus* samples brought from Jatujuk market, aligned with all previously studied *Aeschynanthus* ITS sequences (Fig. 27) (3) an ITS data matrix of some *Aeschynanthus* collected in Chiangmai, aligned with all Thai *Aeschynanthus* ITS sequences (Fig. 28). The lengths of these character-taxon matrices were 665 bp, 571 bp and 531 bp, respectively. The three ITS data matrices were then transformed to NEXUS file format for further phylogenetic tree reconstruction.



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	10	20	30	40	50	60	70	80
Cyr. baileyi	TCGAAacCTGCAaaG-CAGACCCGTGAACCTGT-TAAA-AATA--TGCT--TGGCGCCGCGATGT--CGGATGC--A							
Lys. forrestii	TCGAAACCCGCAAAAG-CAGACCCGTGAACATGTGTA--ATA-CACGCT--TGGCTCCGCGATGT--TGGACGC--C							
A. curtisii	TCgAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATC--GGGGTCGyGAGGT--TGGATGC--A							
A. mnsaensis	TCgAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CGTT--GGGGTCGyGAGGT--TGGATGCATTA							
A. javanicus 19971339	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGgTCGTGAGGT--TGGATGC--A							
A. aff. javanicus 20010484	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATC--GGGGTCGyGAGGT--TGGATGC--A							
A. vinaceus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. nummularius	TCGAAACCTGCAAAAG-CAGACCCGTGAACATGTGTA--TAA-CGTT--GGGGTCGyGAGGT--TGGATGC--A							
A. ellipticus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CGTT--GGGGTCGyGAGGT--TGGATGC--A							
A. oxychlamys	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CGTT--GGGGTCGyGAGGT--TGGATGC--A							
A. roseoflorus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CGTT--GGGGTCGyGAGGT--TGGATGC--A							
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A. irigaensis 19991999	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. philippinensis	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. obconicus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATC--GGGGTCGyGAGGT--TGGATGC--A							
A. sp. 001	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. rhododendron	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. sp. 0025 123	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. sp. 20002051	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. sp. 00293	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. sp. 20000557A	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. tricolor	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. tricolorxparvifolius	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. burttii 20000562	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. burttii 20000536	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. arctocalyx	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. chrysanthus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
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A. parvifolius 19671069	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. radicans 19622826	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. radicans 19672224	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. argentii	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. magnificus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. malulidii 19980282	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. malulidii 19980283	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. siphonanthus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. aff. siphonanthus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. speciosus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. guttatus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. pachyanthus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
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A. albidus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. sp. nov. 20000512	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. viridiflorus 20000332	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. viridiflorus 20021227	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
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A. fruticosus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. buxifolius	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. ceylanicus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. bracteatus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. humilis	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. hildebrandii AY047040	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. hildebrandii 19991628	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. gracilis 19802575	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
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A. hosseusii	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. hookeri	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. macranthus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. parviflorus 19671067	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. aff. parviflorus 19672220	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. mimetes	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. sikkimensis	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. arfakensis	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. austroyunnanensis	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. lineatus 19970613	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. lineatus 19991622	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. pachytrichus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. pseudohybridus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. bataviorum	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. garrettii	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. acuminatus 19991496	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. acuminatus 19991444	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. myrmecophilus	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. sp. 00171	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. viridiflorus 20000228	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							
A. andersoni	TCGAAACCTGCAAAAG-CAGACTCGTGAACATGTGTA--TAA-CATT--GGGGTCGyGAGGT--TGGATGC--A							

Fig. 25 A 572 bp character-taxon matrix of 80 *Aeschynanthus* taxa based on ITS sequences. Gap symbol (-) indicates insertion or deletion at the site. ? symbol shows missing nucleotide data. Asterisks * represent excluded sites from analyses.

	90	100	110	120	130	140	150	160							
<i>Cyr. baileyi</i>	TTT	-----	GCGTCCAA	CCAAACAT	-----	CACGACCC	TGAC	-----	CCCAAGTGGCGCAAGTCGTTGCTCGGG-C						
<i>Lys. forrestii</i>	TCT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CACCCAGGTGGCGCAAGTCG	-----	CCTGGG-C				
<i>A. curtisii</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. musaensis</i>	TTT	-----	GTGT	-----	CCGGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. javanicus</i> 19971339	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. aff. javanicus</i> 20010484	TTT	-----	GTGT	-----	CCAACAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. vinaceus</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CATGACCTCTAC	-----	CCCAAGTGGCGCGAGTCG	-----	CTTGGG-A				
<i>A. nummularius</i>	TCT	-----	GTGT	-----	CGAGCAT	-----	CACGACCCCGAC	-----	CCcGAC	-----	CCCAAGTGGCGCGAGTCG	-----	CCTGGG-A		
<i>A. ellipticus</i>	TCT	-----	GTGT	-----	CGAGCAT	-----	CACGACCCCGAC	-----	CCCAAGTGGCGCGAGTCG	-----	CTTGGG-A				
<i>A. oxychlamys</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CA	-----	CGAC	-----	CTCGACCCCGAGTGGCGCAAGTCG	-----	CTTGGG-A		
<i>A. roseoflorus</i>	TtT	-----	GTGT	-----	CCGGCAT	-----	CAGGACCCCGAC	-----	CCCAAGTGGCGCGAGTCG	-----	CTTGGG-A				
<i>A. irigaensis</i> 19972532	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. irigaensis</i> 19991999	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. philippinensis</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCGAGTCG	-----	CTTGGG-A				
<i>A. obconicus</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. sp. 001</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. rhododendron</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. sp. 0025_123</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. sp. 20002051</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. sp. 00293</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. sp. 20000557A</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-T				
<i>A. tricolor</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. tricolorparvifolius</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. burttii</i> 20000562	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. burttii</i> 20000536	TTw	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. arctocalyx</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. chrysanthus</i>	TCT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. parvifolius</i> 19881451	TCT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. parvifolius</i> 19671069	TCT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. radicans</i> 19622826	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. radicans</i> 19672224	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. argentii</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. magnificus</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CATGACCTCTAC	-----	CCCAAGTGGCGCGAGTCG	-----	CTTGGG-A				
<i>A. malulidii</i> 19980282	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. malulidii</i> 19980283	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. siphonanthus</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. aff. siphonanthus</i>	TTT	-----	GTGT	-----	CCGGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCG	-----	CTTGGG-A				
<i>A. speciosus</i>	TTT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. guttatus</i>	TTT	-----	GTGT	-----	CCGGCAT	-----	CACGACCTCGAC	-----	CCCGAGGCGCGAGTCG	-----	CTTGGG-A				
<i>A. pachyanthus</i>	TTT	-----	GTGT	-----	CCGGCAT	-----	CACGACCTCGAC	-----	CCCGAGGCGCGAGTCG	-----	CTTGGG-A				
<i>A. longicaulis</i> 19672218	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. longicaulis</i> 20001430	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. albidus</i>	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. sp. nov. 20000512</i>	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. viridiflorus</i> 20000332	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. viridiflorus</i> 20021227	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-r				
<i>A. fecundus</i>	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. fulgens</i> 19900384	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TACCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. fulgens</i> 20002032	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TACCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. angustifolius</i>	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. fruticosus</i>	TTT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. buxifolius</i>	TCT	-----	GTGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. ceylanicus</i>	TTT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	GTCCCCC	-----	AAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. bracteatus</i>	TTT	-----	GATGAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. humilis</i>	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. hildebrandii</i> AY047040	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. hildebrandii</i> 19991628	TTT	-----	TT	-----	GTGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	AAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. gracilis</i> 19802575	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CTCCAAAG	-----	TTG	-----	CTTGGG-A
<i>A. gracilis</i> 19821970	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CTCCAAAG	-----	TTG	-----	CTTGGG-A
<i>A. hoeseusii</i>	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. hookeri</i>	TTC	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. macranthus</i>	Ctt	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. parviflorus</i> 19671067	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. aff. parviflorus</i> 19672220	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. mimetes</i>	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TACCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. sikkimensis</i>	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. arfakensis</i>	TTT	-----	GATGAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. austroyunnanensis</i>	TTC	-----	CT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. lineatus</i> 19970613	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. lineatus</i> 19991622	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. pachytrichus</i>	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A		
<i>A. pseudohybridus</i>	TTT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	TCCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. batakiorum</i>	TTT	-----	GATGAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. gazrettii</i>	TCT	-----	GTGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. acuminatus</i> 19991496	TTT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. acuminatus</i> 19991444	TTT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. myzocophilus</i>	TTT	-----	GAGT	-----	CyAGCrT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. sp. 00171</i>	TTT	-----	GAGT	-----	CCAGCGT	-----	CCCGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. viridiflorus</i> 20000228	TTT	-----	GAGT	-----	CCAGCGT	-----	CACGACCTCGAC	-----	CCCGAGTGGCGAGAGTCG	-----	CTTGGG-A				
<i>A. andersonii</i>	TTT	-----	TT	-----	GAGT	-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCcAAGTGGCGAGAGTCG	-----	CTTGGG-A		

Fig. 25 (continued)

	250	260	270	280	290	300	310	320
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Cyr. baileyi|.....|.....|.....|.....|.....|.....|.....|.....|
Lys. forrestii CGCGGTGCGC-AGGACTTGACGAGGAGCG-TCCATTGAAT--AGATATTATCTCGTCGCC-CCTTCCCC-CAA-GATC-C
A. curtisii CGCTGTGTCG-AGGACGTGATGAGTAGCG-CCTATCGAATA-A-AT---GTCCTCTCGCC-CCCCCTCAACA--CATC-C
A. musaensis TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT??-ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. javanicus 19971339 TGAGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT--ATCTCGTCGCC-CCCCCT-CCAAAATATCTT
A. aff. javanicus 20010484 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. vinaceus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. nummularius TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. ellipticus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. oxychlamys TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. roseoflorus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. irigaensis 19972532 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. irigaensis 19991999 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. philippinensis TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. obconicus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sp. 001 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. rhododendron TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sp. 0025_123 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sp. 20002051 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sp. 00293 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sp. 20000557A TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. tricolor TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. tricolorparvifolius TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. burttii 20000562 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. burttii 20000536 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. arcotocalyx TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. chrysanthus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. parvifolius 19881451 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. parvifolius 19671069 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. radicans 19622826 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. radicans 19672224 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. argentii TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. magnificus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. malulidii 19980282 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. malulidii 19980283 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. siphonanthus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. aff. siphonanthus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. speciosus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. guttatus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. pachyanthus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. longicaulis 19672218 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. longicaulis 20001430 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. albidus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sp. nov. 20000512 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. viridiflorus 20000332 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. viridiflorus 20021227 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. fecundus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. fulgens 19900384 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. fulgens 20002032 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. angustifolius TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. fruticosus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. buxifolius TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. ceylanicus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. bracteatus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. humilis TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. hildebrandii AY047040 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. hildebrandii 19991628 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. gracilis 20002575 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. gracilis 19821970 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. hosseusii TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. hookeri TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. macranthus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. parviflorus 19671067 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. aff. parviflorus 19672220 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. mimetes TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sikkimensis TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. arfakensis TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. austroyunnanensis TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. lineatus 19970613 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. lineatus 19991622 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. pachytrichus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. pseudohybridus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. batakiorum TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. garrettii TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. acuminatus 19991496 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. acuminatus 19991444 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. myrmecophilus TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. sp. 00171 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. viridiflorus 20000228 TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT
A. andersonii TGCGGTACCC-AGGACGTGATGAGGAGTG-TCTATCGAATA-AGAT---ATCTCGTCGCC-CCAATCCGCCAA-TGTTTT

Fig. 25 (continued)

	330	340	350	360	370	380	390	400
<i>Cyr. baileyi</i>	-T--CTTCC-ACACT-----	AA-G--AGTGC	CGGGAG-ACGATA--	CATACGAAGGAGG--	GGCGCGGA			
<i>Lys. forrestii</i>	-T--CTTCC-ACACT-----	CAA--AGTGC	CGGGAG-ACGATG--	CATACGAAGGAGG--	GGTGC			
<i>A. curtisii</i>	GT--TC-CC-----Tf--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. musaensis</i>	GT--TC-CC-----CGAC--	TCGGTCAA--	GGTTCG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. javanicus</i> 19971339	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CrTACCAAGGAGG--	GGGACGGA		
<i>A. aff. javanicus</i> 20010484	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. vinaceus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. nummularius</i>	GT--TC-CC-----CGAC--	TCGGTCAA--	GGTg-----	TCGGGGACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. ellipticus</i>	AT--TC-CC-----CGGC--	TCGGTCAA--	GGTG-----	TCGGGGACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. oxychlamys</i>	GT--TC-CC-----CGAC--	TCGGTCAA--	GGTG-----	TCGGGGACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. roseoflorus</i>	GT--TC-CC-----CGGC--	TCGGTCAA--	GGTG-----	TCGGGGACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. irigaensis</i> 19972532	GT--TC-CC-----CGAC--	TCGGTCAA--	GGTG-----	TCGGGGACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. irigaensis</i> 19991999	GT--TC-CC-----CG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CGTACCAAGGATGA--	GGGACGGA		
<i>A. philippinensis</i>	GT--TC-CC-----CG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGATGA--	GGGACGGA		
<i>A. obconicus</i>	CT--TC-CC-----TCG--	ATTCAGTCAA--	GTGTCG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. sp. 001</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACrATG--	CaTACCAAGGAGG--	GGGACGGA		
<i>A. rhododendron</i>	gT--TC-CC-----CG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. sp. 0025 123</i>	-C--TC-CC-----TG--	ACTCGTCAA--	GTGTCG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. sp. 20002051</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. sp. 00293</i>	GT--TC-CC-----CG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACGGA		
<i>A. sp. 20000557A</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACGGA		
<i>A. tricolor</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACrATG--	CaTACCAAGGAGG--	GGGACGGA		
<i>A. tricoloxparvifolius</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACGGA		
<i>A. burttii</i> 20000562	GT--TC-CC-----CG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. burttii</i> 20000536	GT--TC-CC-----CG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. arotcalyx</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. chrysanthus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACGGA		
<i>A. parvifolius</i> 19881451	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACGGA		
<i>A. parvifolius</i> 19671069	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACGGA		
<i>A. radicans</i> 19622826	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACGGA		
<i>A. radicans</i> 19672224	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACAATG--	CGTACCAAGGAGG--	GGGACgGA		
<i>A. argentei</i>	G-----				AGGAGGA--	GGGACGGA		
<i>A. magnificus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. malinidii</i> 19980282	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. malinidii</i> 19980283	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. siphonanthus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. aff. siphonanthus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. speciosus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. guttatus</i>	GTGTTC-CC-----CG-CC--	TCAGTCAA--	GGTG-----	TCGGGGACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. pachyanthus</i>	GTGTTC-CC-----CG-CC--	TCAGTCAA--	GGTG-----	TCGGGGACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. longicaulis</i> 19672218	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. longicaulis</i> 20001430	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. albidus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. sp. nov. 20000512</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. viridiflorus</i> 20000332	TCGTTTCGCGGACATCGAC--	CA-T-AA--	T--TGGTGT	TCGGGAGACGATG--	CATAC--	GGAGGA--	GGGACGGA	
<i>A. viridiflorus</i> 20021227	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. fecundus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. fulgens</i> 19900384	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. fulgens</i> 20002032	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. angustifolius</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. fruticosus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. buxifolius</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. ceylanicus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. bracteatus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. humilis</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. hildebrandii</i> AY047040	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. hildebrandii</i> 19991628	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. gracilis</i> 19802575	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. gracilis</i> 19821970	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. hosseusii</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. hookeri</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. macranthus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. parviflorus</i> 19671067	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. aff. parviflorus</i> 19672220	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. mimetes</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. sikkimensis</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. arfakensis</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. austroyunnanensis</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. lineatus</i> 19970613	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. lineatus</i> 19991622	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. pachytrichus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. pseudohybridus</i>	GC--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. batadorum</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. garrettii</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. acuminatus</i> 19991496	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. acuminatus</i> 19991444	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. myzocophilus</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. sp. 00171</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. viridiflorus</i> 20000228	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		
<i>A. andersonii</i>	GT--TC-CC-----TG--	ATTCAGTCAA--	GTGTTG-----	GGGG-ACGATG--	CATACGAAGGAGG--	GGGACGGA		

Fig. 25 (continued)

	410	420	430	440	450	460	470	480	
<i>Cyr. baileyi</i>	TATTGGCTCCCGT	TATCC	TGCATAGCGGCGG	CGCCAAATA	---	ACATGCCGTGG	CGATGGAT	---	GTCACACG
<i>Lys. forrestii</i>	TATTGGCTCCCGT	TATCCCTT	GTGTGGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGACGTATAT	---	GTCACACG
<i>A. curtisii</i>	CATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. musaensis</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	TTAgTATACCGG	CGATGGAT	---	GTCACACG
<i>A. javanicus</i> 19971339	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. aff. javanicus</i> 20010484	CATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. vinaceus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. nummularius</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. ellipticus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. oxychlamys</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. roseoflorus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. irigaensis</i> 19972532	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. irigaensis</i> 19991999	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. philippinensis</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. obconicus</i>	yATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sp. 001</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. rhododendron</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sp. 0025_123</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sp. 20002051</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sp. 00293</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sp. 20000557A</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. tricolor</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. tricoloxparvifolius</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. burttii</i> 20000562	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. burttii</i> 20000536	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. arctocalyx</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. chrysanthus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. parvifolius</i> 19881451	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. parvifolius</i> 19671069	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. radicans</i> 19622826	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. radicans</i> 19672224	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. argentii</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. magnificus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. malulidii</i> 19980282	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. malulidii</i> 19980283	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. siphonanthus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. aff. siphonanthus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. speciosus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. guttatus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. pachyanthus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. longicaulis</i> 19672218	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. longicaulis</i> 20001430	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. albidus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sp. nov.</i> 20000512	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. viridiflorus</i> 20000332	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. viridiflorus</i> 20021227	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. fecundus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. fulgens</i> 19900384	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. fulgens</i> 20002032	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. angustifolius</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. fruticosus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. buxifolius</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. ceylanicus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. bracteatus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. humilis</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. hildebrandii</i> AY047040	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. hildebrandii</i> 19991628	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. gracilis</i> 19802575	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. gracilis</i> 19821970	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. hoeseusii</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. hookeri</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. macranthus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. parviflorus</i> 19671067	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. aff. parviflorus</i> 19672220	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. mimetes</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sikkimensis</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. arfakensis</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. austroyunnanensis</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. lineatus</i> 19970613	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. lineatus</i> 19991622	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. pachytrichus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. pseudohybridus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. batkiozum</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. gazretii</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. acuminatus</i> 19991496	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. acuminatus</i> 19991444	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. myzocophilus</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. sp. 00171</i>	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. viridiflorus</i> 20000228	TATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG
<i>A. anderssonii</i>	ATATTGGCTCCCGT	TATCC	AAGCATAGCGGCGG	CGCCAAATA	---	GATGCCGTGT	CGATGGAT	---	GTCACACG

Fig. 25 (continued)

	490	500	510	520	530	540	550	560
<i>Cyr. baileyi</i>							
<i>Lys. forrestii</i>	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCATGTGGGACTTCATCGAGCCAC--GGGAA							
<i>A. curtisii</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. musaensis</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. javanicus</i> 19971339	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----?ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. aff. javanicus</i> 20010484	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATATCGTGGGACTC-CATCAATCCAC--GGGCT							
<i>A. vinoxosus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGAYC							
<i>A. nummularius</i>	TTAAGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCA							
<i>A. ellipticus</i>	ACAAGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCA							
<i>A. oxychlamyis</i>	ATAAGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCA							
<i>A. roseoflorus</i>	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCA							
<i>A. irigaensis</i> 19972532	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCT							
<i>A. irigaensis</i> 19991999	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCT							
<i>A. philippinensis</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. obconicus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCT							
<i>A. sp. 001</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. rhododendron</i>	TTAAGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. sp. 0025_123</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. sp. 20002051</i>	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. sp. 00293</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. sp. 20000557A</i>	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. tricolor</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCT							
<i>A. tricolorxparvifolius</i>	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. burttii</i> 20000562	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. burttii</i> 20000536	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. arctocalyx</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. chrysanthus</i>	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. parvifolius</i> 19881451	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. parvifolius</i> 19671069	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. radicans</i> 19622826	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. radicans</i> 19672224	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. argenteus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. magnificus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. malulidii</i> 19980282	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. malulidii</i> 19980283	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. siphonanthus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. aff. siphonanthus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. speciosus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. guttatus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCAATCCAC--GGGCC							
<i>A. pachyanthus</i>	ATACGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCA							
<i>A. longicaulis</i> 19672218	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCA							
<i>A. longicaulis</i> 20001430	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCA							
<i>A. albidus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. sp. nov. 20000512</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. viridiflorus</i> 20000332	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. viridiflorus</i> 20021227	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. fecundus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. fulgens</i> 19900384	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. fulgens</i> 20002032	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. angustifolius</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. fruticosus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. buxifolius</i>	ACATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. ceylanicus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. bracteatus</i>	ATATGTGGTGG---TTGG-ATT-CATCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. humilis</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. hildebrandii</i> AY047040	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. hildebrandii</i> 19991628	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. gracilis</i> 19802575	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. gracilis</i> 19821970	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. hosseusii</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. hookeri</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. macranthus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. parviflorus</i> 19671067	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. aff. parviflorus</i> 19672220	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. mimetes</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. sikkimensis</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. arfakensis</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. austroyunnanensis</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. lineatus</i> 19970613	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. lineatus</i> 19991622	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. pachytrichus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. pseudohybridus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. batakiorum</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. garrettii</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. acuminatus</i> 19991496	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. acuminatus</i> 19991444	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. myrmecephalus</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. sp. 00171</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. viridiflorus</i> 20000228	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							
<i>A. andersonii</i>	ATATGTGGTGG---TTGG-ATT-CCTCAACTTGGCAA-CT-----ATCGTGGGACTC-CATCGATCCAC--GGGCC							

Fig. 25 (continued)

	570	580	590	600
			
<i>Cyr. baileyi</i>	C-GACCCG-T---	GGCAG---	CAGAT-TGGTGCCTTCCA	
<i>Lys. Forrestii</i>	C-GACCCAA-C---	GGCAC---	GAGAT-TG-----CCCTCGA	
<i>A. curtisii</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. musaensis</i>	C-GACCCAA-T-CAATGGCGC---	AAGAT-CG-----CCCTCGA		
<i>A. javanicus</i> 19971339	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. aff. javanicus</i> 20010484	T-GACCCAA-T---	GGCAC---	aaagat-tg-----CCCTCGA	
<i>A. vinaceus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. nummularius</i>	C-GACCCAAA-----	GGCAC---	AAGAT-GG-----CCCTCGA	
<i>A. ellipticus</i>	A-GACCCAAA-----	GGCAC---	AAGAT-CG-----CCCTCGA	
<i>A. oxychlamys</i>	C-GACCCAA-C---	GGCAC---	AAGAT-GG-----CCCTCGA	
<i>A. roseoflorus</i>	C-GACCCAA-C---	GGCAC---	AAGAT-GG-----CCCTCGA	
<i>A. irigaensis</i> 19972532	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CTCTCGA	
<i>A. irigaensis</i> 19991999	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CTCTCGA	
<i>A. philippinensis</i>	C-GACCCAA-T---	GGCAC---	GAGAT-TG-----CTCTCGG	
<i>A. obconicus</i>	T-GACCCAA-T---	GGCAC---	maagat-tg-----CCCTCGA	
<i>A. sp. 001</i>	T-GACCCAA-T---	GgCAC---	AAGAT-TG-----CCCTCGa	
<i>A. rhododendron</i>	C-GACCCAAAT-----	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. sp. 0025 123</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. sp. 20002051</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. sp. 00293</i>	C-GACCCAA-T---	GGCAC---	TagAt-tg-----CCCTCGA	
<i>A. sp. 20000557A</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. tricolor</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. tricolorparvifolius</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCTTCGA	
<i>A. burttii</i> 20000562	C-GACCCAA-T---	GGCAC---	TAGAT-TG-----CCCTCGA	
<i>A. burttii</i> 20000536	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. arctocalyx</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. chrysanthus</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. parvifolius</i> 19881451	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. parvifolius</i> 19671069	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. radicans</i> 19622826	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. radicans</i> 19672224	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. argentii</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. magnificus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. malulidii</i> 19980282	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. malulidii</i> 19980283	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. siphonanthus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. aff. siphonanthus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. speciosus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. guttatus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-CG-----CCCTCGA	
<i>A. pachyanthus</i>	C-GACCCAA-C---	GGCAC---	AAGAT-CG-----CCCTCGA	
<i>A. longicaulis</i> 19672218	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. longicaulis</i> 20001430	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. albidus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. sp. nov. 20000512</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. viridiflorus</i> 20000332	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. viridiflorus</i> 20021227	C-GACCCAA-T---	GGCAC---	aaagat-tg-----CCCTCGA	
<i>A. fecundus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. fulgens</i> 19900384	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. fulgens</i> 20002032	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. angustifolius</i>	C-AACCCAA-T---	GGCAC---	AAGAT-TG-----CCGCTCGA	
<i>A. fruticosus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. buxifolius</i>	G-GACCCAA-TT---	GGCATAAA	TAGATCTG-----CCCTCGA	
<i>A. ceylanicus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. bracteatus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. humilis</i>	C-GACCCAAAG-----	AAGAT-TG-----CCACGA		
<i>A. hildebrandii</i> AY047040	C-GACCCAA-C-----	AAGAT-TG-----CCCTCGA		
<i>A. hildebrandii</i> 19991628	C-GACCCAA-C-----	AAGAT-TG-----CCCTCGA		
<i>A. gracilis</i> 19802575	G-GACCCAG-C-----	AAGAT-TG-----CCCTCGA		
<i>A. gracilis</i> 19821970	G-GACCCAG-C-----	AAGAT-TG-----CCCTCGA		
<i>A. hosseusii</i>	C-GACCCAA-T---	GGCAC---	AAgat-tg-----CCCTCGA	
<i>A. hookeri</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. macranthus</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. parviflorus</i> 19671067	C-GACCCAA-T---	GGCAC---	AAgAt-tg-----CCCTCGA	
<i>A. aff. parviflorus</i> 19672220	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. mimetes</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. sikkimensis</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. arfakensis</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. austroyunnanensis</i>	C-GACCCAA-T---	GGCAC---	GAGAG-TG-----CCCTCGA	
<i>A. lineatus</i> 19970613	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. lineatus</i> 19991622	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. pachytrichus</i>	T-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. pseudohybridus</i>	C-AACCCAA-T---	GGCAC---	AAGAT-TG-----CCGCTCGA	
<i>A. batakiorum</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. garrettii</i>	G-GACCCAA-C----	GGCATAA-TAA-AT-TG-----	CCCTCAA	
<i>A. acuminatus</i> 19991496	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. acuminatus</i> 19991444	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. myzocophilus</i>	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. sp. 00171</i>	C-GACCCAA-T---	GGCAC---	AagAt-tg-----CCCTCGA	
<i>A. viridiflorus</i> 20000228	C-GACCCAA-T---	GGCAC---	AAGAT-TG-----CCCTCGA	
<i>A. andersonii</i>	C-GACCCAA-C-----	AAGAT-TG-----CCACGA		

Fig. 25 (continued)

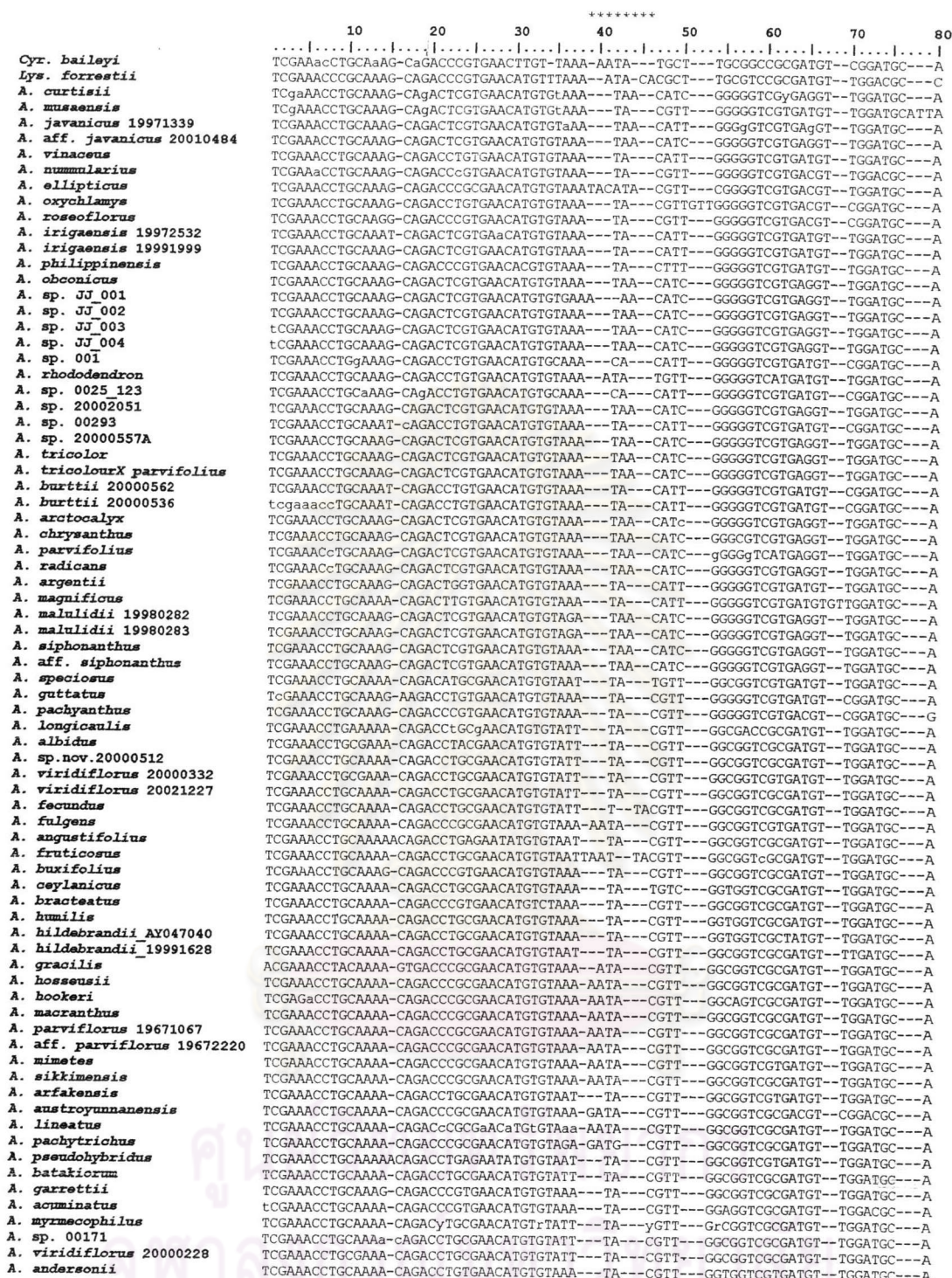


Fig. 26 A 571 bp character-taxon matrix of 77 *Aeschynanthus* taxa based on ITS sequences. Gap symbol (-) indicates insertion or deletion at the site. ? symbol shows missing nucleotide data.

Asterisks * represent excluded sites from analyses.

	90	100	110	120	130	140	150	160	
<i>Cyr. baileyi</i>	TTT	-----	GGTCCAACCAACAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	-C	
<i>Lys. foerrestii</i>	TCT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CACCCAGTGGCGCAAGTCTGCTCGGG	
<i>A. curtisii</i>	TTT	-----	GTGT-----	CCAACAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. musaensis</i>	TTT	-----	GTGT-----	CCGGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. javanicus</i> 19971339	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. aff. javanicus</i> 20010484	TTT	-----	GTGT-----	CCAACAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. vinaceus</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CATGACCTCTAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. nummularius</i>	TCT	-----	GTGT-----	CGAGCAT	-----	CACGACCTCGAC	-----	CCCGAC-----CCAGTGGCGCAAGTCTGCTCGGG	
<i>A. ellipticus</i>	TCT	-----	GTGT-----	CGAGCAC	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. oxychlamys</i>	TTT	TTT	TTT	TTT	TTT	TTT	TTT	TTT	
<i>A. roseoflorus</i>	TtT	-----	GTGT-----	CCGGCAT	-----	CAGGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. irigaensis</i> 19972532	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. irigaensis</i> 19991999	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. philippinensis</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. obovatus</i>	TTT	-----	GTGT-----	CCAACAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. JJ 001</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. JJ 002</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. JJ 003</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. JJ 004</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. 001</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. rhododendron</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. 0025 123</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. 20002051</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. 00293</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CAGGACCTCGAC	-----	TCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. sp. 20000557A</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. tricolor</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. tricolor</i> X <i> parvifolius</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. burttii</i> 20000562	TTT	-----	GTGT-----	CCAGCAT	-----	CAGGACCTCGAC	-----	TCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. burttii</i> 20000536	TtT	-----	GTGT-----	CCAGCAT	-----	CAGGACCTCGAC	-----	TCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. arctocalyx</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. chrysanthus</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. parvifolius</i>	TCT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. radicans</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. argentii</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. magnificus</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CATGACCTCTAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. malulidii</i> 19980282	TTT	-----	GTGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. malulidii</i> 19980283	TTT	-----	GTGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. siphonanthus</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. aff. siphonanthus</i>	TTT	-----	GTGT-----	CCGGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. speciosus</i>	TTT	-----	GTGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGCAAGTCTGCTCGGG	
<i>A. guttatus</i>	TTT	-----	GTGT-----	CCGGCAT	-----	CACGGCCTCGAC	-----	CCCGAGCCAGCAGTCTGCTCGGG	
<i>A. pachyanthus</i>	TTT	-----	GTGT-----	CCGGCAT	-----	CACGGCCTCGAC	-----	CCCGAGCCAGCAGTCTGCTCGGG	
<i>A. longicaulis</i>	TTT	-----	GAGT-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. albidus</i>	TTT	-----	GAGT-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. sp. nov. 20000512</i>	TTT	-----	GAGT-----	CCAGCGT	-----	CCCCGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. viridiflorus</i> 20000332	TTT	-----	GAGT-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. viridiflorus</i> 20021227	TTT	-----	GAGT-----	CCAGCGT	-----	CCCCGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. fecundus</i>	TTT	-----	GAGT-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. fulgens</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. angustifolius</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. fruticosus</i>	TTT	-----	GAGT-----	CCAGCAT	-----	CACGACCTCGAC	-----	CCCAAGTGGCGAGAGTTGCTCGGG	
<i>A. buxifolius</i>	TCT	-----	GTGT-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. ceylanicus</i>	TTT	-----	GAGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. bracteatus</i>	TTT	-----	GATGAGT	-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG
<i>A. humilis</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. hildebrandii</i> AY047040	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. hildebrandii</i> 19991628	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. gracilis</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. hosseusii</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. hookeri</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. macranthus</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. parviflorus</i> 19671067	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. aff. parviflorus</i> 19672220	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. mimetes</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. sikkimensis</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. arfakensis</i>	TTT	-----	GATGAGT	-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGAGAGTTGCTCGGG
<i>A. anstroyunnanensis</i>	TTT	CT	TT	TT	TT	TT	TT	TT	
<i>A. lineatus</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. pachytrichus</i>	TTT	TT	TT	TT	TT	TT	TT	TT	
<i>A. pseudohybridus</i>	TTT	-----	GAGT-----	CCAGCAT	-----	CACGGCCTCGAC	-----	CCCAAGTGGCGAGAGTTGCTCGGG	
<i>A. batakiorum</i>	TTT	-----	GATGAGT	-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG
<i>A. garrettii</i>	TCT	-----	GTGT-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. acuminatus</i>	TTT	-----	GAGT-----	CCAGCAT	-----	CACGGCCTCGAA	-----	CCCAAGTGGCGAGAGTTGCTCGGG	
<i>A. myrmecophilus</i>	TTT	-----	GAGT-----	CyAGCrT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. sp. 00171</i>	TTT	-----	GAGT-----	CCAGCGT	-----	CCCCGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. viridiflorus</i> 20000228	TTT	-----	GAGT-----	CCAGCGT	-----	CACGGCCTCGAC	-----	CCCCGAGTGGCGAGAGTTGCTCGGG	
<i>A. anderssonii</i>	TTT	TT	TT	TT	TT	TT	TT	TT	

Fig. 26 (continued)

	170	180	190	200	210	220	230	240
<i>Cyr. baileyi</i>
<i>Lys. forrestii</i>	G-----	TGCTAAC	-----	CAC	TGG	CGG	CGG	GAAG
<i>A. curtisii</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. musaensis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. javanicus</i> 19971339	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. aff. javanicus</i> 20010484	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. vinaceus</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. nummularius</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. ellipticus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. oxypetalus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. roseoflorus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. irigaensis</i> 19972532	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. irigaensis</i> 19991999	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. philippinensis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. obovatus</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. JJ_001</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. JJ_002</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. JJ_003</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. JJ_004</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. 001</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. rhododendron</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. 0025_123</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. 20002051</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. 00293</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. 20000557A</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. tricolor</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. tricolor</i> X <i>parvifolius</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. burttii</i> 20000562	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. burttii</i> 20000536	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. arctocalyx</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. chrysanthus</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. parvifolius</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. radicans</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. argentei</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. magnificus</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. malulidii</i> 19980282	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. malulidii</i> 19980283	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. siphonanthus</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. aff. siphonanthus</i>	G-----	TACTAAA	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. speciosus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. guttatus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. pachyanthus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. longicaulis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. albidus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. nov. 20000512</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. viridiflorus</i> 20000332	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. viridiflorus</i> 20021227	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. fecundus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. fulgens</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. angustifolius</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. fruticosus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. buxifolius</i>	GGGAG	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. ceylanicus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. bracteatus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. humilis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. hildebrandii</i> AY047040	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. hildebrandii</i> 19991628	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. gracilis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. hosseusii</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. hookeri</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. macranthus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. parviflorus</i> 19671067	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. aff. parviflorus</i> 19672220	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. mimetes</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sikkimensis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. arfakensis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. austroyunnanensis</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. lineatus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. pachytrichus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. pseudo hybridus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. batakiorum</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. garrettii</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. acuminatus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. myrmecophilus</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. sp. 00171</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. viridiflorus</i> 20000228	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG
<i>A. andersoni</i>	G-----	TACTAAC	-----	CTC	TGG	CGG	CGG	CAAG

Fig. 26 (continued)

	330	340	350	360	370	380	390	400
<i>Cyr. baileyi</i>							
<i>Lys. forrestii</i>	-T-CTTCC-ACACT-----	AA-G--AGTGC	CGGGAG-ACGATA--	CATACGAAGGAGG--	GGCGCGGA			
<i>A. curtisii</i>	-T-CTTCC-ACACT-----	CAA--AGTGC	CGGGAG-ACGATG--	CTACGAAGCGGG--	GGTGC			
<i>A. msaensis</i>	GT--TC-CC-----	Tr---ATTCA	GTGTTG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC		
<i>A. javanicus</i> 19971339	GT--TC-CC-----	CGAC---TC	CGTCAA--	GGTTCG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. aff. javanicus</i> 20010484	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CrTACCAAGGAGGA--	GGGAC	
<i>A. vinaceus</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. nummularius</i>	GT--TC-CC-----	CGAC---TC	CGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. ellipticus</i>	AT--TC-CC-----	CGGC---TC	CGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. oxychlams</i>	GT--TC-CC-----	CGGC---TC	CGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. roseoflorus</i>	GT--TC-CC-----	CGAC---TC	CGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. irigaensis</i> 19972532	GT--TC-CC-----	CG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACGATG--	CGTACCAAGGATGA--	GGGAC	
<i>A. irigaensis</i> 19991999	GT--TC-CC-----	CG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACGATG--	CATACCAAGGATGA--	GGGAC	
<i>A. philippinensis</i>	CT--TC-CC-----	TCG---ATT	CAAGTCAA--	GTGTCG--	GGGG-ACGATG--	CATACCAAGGATGA--	GGGAC	
<i>A. obconicus</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACrATG--	CaTACCAAGGAGGA--	GGGAC	
<i>A. sp. JJ_001</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. sp. JJ_002</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. sp. JJ_003</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. sp. JJ_004</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. sp. 001</i>	gT--TC-CC-----	CG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATaCCAAGGAGGA--	GGGAC	
<i>A. rhododendron</i>	-C--TCDDC-----	TG---ACT	CGGTCAA--	GTGTCG--	GGGG-ACGATG--	CATAGCAAGGAGGA--	GGGAC	
<i>A. sp. 0025_123</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. sp. 20002051</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. sp. 00293</i>	GT--TC-CC-----	CG---ATT	CAAGTCAA--	TTGTTG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. sp. 20000557A</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. tricolor</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. triocolor</i> X <i>parvifolius</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. burttii</i> 20000562	GT--TC-CC-----	CG---ATT	CAAGTCAA--	TTGTTG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. burttii</i> 20000536	GT--TC-CC-----	CG---ATT	CAAGTCAA--	TTGTTG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. arctocalyx</i>	GT--TC-CC-----	CG---ATT	CAAGTCAA--	TTGTTG--	GGGG-ACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. chrysanthus</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. parvifolius</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. radicans</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	gTGTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. argentei</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACAATG--	CGTACCAAGGAGGA--	GGGAC	
<i>A. magnificus</i>	G-----					AGGAGGA--	GGGAC	
<i>A. malulidii</i> 19980282	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ACGATG--	CATATCAAGGAGGA--	GGGAC	
<i>A. malulidii</i> 19980283	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATACCGAGGAGGA--	GGGAC	
<i>A. siphonanthus</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATACCGAGGAGGA--	GGGAC	
<i>A. aff. siphonanthus</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATACCGAGGAGGA--	GGGAC	
<i>A. speciosus</i>	GT--TC-CC-----	TG---ATT	CAAGTCAA--	GTGTTG--	GGGG-ATGATG--	CATACCGAGGAGGA--	GGGAC	
<i>A. guttatus</i>	GT--TC-CC-----	CG---TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. pachyanthus</i>	GTTTC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. longicaulis</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. albidus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. sp. nov. 20000512</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. viridiflorus</i> 20000332	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. viridiflorus</i> 20021227	TCGTCGCGACTGAC--	CA-T-AA--	T--TGGT	GTCGGGAGACGATG--	CATAC--	GGAGGA--	GGGAC	
<i>A. fecundus</i>	TCGTCGCGACTGAC--	CA-T-AA--	T--TGGT	GTCGGGAGACGATG--	CATAC--	GGAGGA--	GGGAC	
<i>A. fulgens</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. angustifolius</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. fruticosus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. burxifolius</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. ceylanicus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. bracteatus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. humilis</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. hildebrandii</i> AY047040	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. hildebrandii</i> 19991628	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. gracilis</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. hosseusii</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. hookeri</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. maoranthus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. parviflorus</i> 19671067	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. aff. parviflorus</i> 19672220	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. mimetes</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. sikkimensis</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. arfakensis</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. austroyunnanensis</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. lineatus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. pachytrichus</i>	GC--TCGCGACTGAC--	CA-T-AA--	T--TGGT	GTCGGGAGACGATG--	CATAC--	GGAGGA--	GGGAC	
<i>A. pseudo hybridus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. batakiorum</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. garrettii</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. acuminatus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. myzomecophilus</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. sp. 00171</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. viridiflorus</i> 20000228	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	
<i>A. andersonii</i>	GT--TC-CC-----	CG-CC--TC	AGTCAA--	GGTTCG--	TCGGGGGACGATG--	CATACCAAGGAGGA--	GGGAC	

Fig. 26 (continued)


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          410          420          430          440          450          460          470          480
Cyr. baileyi      TATTGGCCTCCCGTTATCC-TTGATAGCGGGCCGCCCAAATA---ACATGCCGTGG--CGATGGAT---GTCACAG
Lys. forrestii   TATTGGCCTCCCGTTATCC-TTGATAGCGGGCCGCCCAAATA---GCATGCCGTGG--CGACGTATATATGTCACATG
A. curtisii      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. musaensis     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---TTAgTATACCGTGC--CGATTGAT---GTCACACG
A. javanicus 19971339 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. aff. javanicus 20010484 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. vinaceus      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. nummularius  TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. ellipticus    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. oxychlameys  TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. roseoflorus   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. irigaensis 19972532 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. irigaensis 19991999 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. philippinensis TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. obconicus     yATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. JJ_001    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. JJ_002    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. JJ_003    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. JJ_004    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. 001       TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. rhododendron TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. 0025_123 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. 20002051  TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. 00293     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. 20000557A TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. tricolor      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. tricolorX parvifolius TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. burttii 20000562 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. burttii 20000536 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. arctocalyx   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. chrysanthus  TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. parvifolius  TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. radicans     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. argentii     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACATG
A. magnificus   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. malulidii 19980282 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. malulidii 19980263 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. siphonanthus TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. aff. siphonanthus TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. speciosus    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. guttatus     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. pachyanthus TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. longicaulis TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. albidus      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. nov. 20000512 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. viridiflorus 20000332 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. viridiflorus 20021227 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. fecundus     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. fulgens      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. angustifolius TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. fruticosus   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. buxifolius   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. ceylanicus   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. bracteatus   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. humilis      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. hildebrandii AY047040 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. hildebrandii 19991628 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. gracilis     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. hosseusii    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. hookeri      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. macranthus   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. parviflorus 19671067 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. aff. parviflorus 19672220 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. mimetes      TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sikkimensis  TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. arfakensis   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. austroyunnanensis TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. lineatus     TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. pachytrichus TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. pseudohybridus TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. datakiorum   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. garrettii    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. acuminatus   TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. myzocophilus TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. sp. 00171    TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. viridiflorus 20000228 TATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG
A. andersonii   ATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGCCCAAATA---GTATACCGTGT--CGATTGAT---GTCACACG

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Fig. 26 (continued)

	570	580	590	600
			
<i>Cyr. baileyi</i>	CGACCC	TG-T---	GGCAG---	CAGAT-TGGTGTGCCTCCA
<i>Lys. forrestii</i>	CGACCCAA	C-----	GGCAC---	GAGAT-TG-----CCCTCGA
<i>A. curtisii</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. musaensis</i>	CGACCCAA	T-CAATGGCGC	-----	AAGAT-CG-----CcCTCGA
<i>A. javanicus</i> 19971339	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. aff. javanicus</i> 20010484	TGACCCAA	T-----	GGCAC---	aagat-tg-----CCCTCGA
<i>A. vinaeae</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. nummularius</i>	CGACCCAAA	-----	GGCAC---	AAGAT-GG-----CCCTCGA
<i>A. ellipticus</i>	AGACCCAAA	-----	GGCAC---	AAGAT-CG-----CCCTCGA
<i>A. oxychlamys</i>	CGACCCAA	C-----	GGCAC---	AAGAT-GG-----CCCTCGA
<i>A. roseoflorus</i>	CGACCCAA	C-----	GGCAC---	AAGAT-GG-----CCCTCGA
<i>A. irigaensis</i> 19972532	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CTCTCGA
<i>A. irigaensis</i> 19991999	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CTCTCGA
<i>A. philippinensis</i>	CGACCCAA	T-----	GGCAC---	GAGAT-TG-----CTCTCGG
<i>A. obconicus</i>	TGACCCAA	T-----	GGCAC---	mAGAT-TG-----CCCTCGA
<i>A. sp. JJ 001</i>	TGACCCAA	C-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. sp. JJ 002</i>	TGACCCAA	T-----	GGCAC---	AAGAT-tg-----CCCTCGA
<i>A. sp. JJ 003</i>	TGACCCAA	T-----	GGCAC---	AAGat-tg-----CCCTCGA
<i>A. sp. JJ 004</i>	TGACCCAA	T-----	GGCAC---	AAGat-tg-----CCCTCGA
<i>A. sp. 001</i>	TGACCCAA	T-----	GgCAC---	AAGAT-TG-----CCCTCGa
<i>A. rhododendron</i>	CGACCCAAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. sp. 0025 123</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. sp. 20002051</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. sp. 00293</i>	CGACCCAA	T-----	GGCAC---	TagAt-tG-----CCCTCGA
<i>A. sp. 20000557A</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. tricolor</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. tricolorX parvifolius</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCTCGA
<i>A. burttii</i> 20000562	CGACCCAA	T-----	GGCAC---	TAGAT-TG-----CCCTCGA
<i>A. burttii</i> 20000536	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. arctocalyx</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. chrysanthus</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. parvifolius</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. radioans</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. argentii</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. magnificus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. malulidii</i> 19980282	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. malulidii</i> 19980283	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. siphonanthus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. aff. siphonanthus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. speciosus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. guttatus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-CG-----CCCTCGA
<i>A. pachyanthus</i>	CGACCCAA	C-----	GGCAC---	AAGAT-CG-----CCCTCGA
<i>A. longicaulis</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. albidus</i>	CGACCCAA	T-----	GGCAC---	AAGTT-TG-----CCCTCGA
<i>A. sp. nov. 20000512</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. viridiflorus</i> 20000332	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. viridiflorus</i> 20021227	CGACCCAA	T-----	GGCAC---	aagat-tg-----CCCTCGA
<i>A. fecundus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. fulgens</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. angustifolius</i>	CAACCCAA	T-----	GGCAC---	AAGAT-TG---CCGCCCTCGA
<i>A. fruticosus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. buxifolius</i>	GGACCCAA	TT-----	GGCATAAA	TAAGATCTG-----CcctCGA
<i>A. ceylanicus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. bracteatus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. humilis</i>	CGACCCAA	G-----	GGCAC---	AAGAT-TG-----CCACGA
<i>A. hildebrandii</i> AY047040	CGACCCAA	C-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. hildebrandii</i> 19991628	CGACCCAA	C-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. gracilis</i>	GGACCCAG	C-----	GGCAC---	AAGTT-CG-----CCCTCGA
<i>A. hosseusii</i>	CGACCCAA	T-----	GGCAC---	Aagat-tg-----CCCTCGA
<i>A. hookeri</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. macranthus</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. parviflorus</i> 19671067	CGACCCAA	T-----	GGCAC---	AAGat-tg-----CCCTCGA
<i>A. aff. parviflorus</i> 19672220	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. mimetes</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. sikkimensis</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. arfakensis</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. austroyunnanensis</i>	CGACCCAA	T-----	GGCAC---	GAGAG-TG-----CCCTCGA
<i>A. lineatus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. pachytrichus</i>	TGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. pseudohybridus</i>	GAACCCAA	T-----	GGCAC---	AAGAT-TG---CCGCCCTCGA
<i>A. batakiorum</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. garrettii</i>	GGACCCAA	C-----	GGCATAA	TAA-AT-TG-----CCCTCAA
<i>A. acuminatus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. myrmecophilus</i>	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. sp. 00171</i>	CGACCCAA	T-----	GGCAC---	AagAt-tG-----CCCTCGA
<i>A. viridiflorus</i> 20000228	CGACCCAA	T-----	GGCAC---	AAGAT-TG-----CCCTCGA
<i>A. andersonii</i>	CGACCCAA	C-----	GGCAC---	AAGAT-TG-----CCACGA

Fig. 26 (continued)

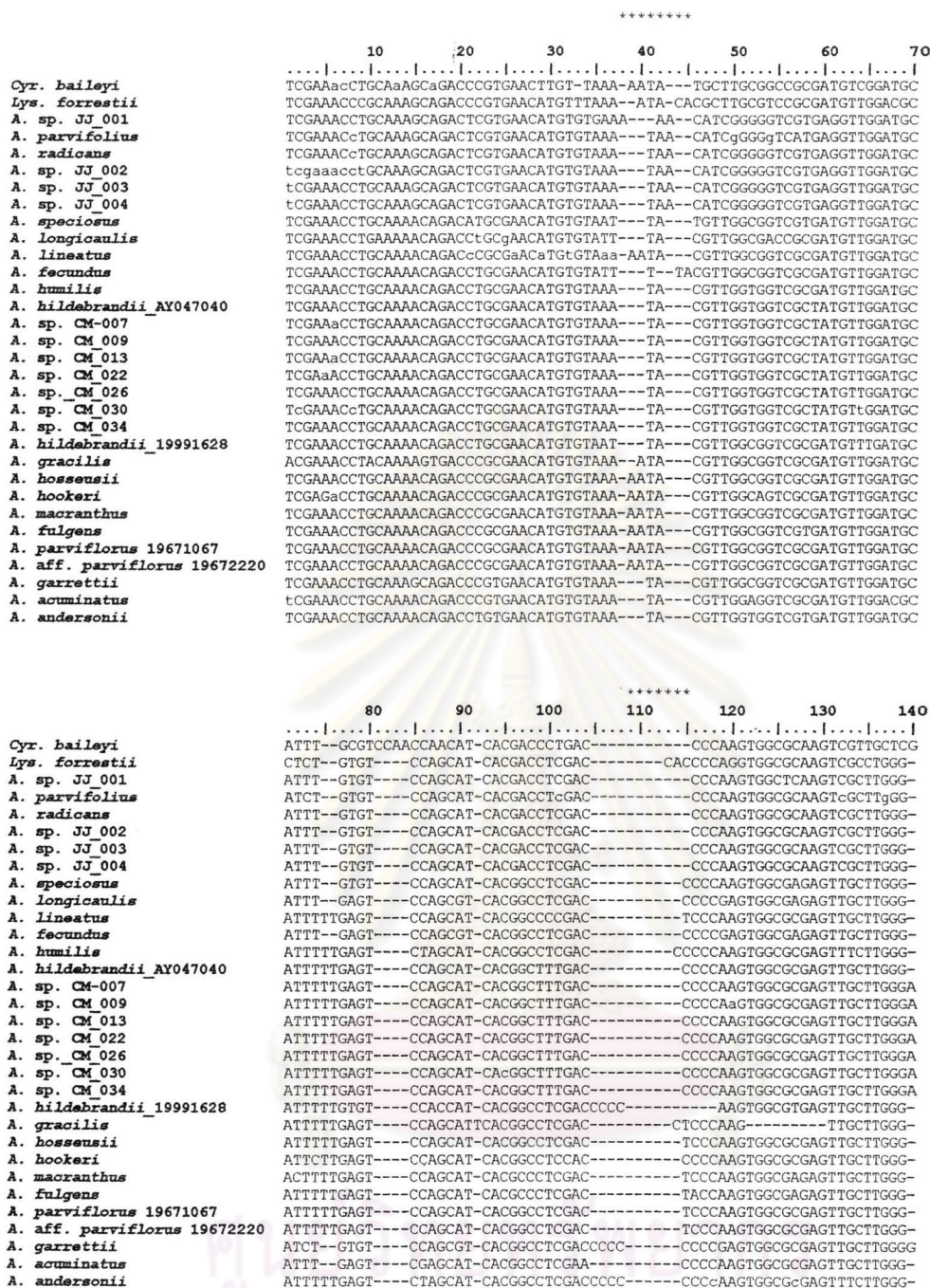


Fig. 27 A 531 bp character-taxon matrix of 30 *Aeschynanthus* taxa based on ITS sequences. Gap symbol (-) indicates insertion or deletion at the site. ? symbol shows missing nucleotide data. Asterisks * represent excluded sites from analyses.

	290	300	310	320	330	340	350
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.....|.....|.....|.....|.....|.....|.....|.....|
Cyr. baileyi      TCCCC-CAA-CATC-C-TCTTCC-ACACT-----AA-G---AGTGCCGGGAG-ACGATACAT
Lys. forrestii    CCTCAACA--CATC-C-TCTTCC-ACACT-----CAA-----AGTGCCGGGAG-ACGATGCTA
A. sp. JJ_001     CTCCGCCAAATGTCTTGTTC-CC-----TG--ATTCTGTCAAA-GTGTG-----GGGG-ACGATGCAT
A. parvifolius    CTCCGCCAA-TGTCTTGTTC-CC-----TG--ATTCTGTCAAA-GTGTG-----GGGG-ACAATGCGT
A. radicans       CTCCGCCAA-TGTCTTGTTC-CC-----TG--ATTCTGTCAAA-GTGTG-----GGGG-ACAATGCGT
A. sp. JJ_002     CTCCGCCAA-TGTCTTGTTC-CC-----TG--ATTCTGTCAAA-GTGTG-----GGGG-ACAATGCGT
A. sp. JJ_003     CTCCGCCAA-TGTCTTGTTC-CC-----TG--ATTCTGTCAAA-GTGTG-----GGGG-ACAATGCGT
A. sp. JJ_004     CTCCGCCAA-TGTCTTGTTC-CC-----TG--ATTCTGTCAAA-GTGTG-----GGGG-ACAATGCGT
A. speciosus      CTCCGCCAA-TATCTCGTTCGCCGACACTGACCAT--AAT-----TGGTG---TCGGGAGAAGATGCAT
A. longicaulis    CTCCCTATG-TATCTCGTTCGCCGACACTGAC-----CA-T-AA---T--TGGTGTCTGGGAGACGATGCAT
A. lineatus       CTCCcAAA-TATCTCGTTCGCCGACACTGACCAT-CA-T-AA--GTGGTGTGTCTGGGAGACGATGCAT
A. fecundus       CTCCCTATA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA---T--TGGTGTCTGGGAGATGCAT
A. humilis        CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. hildebrandii_AY047040 CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. sp. CM_007     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. sp. CM_009     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. sp. CM_013     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. sp. CM_022     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. sp. CM_026     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. sp. CM_030     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. sp. CM_034     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. hildebrandii_19991628 CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. gracilis       CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT
A. hosseusii      CTCCcAAA-TATCTCGTTCGCCGACACTGACCAT-CA-T-AA--GTGGTGTGTCTGGGAGACGATGCAT
A. hookeri        CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--GTGGCCTGTCTGGGAGACGATGCAT
A. macranthus     CTCCcAAA-TATCTCGTTCGCCGACACTGACCAT-CA-T-AA--GTGGTGTGTCTGGGAGACGATGCAT
A. fulgens        CTCCcAAA-TATCTCGTTCGCCGACACTGACCAT-CA-T-AA--GTGGTGTGTCTGGGAGACGATGCAT
A. parviflorus 19671067 cTCCcAAA-TATCTCGTTCGCCGACACTGACCAT-CA-T-AA--GTGGTGTGTCTGGGAGACGATGCAT
A. aff. parviflorus 19672220 CTCCcAAA-TATCTCGTTCGCCGACACTGACCAT-CA-T-AA--GTGGTGTGTCTGGGAGACGATGCAT
A. garrettii      CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--GTGGTGTGTCTGGGAGACGATGCAT
A. acuminatus     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--G---TGGTGTCTGGGAGACGATGCAT
A. andersonii     CTCCcAAA-TATCTCGTTCGCCGACACTGAC-----CA-T-AA--TGGTGTGTCTGGGAGACGATGCAT

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	360	370	380	390	400	410	420
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Cyr. baileyi      ACGAAGGAGG---GGCGCGGATATTGGCCTCCCGTTATCC-TTGCATAGCGGGCCGACAAATA----AC
Lys. forrestii    ACGAAGCGGG---GGTCCGGATATTGGCCTCCCGTTATCCCTTGTGTGGCGGGCCGACAAATA----GC
A. sp. JJ_001     ACCAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT
A. parvifolius    ACCAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGTATAGCGGGCCGACAAATA----GT
A. radicans       ACCAAGGAGGA---GGGACGgGATATTGGCCTCCCGTTATCC-AAGTATAGCGGGCCGACAAATA----GT
A. sp. JJ_002     ATCAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGTATAGCGGGCCGACAAATA----GT
A. sp. JJ_003     ACCAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGTATAGCGGGCCGACAAATA----GT
A. sp. JJ_004     ACCAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGTATAGCGGGCCGACAAATA----GT
A. speciosus      AC---GGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT
A. longicaulis    AC---GGAGGA---GGGACGGATATTGGCCTCCCGTTATCT-GAGCATAGCGGGCCGACAAATAAATAGT
A. lineatus       ACGAAGGAGGA?-GGGAcGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT
A. fecundus       AC---GGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-GAGCATAGCGGGCCGACAAATAAATAGT
A. humilis        ACCAAGGCGGAG-GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT
A. hildebrandii_AY047040 ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. sp. CM_007     ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. sp. CM_009     ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. sp. CM_013     ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. sp. CM_022     ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. sp. CM_026     ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. sp. CM_030     ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. sp. CM_034     ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. hildebrandii_19991628 ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. gracilis       ACGAAGGTGGAGCGGGACGGATGTTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GGT
A. hosseusii      ACGAAGGAGGAG-GGACGG-ATATTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GT
A. hookeri        ACGAAGGAGGAA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT
A. macranthus     ACGAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT
A. fulgens        ACGAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GT
A. parviflorus 19671067 ACGAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GT
A. aff. parviflorus 19672220 ACGAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCGTAGCGGGCCGACAAATA----GT
A. garrettii      ACGAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----CT
A. acuminatus     ACGAAGGAGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT
A. andersonii     ACCAAGGCGGA---GGGACGGATATTGGCCTCCCGTTATCC-AAGCATAGCGGGCCGACAAATA----GT

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Fig. 27 (continued)



430 440 450 460 470 480 490

Cyr. baileyi ATGCCGTGG--CGATGGAT---GTCACACGATACGTGGTGGCGGTAGATCCCTCGACTTGCAAAACATA
Lys. forrestii ATGCCGTGT--CGAGTATATATGTCACATGATACGTGGTGG---TTGGATTCTCAACTTGCAGAG-CT-
A. sp. JJ_001 ATACCGTGT--CGATTGAT---GGCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. parvifolius ATACCGTGT--CGATTGAT---GTCACACGATACGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. radicans ATACCGTGT--CGATTGAT---GTCACACGATACGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. JJ_002 ATACCGTGT--CGATTGAT---GTCACACGATACGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. JJ_003 ATACCGTGT--CGATTGAT---GTCACACGATACGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. JJ_004 ATACCGTGT--CGATTGAT---GTCACACGATACGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. speciosus ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. longicaulis ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. lineatus ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. fecundus ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. humilis ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. hildebrandii_AY047040 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. CM-007 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. CM_009 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. CM_013 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. CM_022 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. CM_026 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. CM_030 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. sp. CM_034 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. hildebrandii_19991628 ATGTTTGTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. gracilis ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. hosseusii ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. hookeri ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. macranthus ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. fulgens ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. parviflorus 19671067 ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. aff. parviflorus 19672220 ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. garrettii ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. acuminatus ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-
A. andersonii ATGCCCCTGT--CGATGGAT---GTCACACGATATGTGGTGG---TTGGATTCTCAACTTGCAGAA-CT-

500 510 520 530 540 550 560

Cyr. baileyi TCTgATATCGTGTGGGAAT--GCGTCTAGCCACGGGACGACCCCTG--TGGCAG--CAGATTGTGTGCC
Lys. forrestii ----ATCATGTGGGACTTGCATCGAGCCACGGGAACGACCCAA--CGGCAC--GAGATTG-----CC
A. sp. JJ_001 ----ATATCGTGTGGGACTC-CATCAGTCCAGGGGCTGACCCAA--CGGCAC--AAGATTG-----CC
A. parvifolius ----ATATCGTGTGGGACTC-CATCAATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. radicans ----ATATCGTGTGGGACTC-CATCAATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. JJ_002 ----ATATCGTGTGGGACTC-CATCAATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. JJ_003 ----ATATCGTGTGGGACTC-CATCAATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. JJ_004 ----ATATCGTGTGGGACTC-CATCAATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. speciosus ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. longicaulis ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. lineatus ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. fecundus ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. humilis ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. hildebrandii_AY047040 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. CM-007 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. CM_009 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. CM_013 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. CM_022 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. CM_026 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. CM_030 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. sp. CM_034 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. hildebrandii_19991628 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. gracilis ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. hosseusii ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. hookeri ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. macranthus ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. fulgens ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. parviflorus 19671067 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. aff. parviflorus 19672220 ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. garrettii ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. acuminatus ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC
A. andersonii ----TATCGTGTGGGACTC-CACCGATCCACGGGCTGACCCAA--TGGCAC--AAGATTG-----CC

Fig. 27 (continued)

ศูนย์วิจัยพืชสวนกรมการ
 จุฬาลงกรณ์มหาวิทยาลัย

<i>Cyr. baileyi</i>I
<i>Lys. forrestii</i>	CTCGA
<i>A. sp. JJ_001</i>	CTCGA
<i>A. parvifolius</i>	CTCGA
<i>A. radicans</i>	CTCGA
<i>A. sp. JJ_002</i>	CTCGA
<i>A. sp. JJ_003</i>	CTCGA
<i>A. sp. JJ_004</i>	CTCGA
<i>A. speciosus</i>	CTCGA
<i>A. longicaulis</i>	CTCGA
<i>A. lineatus</i>	CTCGA
<i>A. fecundus</i>	CTCGA
<i>A. humilis</i>	CACGA
<i>A. hildebrandii</i> _AY047040	CTCGA
<i>A. sp. CM-007</i>	CTCGA
<i>A. sp. CM_009</i>	CTCGA
<i>A. sp. CM_013</i>	CTCGA
<i>A. sp. CM_022</i>	CTCGA
<i>A. sp. CM_026</i>	CTCGA
<i>A. sp. CM_030</i>	CTCGA
<i>A. sp. CM_034</i>	CTCGA
<i>A. hildebrandii</i> _19991628	CTCGA
<i>A. gracilis</i>	CTCGA
<i>A. hosseusii</i>	CTCGA
<i>A. hookeri</i>	CTCGA
<i>A. macranthus</i>	CTCGA
<i>A. fulgens</i>	CTCGA
<i>A. parviflorus</i> 19671067	CTCGA
<i>A. aff. parviflorus</i> 19672220	CTCGA
<i>A. garrettii</i>	CTCAA
<i>A. acuminatus</i>	CTCGA
<i>A. andersonii</i>	CACGA

Fig. 27 (continued)



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4.6 Phylogenetic analyses

4.6.1 Analyses of the ITS data matrix of *Aeschynanthus* samples supplied from RBGE

The ITS sequences of all *Aeschynanthus* specimens supplied from RBGE and those of all previously studied *Aeschynanthus* were first automatically aligned by ClustalX program and then adjusted manually to get a highest level of homology before phylogenetically analysed. Some nucleotide positions appeared to be too ambiguous to align and necessarily to be excluded.

Phylogenetic analyses by maximum parsimony approach using heuristic searching strategy were performed to analyse this data matrix of 571 bp. *Cytandra baleyi* (GenBank accession number AF349151 and AF34923) and *Lysionotus forrestii* (AF349152 and AF 349233) were included into the analysis as outgroup taxa. Two hundreds and nine characters were parsimony-informative as synapomorphy (shared-derived character) and 97 characters were parsimony-uninformative as autapomorphy specifically for each taxon. There were more than 202,700 most parsimonious trees (MPTs) (trees exceed a computer memory used by PAUP*) found from this data set, with 736 steps in length (Fig. 29) without a gap matrix included (0,1 symbol). Consistency index (CI) was 0.600 and homoplasy index (HI) was 0.400. Retention index (RI) was 0.832 and rescaled consistency index (RC) was 0.500. When a 94-positions gap matrix was included to the analysis to increase informative characters, more than 202,700 maximally parsimonious trees (trees exceed a computer memory used by

PAUP*) were obtained with a tree length of 969 steps and higher tree-resolution. Semistrict (Fig. 30) and 50% majority-rule (Fig. 31) consensus trees were made from all of 202,700 MPTs. Both consensus trees were primarily similar to each other in that all *Aeschynanthus* species were divided into two major clades: Clade I and Clade II. Bootstrap (BS) and jackknife (JK) supporting-values were calculated to confirm a reliability of each branch (Fig. 30). For distance method analysis, a neighbour-joining (NJ) tree with statistic supporting-values (Fig. 32) was drawn to compare with results from maximum parsimony analyses.

Regarding to a topology of the semistrict consensus tree (Fig. 30), almost all of *Aeschynanthus* species which had been studied on different RBGE accession number (for example, *A. fulgens* 20002032 VS *A. fulgens* 19900384) were paired or clustered together as sister sequences. The exceptional taxa were *A. javanicus* 19971339 VS *A. aff. javanicus* 20010484 and also *A. hildebrandii* 19991628 of RBGE VS *A. hildebrandii* AY047040 from GenBank. All phylogenetic trees produced by all methods used in this study confirmed the division of *Aeschynanthus* into two major clades. Both major clades had high bootstrap and jackknife supporting-values: 89% BS and 88% JK for clade I, and 78% BS and 78% JK for clade II (Fig. 30). In the major clade I, *Aeschynanthus parviflorus* 19671067 paired to *A. aff. parviflorus* 19672220 with 85% BS and 73% JK high supporting-values. *Aeschynanthus lineatus* 19991622 which was newly added to the tree was paired to *A. lineatus* 19970613 of the previous work with high supporting-values (98% BS and 93% JK) before weakly joining with *A. pachytrichus*.

Aeschynanthus hookeri was sistered to *A. austroyunnanensis* with low supporting-values. This couple was then joined to the group of *A. humilis*, *A. andersonii*, *A. hildebrandii* AY047040, *A. gracilis* 19802570 and 198219970, *A. hildebrandii* 19991628 with less than 50% supporting-values. The position of *A. sp. nov.* 20000512 on the phylogenetic tree was unresolved because it formed a polytomic node with other species such as *A. viridiflorus* 20000332 and 20021277, the polytomic grouping of *A. batakiorum*, *A. myrmecophilus*, *A. sp.* 0017, and *A. viridiflorus* 20000228, and the subclade of *A. longicaulis* 19672218 and 20001430 and *A. albidus*. Interestingly, the two newly-added *A. viridiflorus* 20000332 and 20021227 were not clustered with *A. viridiflorus* 20000228 from previous study. In addition, the three synonymously problematic species, *Aeschynanthus andersonii*, *A. humilis* and *A. hildebrandii* (GenBank accession number AY047040) were clustered together in this major clade I. *Aeschynanthus humilis* was firstly paired with *A. andersonii* with very high supporting-values (98% BS and 99% JK) before joined to *A. hildebrandii* with 69% BS and 64% JK. However, *A. hildebrandii* 19991628 which were given by RBGE was not grouped with these three taxa in the semistrict consensus tree but equally close to *A. gracilis* 19802570 and *A. gracilis* 19821970.

In the major clade II, *Aeschynanthus burttii* 20000562 was paired with *A. sp.* 00293 with 59% BS and 57% JK low supporting-values before joined to *A. burttii* 20000536 with very high BS and JK supporting-values (99% and 98%, respectively). Likewise, the additional *A. irigaensis* 19991999 was sistered to *A. irigaensis* 19972532

with hundred-percentages BS and JK supporting values. The molecular phylogenetic tree also showed several subgroupings of taxa in this clade. One interesting subgroup IIA (88% BS and 81% JK) is the cluster of all taxa in the section *Aeschynanthus* and some members of section *Microtricium*. This subgroup could be divided into two minor groups. *Aeschynanthus parvifolius* 19881451 and 19671069, *A. radicans* 19622826 and 19672224, *A. javanicus* 19971339, *A. sp.* 20002051, *A. sp.* 20000557A, *A. tricolor* x *parvifolius*, *A. chrysanthus*, *A. curtisii*, *A. obconicus* and *A. aff javanicus* 20010484 were first clustered together as a distinctively strong group with 75% and 68% bootstrap and jackknife supporting-values. Noted that the supposingly *Aeschynanthus* hybrid, *A. tricolor* X *parvifolius*, was placed in this minor group close to *A. parvifolius*, its paternal side. The other minor group in the subgroup IIA of the clade II included with *A. malulidii* 19980282 and 19980283, *A. aff. siphonanthus*, *A. siphonanthus*, *A. arctocalyx*, and *A. tricolor* with very high bootstrap and jackknife supporting-values (95% and 97%, respectively). Apparently, lack of knowledge of sectional classification of many taxa in the major clade II gave difficulty in recognition of mono or non-mono phylogenetic groupings in this clade.

Considering specifically on Thai *Aeschynanthus*, the positions of most of them on the ITS phylogenetic tree were in the major clade I. These clade I members were *A. flugens* (both 20002032 and 19900384), *A. macranthus*, *A. parviflorus* 19671067 and *A. aff. parviflorus* 19672220, *A. lineatus* (both 19970613 and 19991622), *A. hosseusii*, *A. humilis*, *A. andersonii*, *A. hildebrandii* 19991628, *A. acuminatus* (both 19981469 and

19981444), *A. longicaulis* (19872218 and 20001430), *A. fecundus*, *A. speciosus* and *A. garrettii*. The two other Thai *Aeschynanthus*, *A. parvifolius* (both 19881451 and 19671069) and *A. radicans* (19622826 and 19672224) were placed in the clade II and their positioning supported the previous study of Denduangboripant *et al.* (2001). Since a majority of *Aeschynanthus* species in the clade I occur in mainland, Indochina (including Thailand) while those of the clade II mostly occur in both oceanic areas and Malay Peninsular, the phylogenetic positions of these 16 *Aeschynanthus* reported in Thailand reasonably follow their biogeographical trend.



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Phylogram

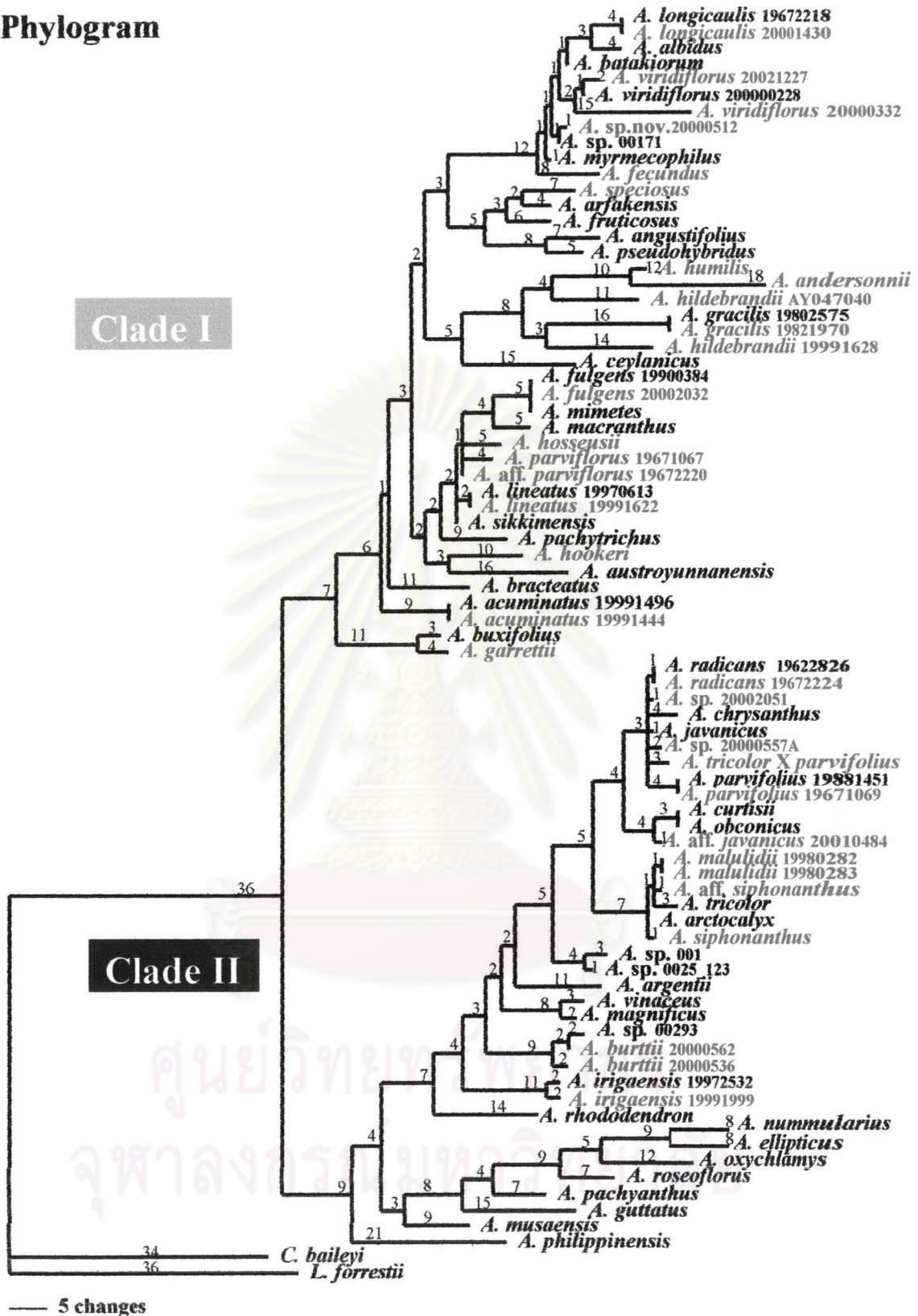


Fig. 28 One phylogram of 202,700 equally most parsimonious trees (736 steps in length) for 80 *Aeschynanthus* taxa and two outgroup Gesneriaceae taxa (*Cytandra baileyi* and *Lysionotus forrestii*) based on parsimony analysis of the combined ITS1 and ITS2 sequence data without gap matrix [CI =0.601, RI =0.832, RC =0.500]. Taxon names in colour letters are *Aeschynanthus* samples used in this study. The number along branches indicates the amount of character change (branch length).

Semistrict

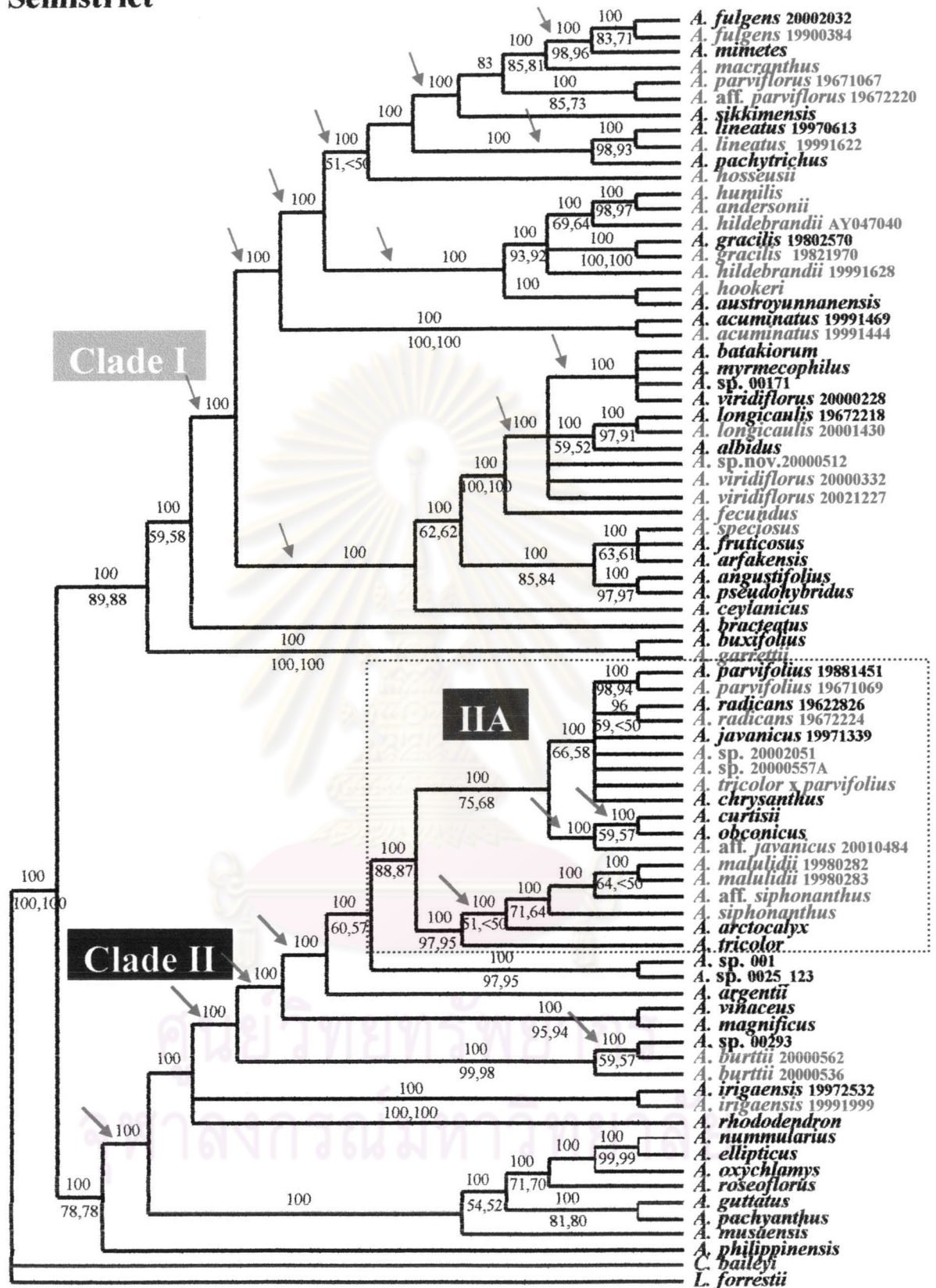


Fig. 29 A semistrict consensus tree of 202,700 most parsimonious trees (969 steps in length) for 80 *Aeschynanthus* taxa and two outgroup Gesneriaceae taxa (*Cyandra baileyi* and *Lysionotus forrestii*) based on parsimony analysis of the combined ITS1 and ITS2 sequence data without gap matrix. The upper numbers are percentages of clade-congruity between MPTs. The lower numbers are "fast" stepwise-addition Bootstrap and Jackknife supporting-values of 10,000 replicates. The arrows indicate branches that collapse when gap matrix is excluded. Taxon names in colour letters are *Aeschynanthus* samples used in this study.

Majority rule

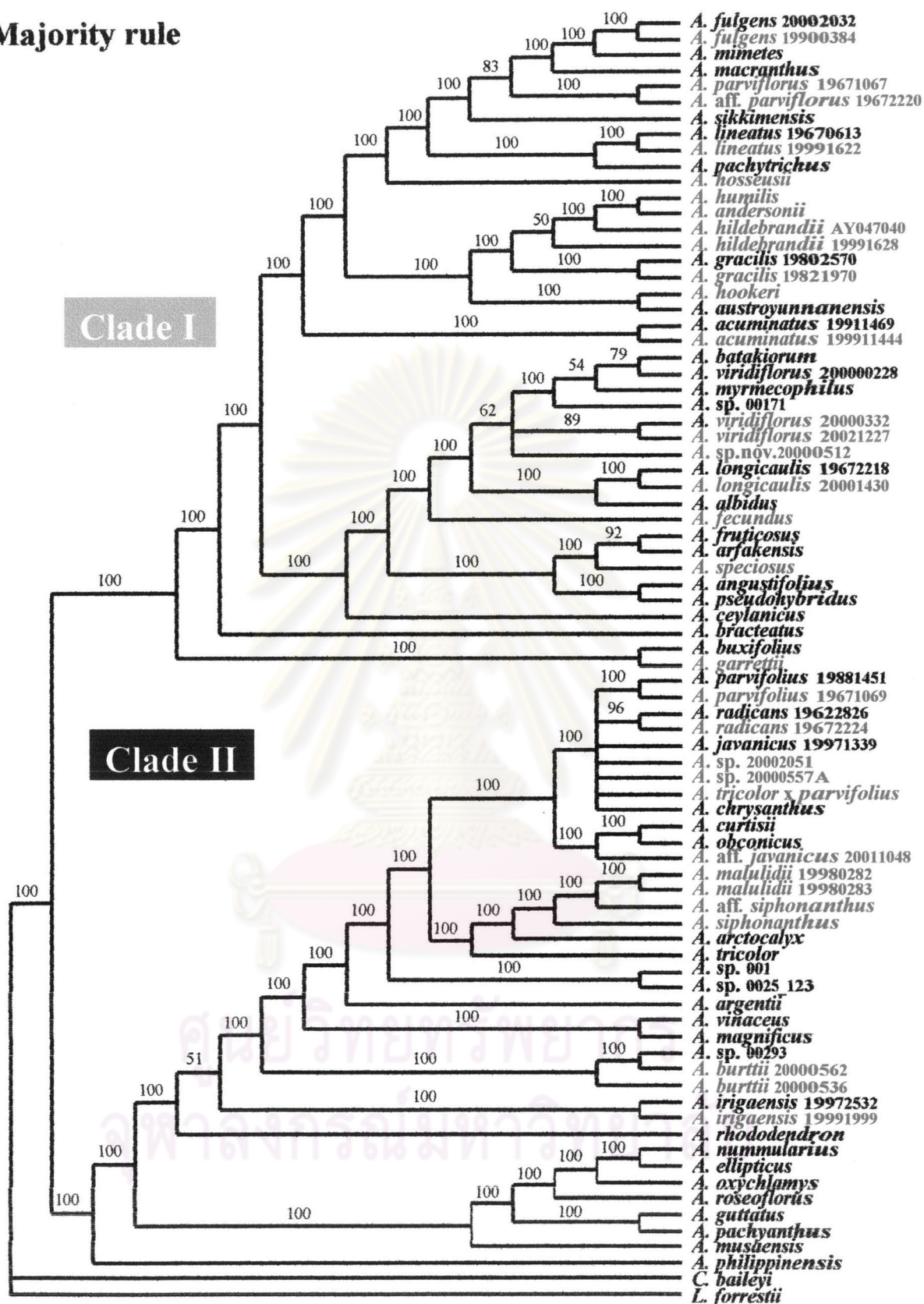


Fig. 30 A 50% majority-rule consensus tree of 202,700 most parsimonious trees of 80 *Aeschynanthus* based on ITS sequence data with gap matrix and using *C. Baileyi* and *L. forrestii* as outgroups. The upper numbers are percentages of identical clade between MPTs on the consensus tree. Taxon names in colour letters are *Aeschynanthus* samples used in this study.

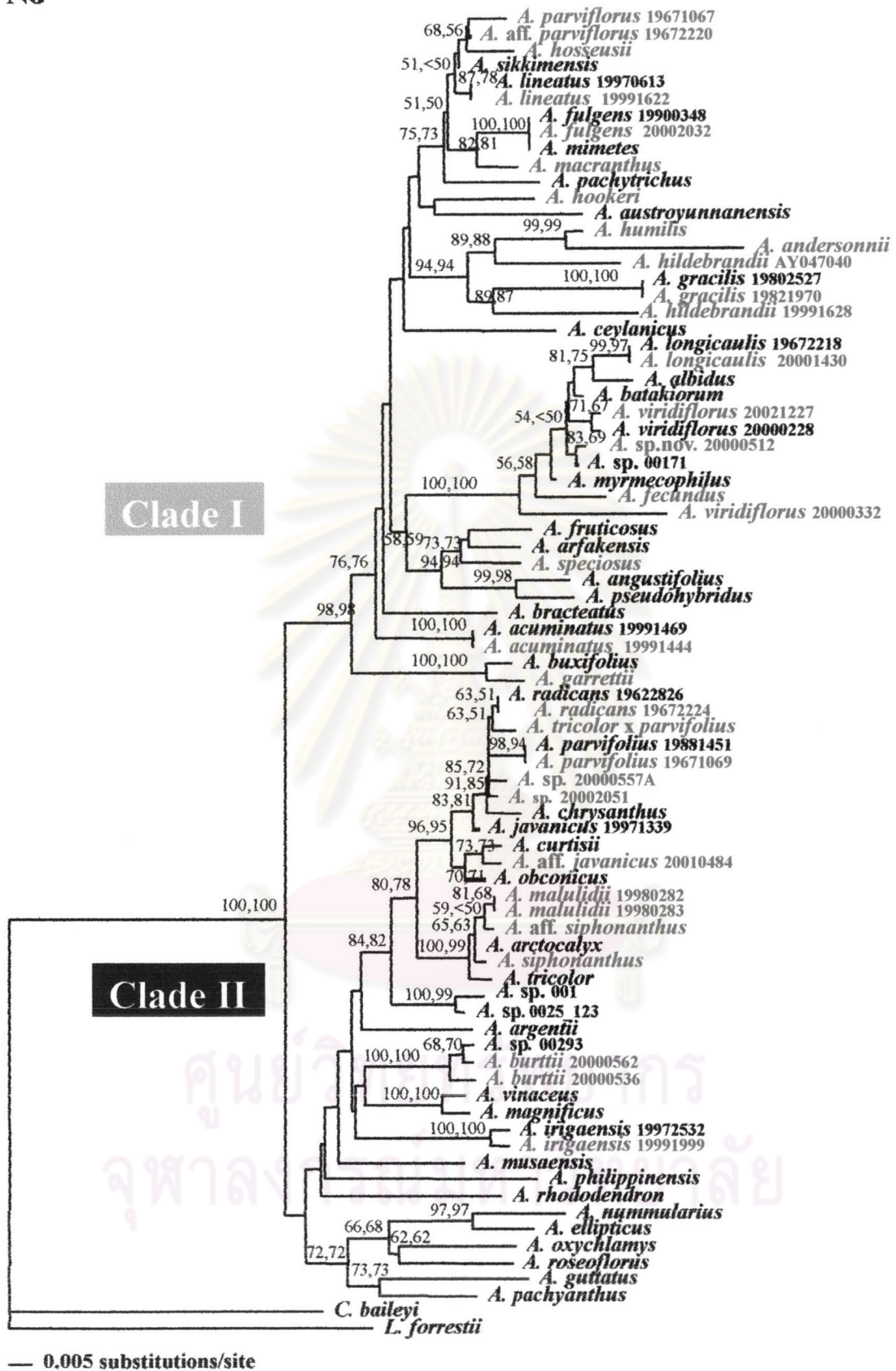


Fig. 31 A neighbour-joining tree of 80 *Aeschynanthus* taxa based on ITS sequence data without gap matrix and using *C. baileyi* and *L. forrestii* as outgroups. The numbers along branches are 10,000-replicate bootstrap and jackknife supporting-values, respectively. Note that supporting-values less than 50% were not shown in the tree. Taxon names in colour letters are *Aeschynanthus* samples used in this study.

4.6.2 Analyses of the ITS data matrix of *Aeschynanthus* samples bought from Jatujak flea market

ITS regions of six additional *Aeschynanthus* specimens bought from Jatujak market were sequenced and Blast-searched with the GenBank nucleotide database. *Aeschynanthus* sp. JJ_001, *A. sp.* JJ_002, *A. sp.* JJ_003, and *A. sp.* JJ_004 except *A. sp.* JJ_006 were found having ITS sequences similar to those of members of the genus *Aeschynanthus*. Even *A. sp.* JJ_005 which showed ITS sequence-length polymorphism problem also gave a high similarity to *Aeschynanthus* ITS sequences in GenBank. *Aeschynanthus* sp. JJ_002 showed ITS sequence similar to those of *A. radicans* clone A (AF34178, AF349259) and gave 100% identities. *Aeschynanthus* sp. JJ_003 and *A. sp.* JJ_004 gave the same ITS sequences and also had high similarity to *A. radicans* clone A with 99% identities. However, *Aeschynanthus* sp. JJ_001 gave a unique sequence which is different from any other *Aeschynanthus* reported in GenBank. *Aeschynanthus* sp. JJ_006 did not give ITS sequences similar to *Aeschynanthus* and its sequences were found closing to *Columnia linaris* with 96 % identities.

Maximum parsimony analyses using heuristic searching strategy were performed to study a molecular phylogenetic relationship between these four Jatujak *Aeschynanthus* and other sequenced taxa. One hundred and eighty-nine characters of the 571 bp ITS sequence data matrix were parsimony-informative and 112 characters were phylogenetically uninformative as autapomorphy specifically for each taxon. There were 203,700 most parsimonious trees (MPTs) found from this data set without using

gapmatrix, with 743 steps in length (for example, Fig. 33). Consistency index (CI) was 0.602 and Homoplasy index (HI) was 0.395. Retention index (RI) was 0.822 and rescaled consistency index (RC) was 0.494. A semistrict consensus tree (Fig. 34) was made from all of 203,700 most parsimonious trees after analysed the data matrix without gap matrix. Moreover, a neighbour joining (NJ) tree with bootstrap and jackknife (JK) supporting-values (Fig. 35) was also made. Both *Aeschynanthus* molecular phylogenies either from maximum parsimony or distance method showed that the cultivars *A. sp.* JJ_002, *A. sp.* JJ_003, and *A. sp.* JJ_004 were grouped with *A. chrysanthus*, *A. parvifolius*, and *A. radicans* in the section *Aeschynanthus*. For the unique pinkish *Aeschynanthus*, *A. sp.* JJ_001, this plant was placed separately from other Jatujak *Aeschynanthus*, located distinguishly as a unique branch among other members of the section *Aeschynanthus*.



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Phylogram

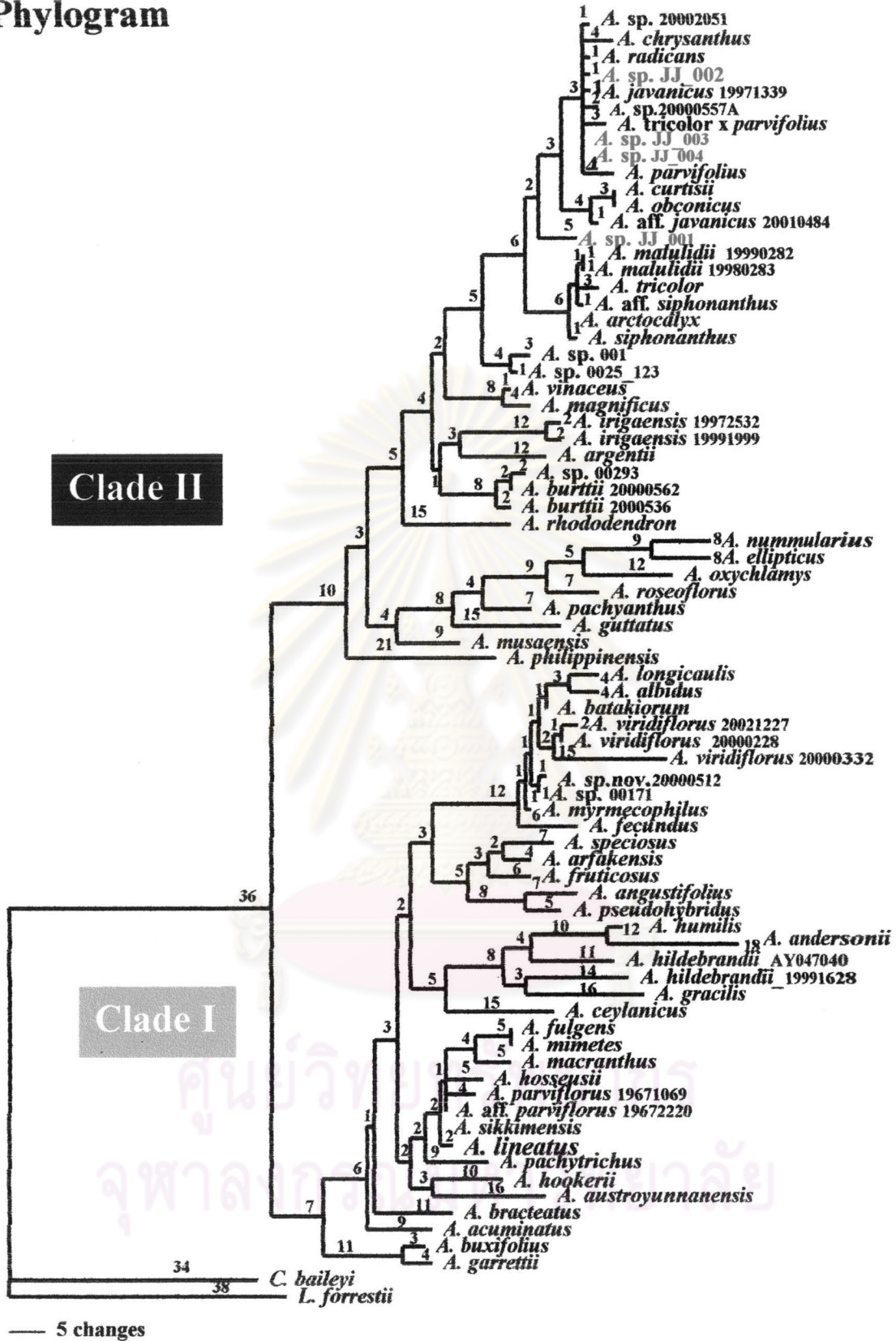


Fig. 32 One phylogram of 203,700 equally most parsimonious trees (743 steps in length) for 77 *Aeschynanthus* taxa and two outgroup Gesneriaceae taxa (*Cyrtandra baileyi* and *Lysionotus forrestii*) based on parsimony analysis of the combined ITS1 and ITS2 sequence data without gap matrix [CI =0.602, RI =0.821, RC =0.494]. Taxon names in colour letters are *Aeschynanthus* samples bought from Jatujak market. The number along branches indicates the amount of character changes (branch length).

Semistrict

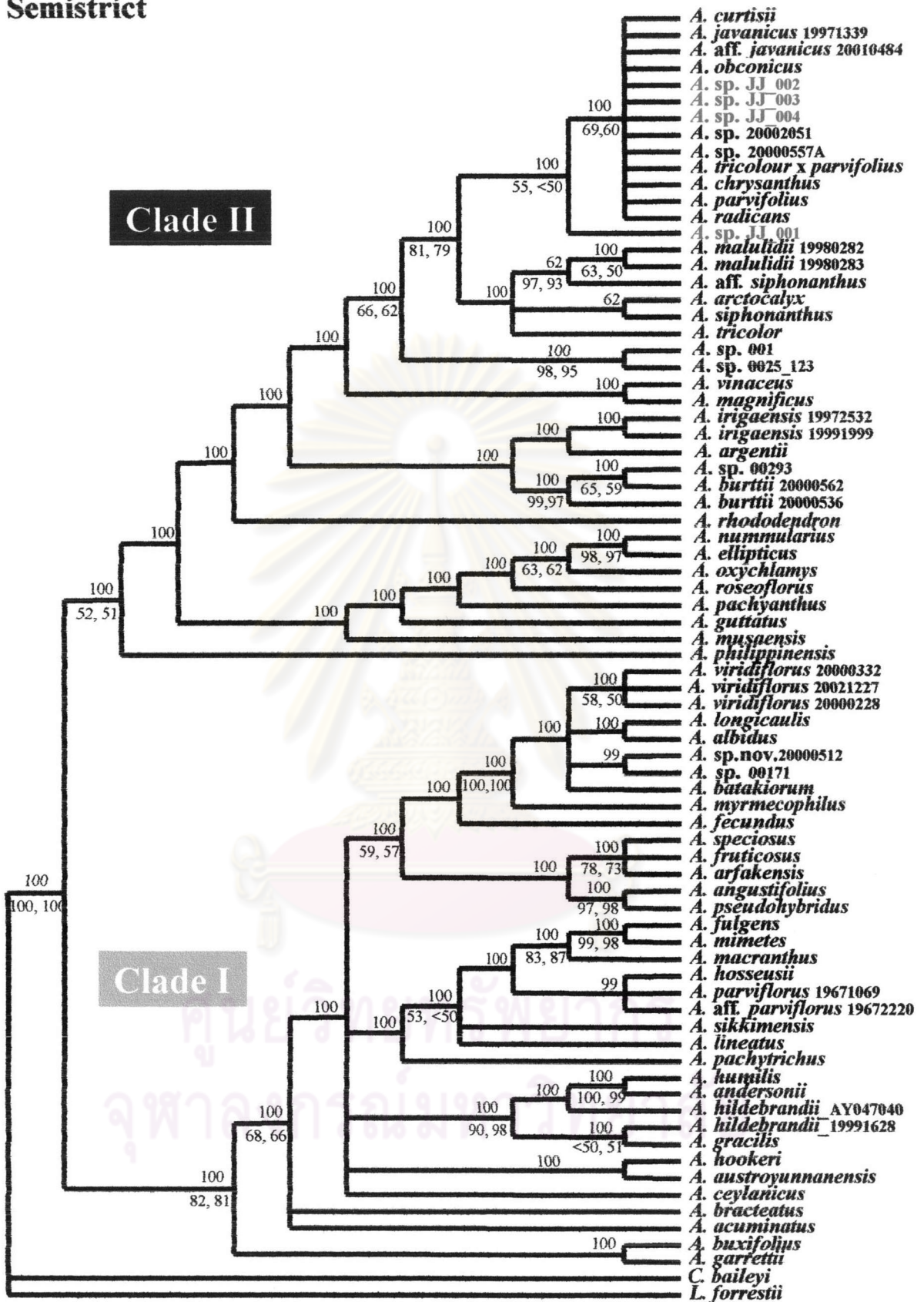


Fig. 33 A semistrict consensus tree of 203,700 most parsimonious trees (743 steps in length) for 77 *Aeschynanthus* taxa and two outgroup Gesneriaceae taxa (*Cyrtandra baileyi* and *Lysionotus forrestii*) based on parsimony analysis of the combined ITS1 and ITS2 sequence data without gap matrix. The upper numbers are percentages of clade-congruity between MPTs. The lower numbers are "fast" stepwise-addition Bootstrap and Jackknife supporting-values of 10,000 replicates. Taxon names in colour letters are *Aeschynanthus* samples bought from Jatujak market.

NJ

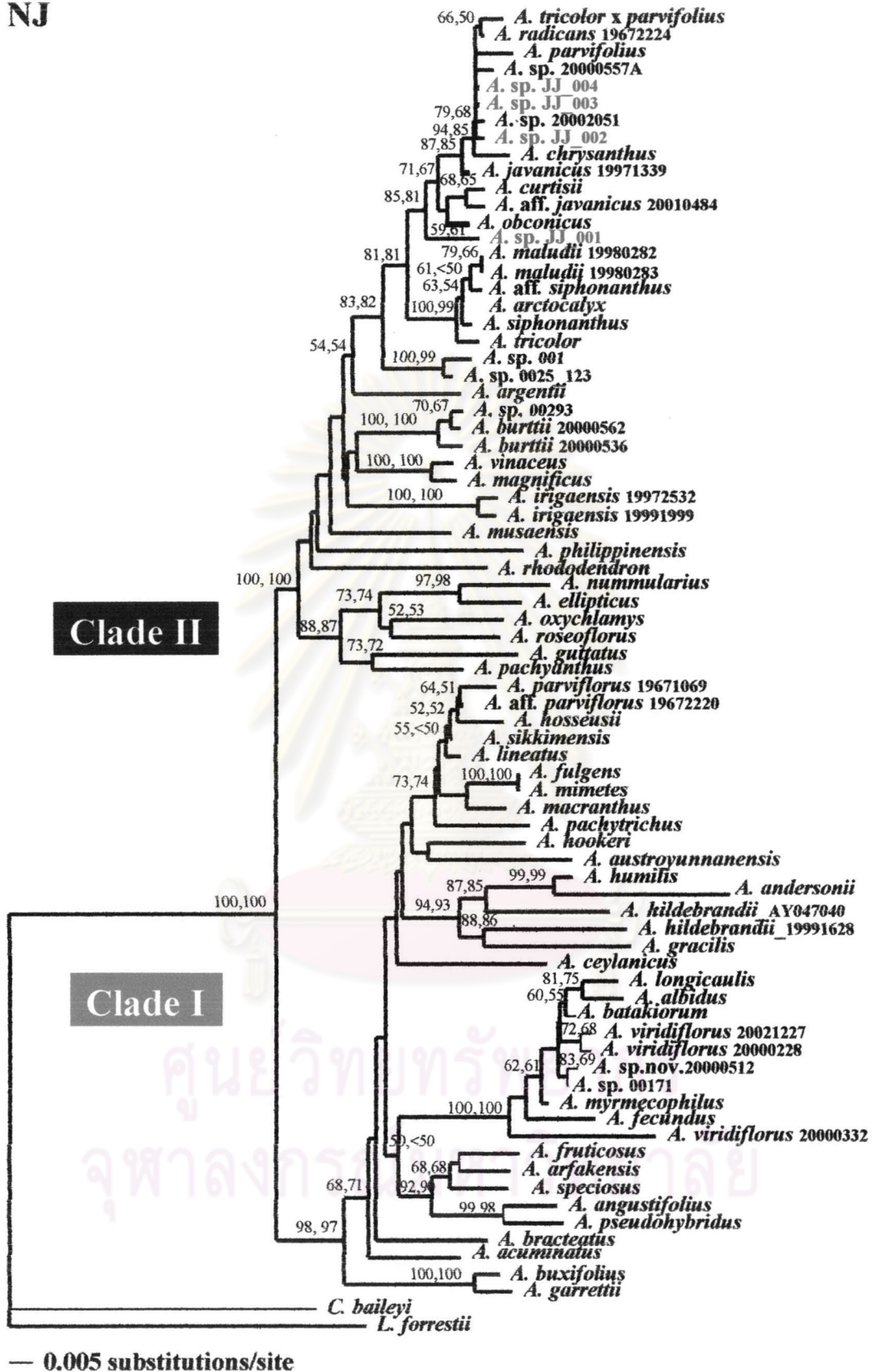


Fig. 34 A neighbour-joining tree of 77 *Aeschynanthus* taxa based on ITS sequence data without gap matrix and using *C. baileyi* and *L. forrestii* as outgroups. The numbers along branches are 10,000-replicate bootstrap and jackknife supporting-values, respectively. Note that supporting-values less than 50% were not shown in the tree. Taxon names in colour letters are *Aeschynanthus* samples bought from Jatujak market.

4.6.3 Analyses of the ITS data matrix of *Aeschynanthus* collected in Chiangmai

The ITS sequences of seven of *Aeschynanthus* samples collected in San-ku and Doi Pui, two nearby areas in Chiangmai province, were Blast-searched with Genbank nucleotide database. All *Aeschynanthus* sp. CM_007, *A.* sp. CM_009, *A.* sp. CM_013, *A.* sp. CM_022, *A.* sp. CM_030, *A.* sp. CM_034 had the ITS sequences which were similar to members of the genus *Aeschynanthus*. In fact, all of these ITS sequences were identical to that of *A. hildebrandii* (Genbank accession number AY047040) with 100% identities. Phylogenetic analysis using distance method to make a neighbour-joining (NJ) tree (Fig. 36) supported the Blast-search result. After phylogenetic analysed with other 21 Thai *Aeschynanthus* taxa, all seven *Aeschynanthus* collected from Chiangmai were clustered together with high bootstrap and jackknife supporting-values (94% and 86%, respectively). Moreover, these seven Chiangmai *Aeschynanthus* were also grouped with *A. hildebrandii* AY047040 with 100% bootstrap and jackife supporting values, but separated distinctively from *A. hildebrandii* 19991628 given from RBGE.

NJ

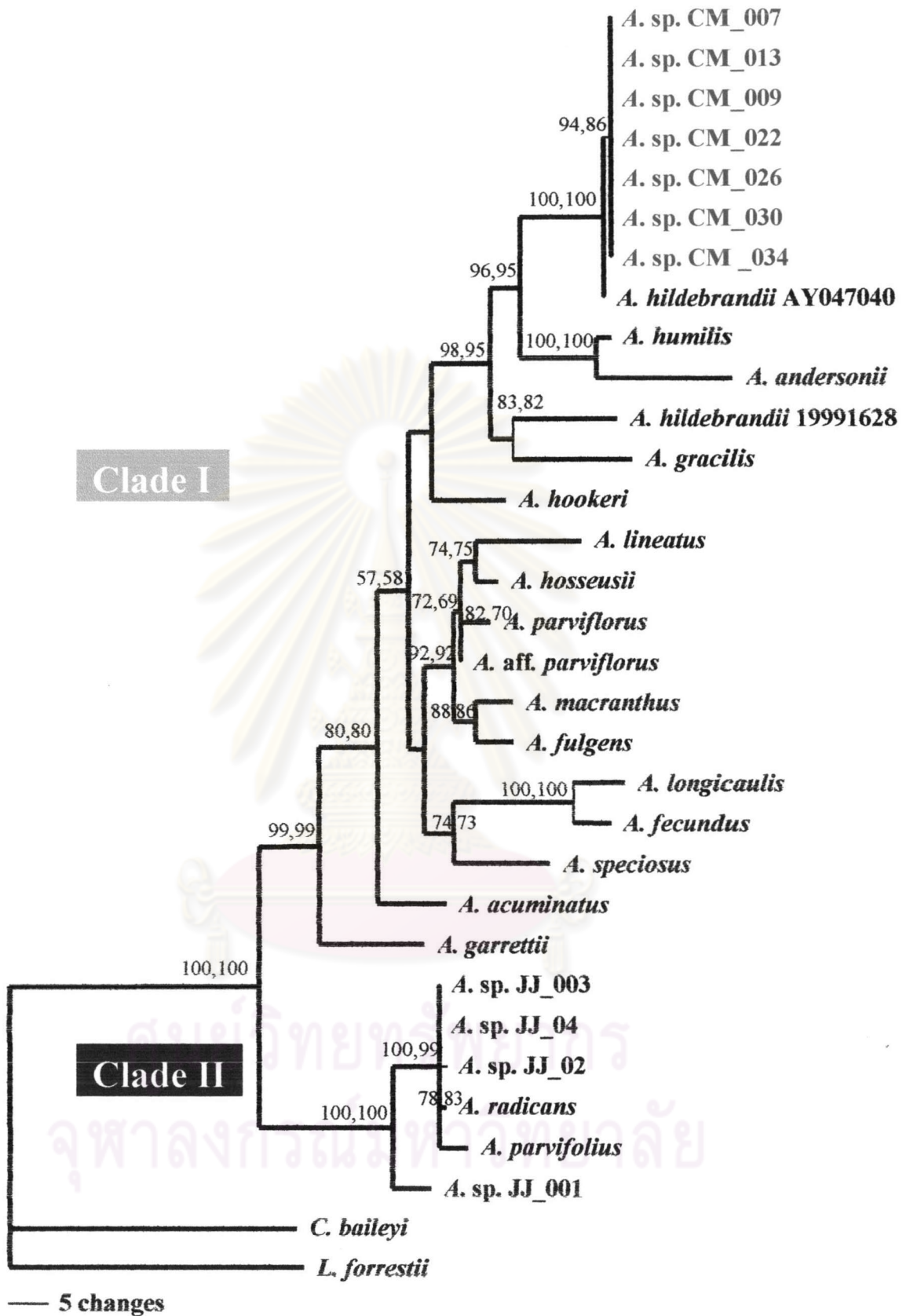


Fig. 35 A neighbour-joining tree of 30 *Aeschynanthus* taxa based on ITS sequence data without gap matrix and using *C. baileyi* and *L. forrestii* as outgroups. The numbers along branches are 10,000-replicate bootstrap and jackknife supporting-values, respectively. Note that supporting-values less than 50% were not shown in the tree. Taxon names in colour letters are *Aeschynanthus* samples collected in Chiangmai province.

4.7 PCR RAPD experiments

From PCR-RAPD amplification of *A. andersonii* 19970465, *A. humilis* 19850473, and *A. hildebrandii* 19991628 for solving synonymous problem of these *Aeschynanthus*, PCR RAPD products of these plants were checked with agarose gel electrophoresis for presence or absence of major bands which showed a reproducible pattern among genotypes. Each RAPD band represents different alleles of a locus, do not co-migrate. Only two from three RAPD primers yielded informative and reproducible PCR products. Most of the observed RAPD products were in the range of 500 bp – 1.5 kb while the products belows 500 bp or above 1 kb were faint or non-reproducible bands. The RAPD primer UBC 001 amplified 5 bands from genomic DNA of *A. andersonii* and *A. humilis* with molecular size approximately 1.6 kb, 1.3 kb, 900 bp, 800 bp, and 700 bp. This primer gave only 3 bands for *A. hildebrandii* DNA: 1.3 kb, 900 bp and 700 bp. The other RAPD primer, UBC 002, amplified 3 bands from every samples with molecular size ca. 1.25 kb, 800 bp and 500 bp. Figure 37 shows an example of RAPD patterns using all three RAPD primers.

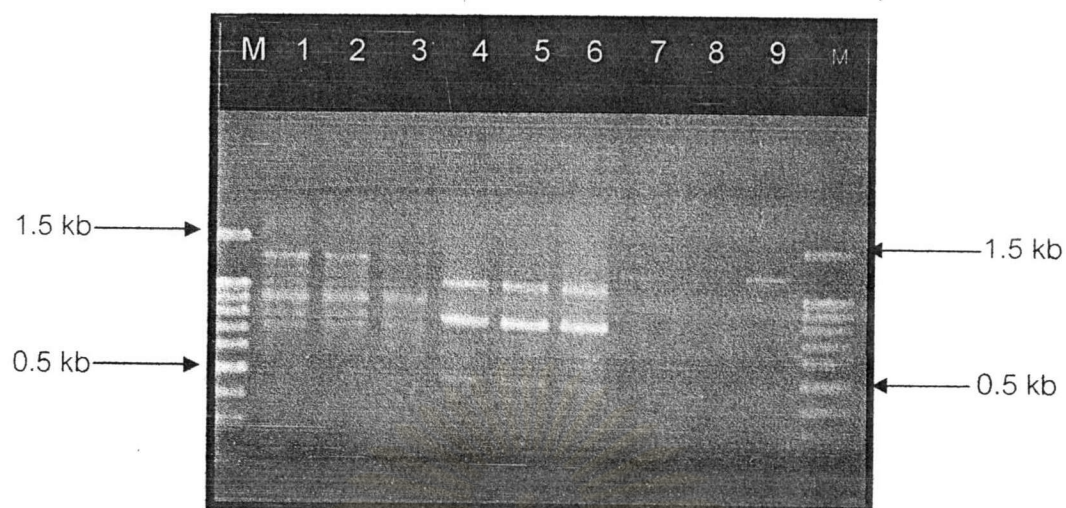


Fig. 36 PCR-RAPD products of three synonymous *Aeschynanthus* species compared with 1.5 kb + 100 bp DNA marker. Amplified products generated from genomic DNA with RAPD primers UBC 001, UBC 002, and UBC 003.

M = 1.5 kb + 100 bp DNA marker 4 = *A. andersonii* + UBC 002 8 = *A. humilis* + UBC 003

1 = *A. andersonii* + UBC 001 5 = *A. humilis* + UBC 002 9 = *A. hildebrandii* + UBC 003

2 = *A. humilis* + UBC 001 6 = *A. hildebrandii* + UBC 002

3 = *A. hildebrandii* + UBC 001 7 = *A. andersonii* + UBC 003

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4.8 Cytogenetic experiments

All chromosome numbers of six *Aeschynanthus* counted in this study are listed in Table 9. After investigating the root tip cells in mitotic cell division of each plant under light microscope, *A. andersonii* showed distinguishably separated cells which had best dye absorption and showed dark reddish colour chromosomes ($2n=28$) (Fig. 38). *Aeschynanthus humilis* gave a chromosome number of $2n=28$ with less dye-absorbing, light reddish colour chromosomes (Fig. 39). The chromosome number of the *A. hildebrandii* was also found being 28 (Fig. 40). The root tip cells of this species were separated distinguishably while having least dye absorption, made their chromosome having light grayish colour. *Aeschynanthus obconicus*, however, showed ambiguous chromosome number per cell since most of its cells were still not separated from each other. Its chromosomes were not dispersed enough to count an exactly chromosome number. The estimated chromosome numbers of *A. obconicus* were 28, 30 and 32 (Fig. 41). In the case of *A. radicans* (Fig. 42), the chromosome number was found to be 32 while its root cells were still attached together and its chromosomes could absorb the acetocarmine dye enough to darken the chromosomes. The last cytogenetic experiment was done on *Aeschynanthus* sp. JJ_001 (Fig. 43 and 44). This plant gave a chromosome number of $2n=32$, and the root cells were separated distinguishably.

The chromosomes of all *Aeschynanthus* used in these experiments were very small, less than 1.5 micron in size. Even under the highest magnification (100X) of the

light microscope with blueish-colour hematoxylin staining method (for example, Fig. 44), these chromosomes appeared to be as small as dots. Because of this difficulty, type of each chromosome could not be indicated.

Table 9 A list of chromosome numbers of some Thai *Aeschynanthus*

Name	chromosome number counted in this study
<i>Aeschynanthus andersonii</i>	28
<i>Aeschynanthus hildebrandii</i>	28
<i>Aeschynanthus humilis</i>	28
<i>Aeschynanthus obconicus</i>	32
<i>Aeschynanthus radicans</i>	32
<i>Aeschynanthus</i> sp. JJ_001	32

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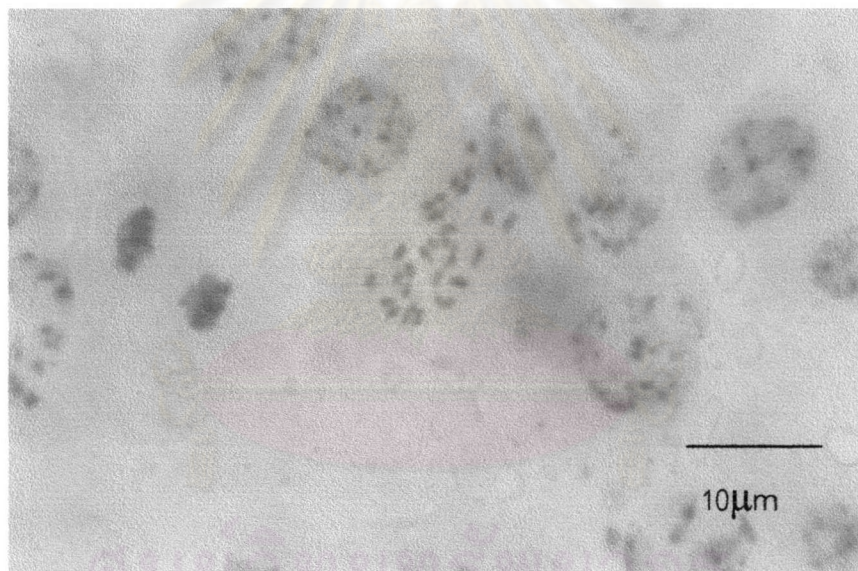
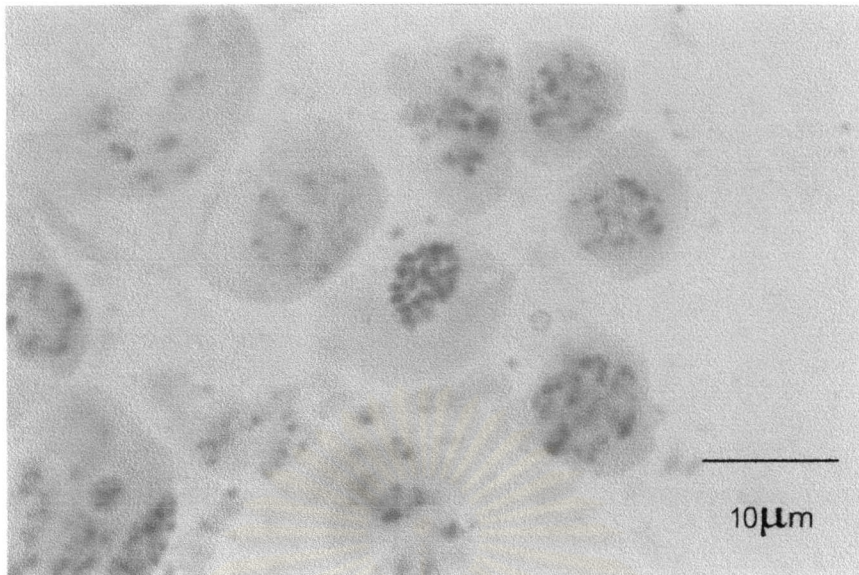


Fig. 37 Root tip cells of *A. andersonii* in metaphase showing an estimated chromosome number of $2n=28$.

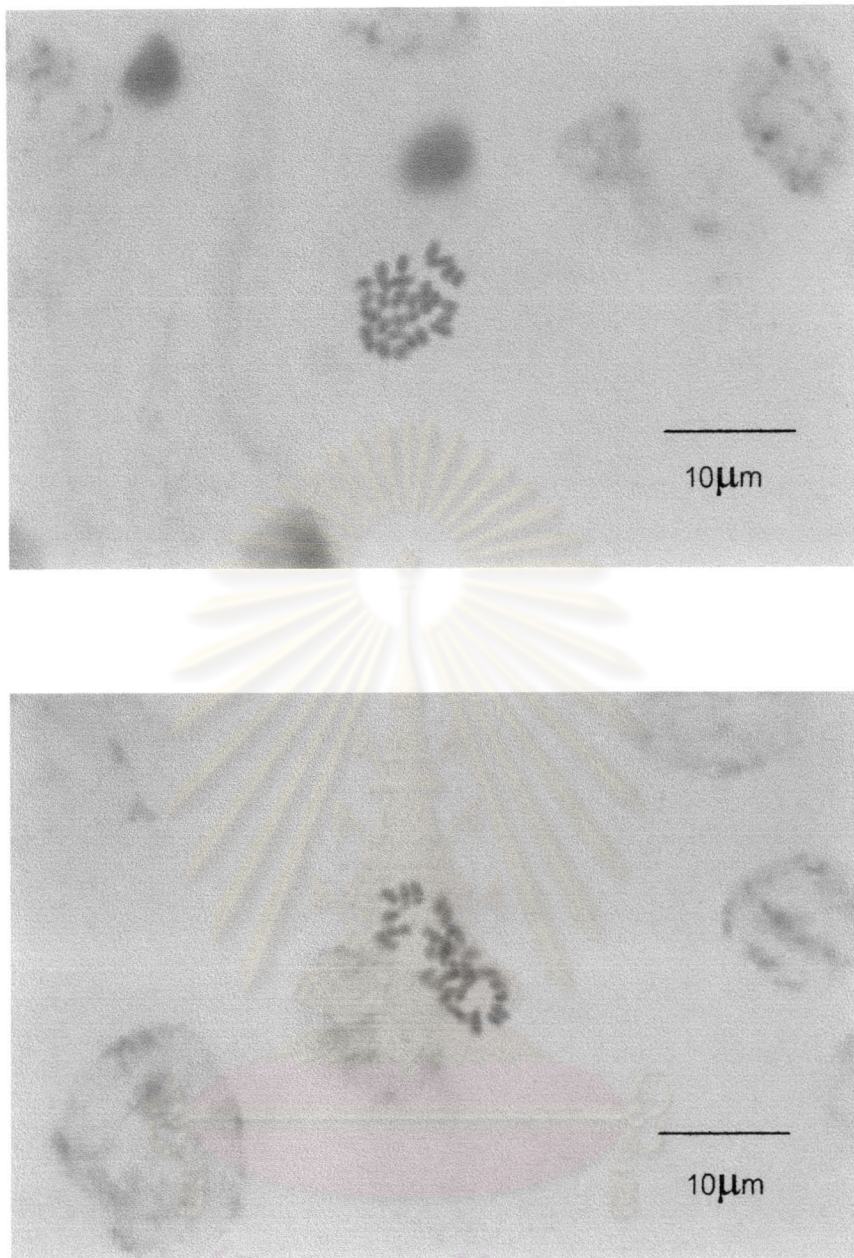


Fig. 38 Root tip cells of *A. humilis* in metaphase showing an estimated chromosome number of $2n=28$.

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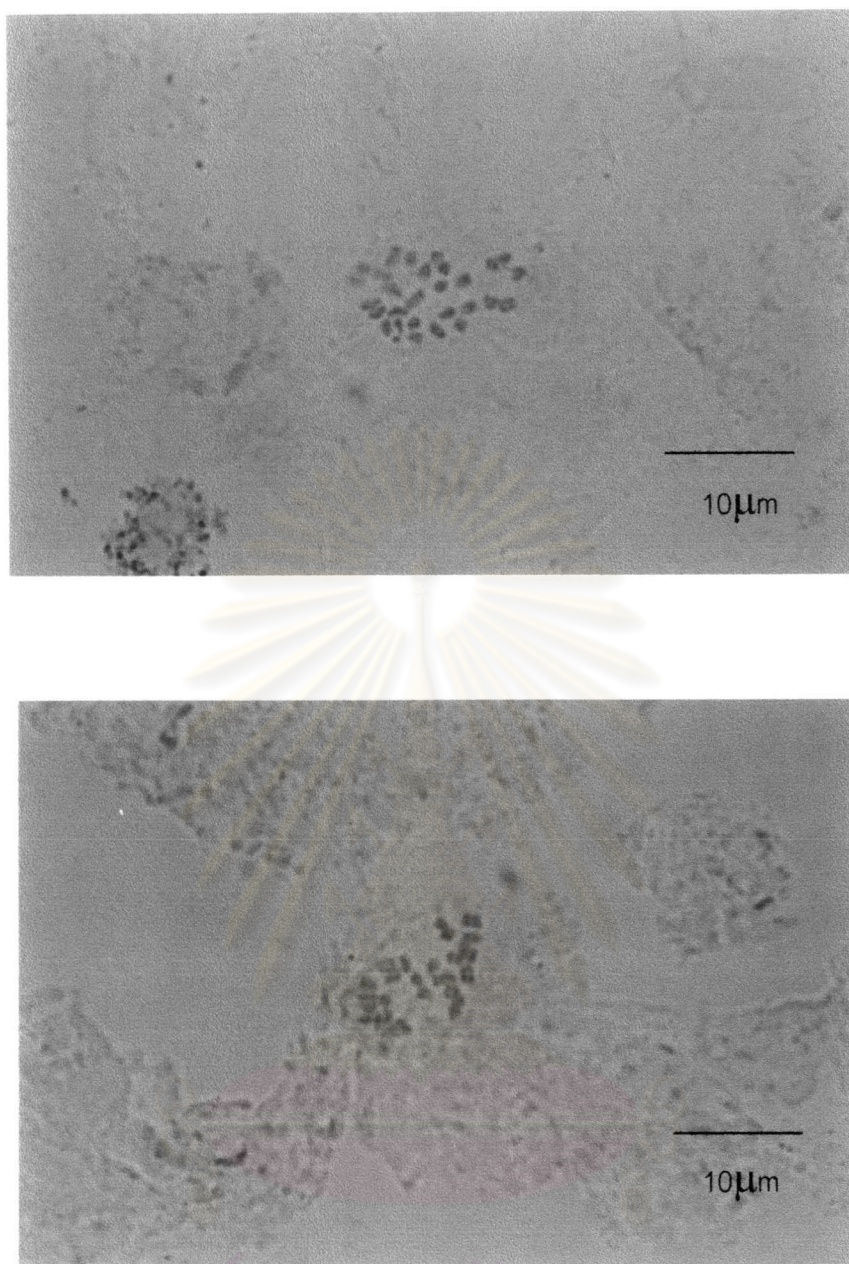


Fig. 39 Root tip cells of *A. hildebrandii* in metaphase showing an estimated chromosome number of $2n=28$.

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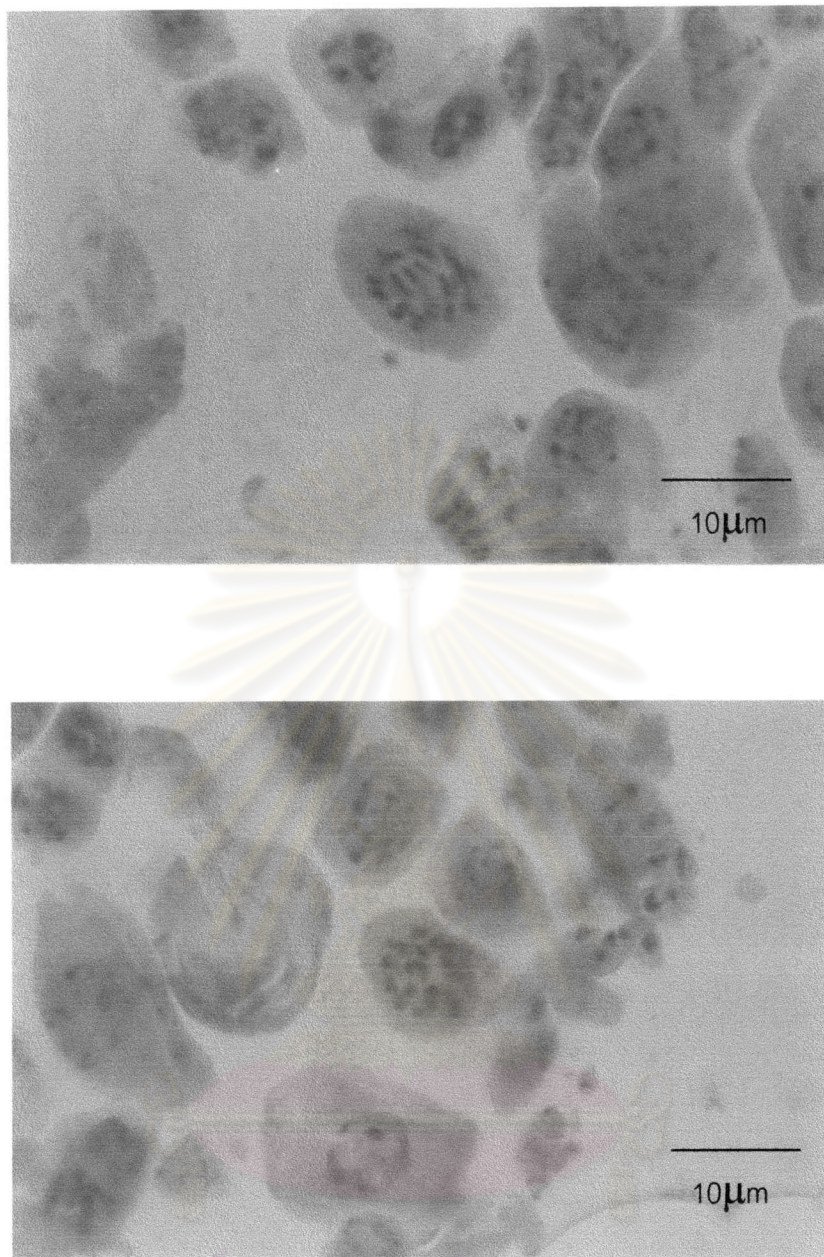


Fig. 40 Root tip cells of *A. obconicus* in metaphase showing an estimated chromosome number of $2n = 28$, $2n = 32$ from the top to the bottom.

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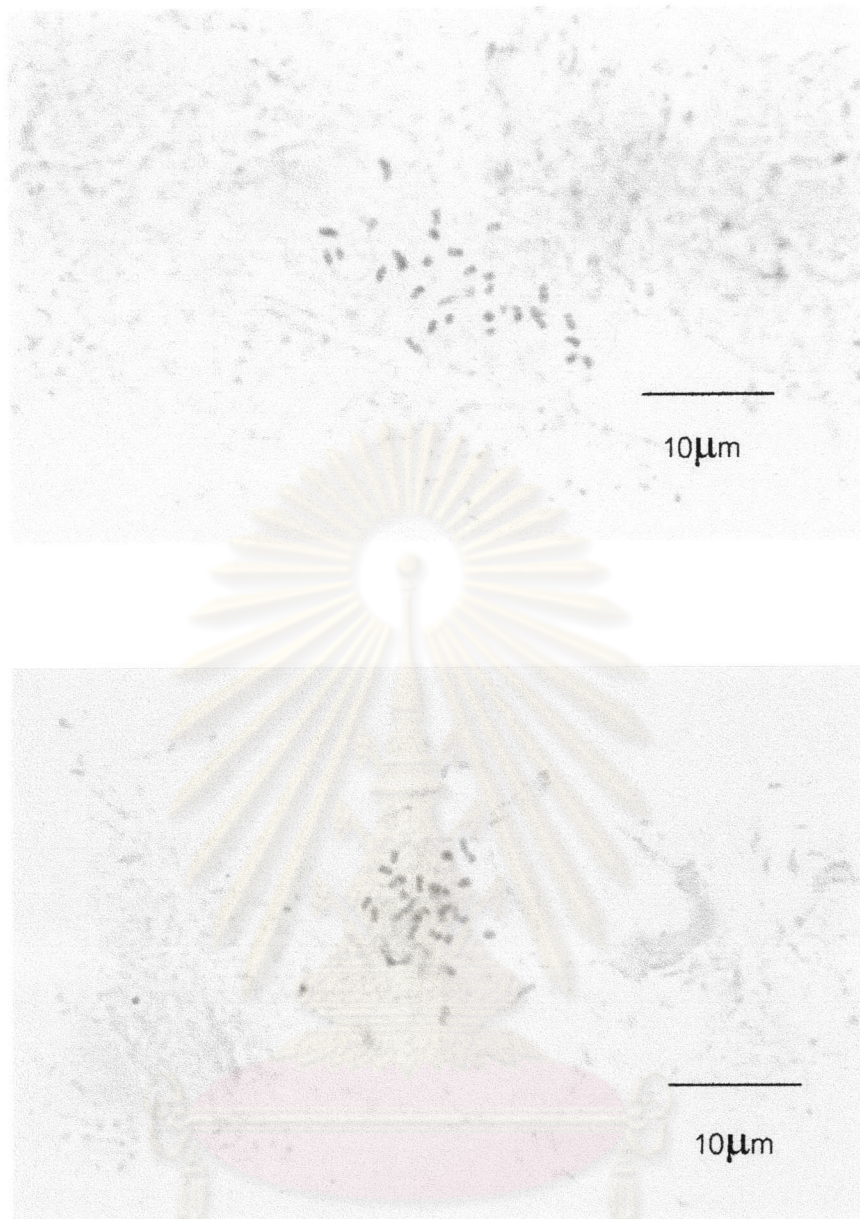


Fig. 41 Root tip cells of *A. radicans* in metaphase showing an estimated chromosome number of $2n=32$.

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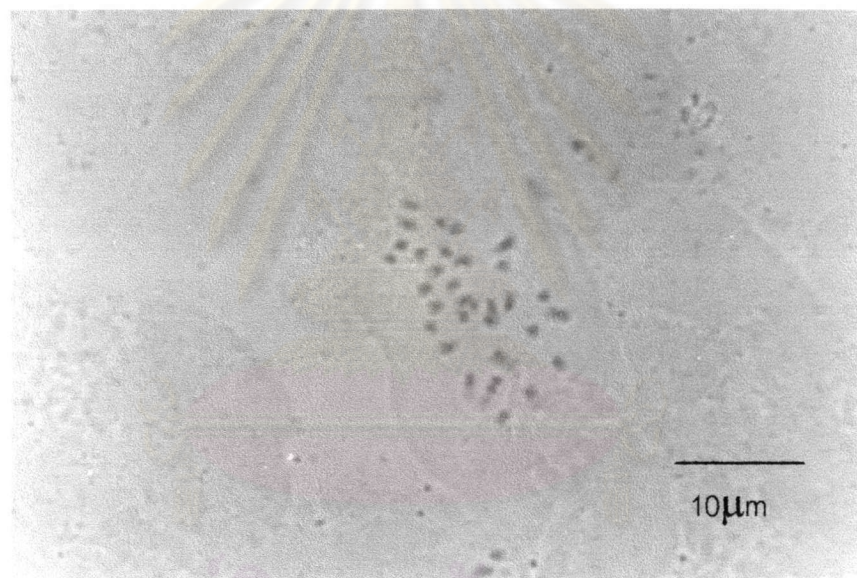
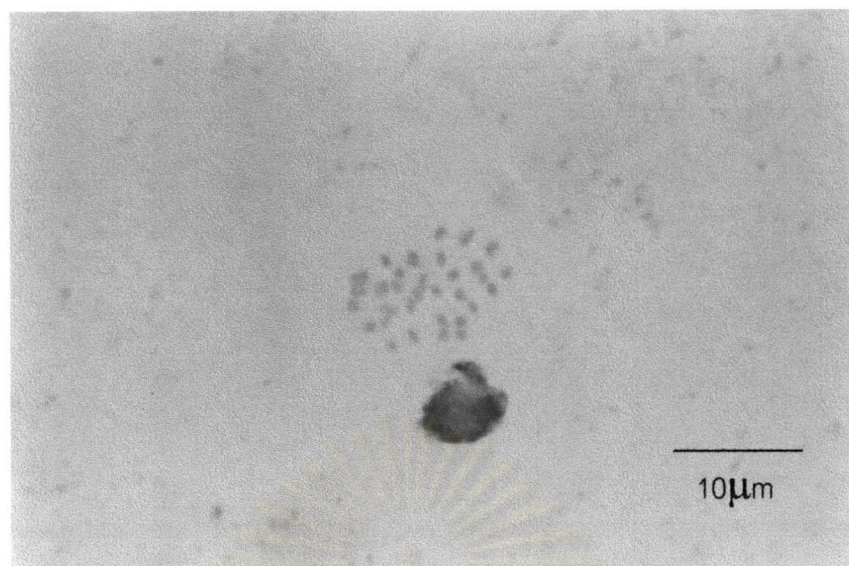


Fig. 42 Root tip cells of *A. sp.* JJ_001 in metaphase showing an estimated chromosome number of $2n=32$.

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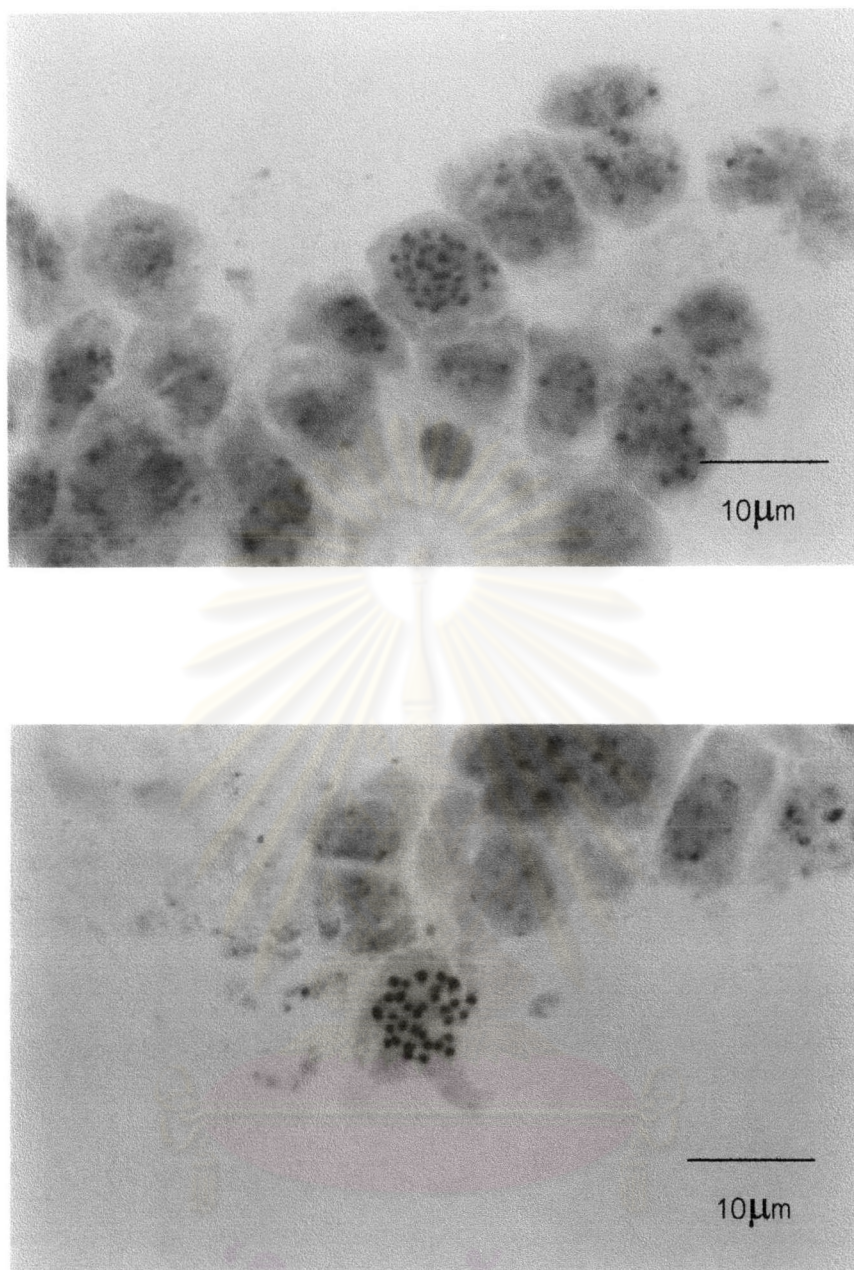


Fig. 43 Root tip cells of *A. sp.* JJ_001 in metaphase (stained with hematoxylin dye) showing an estimated chromosome number of $2n = 32$.