CHROMOSOME NUMBERS IN THE GESNERIACEAE: II

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The plants studied are from the collection at the Royal Botanic Garden, Edinburgh. Most are of known wild origin and when this is the case they are marked with an asterisk or dagger in Table I. Specimens of all collections investigated are in the herbarium of the Royal Botanic Garden, Edinburgh, under the numbers quoted in Table I. All identifications have been made by B. L. Burtt.

Acetocarmine squash preparations of material fixed in 3:1 ethanol: acetic acid were used. In the case of root tips a pre-treatment of four to five hours in paradichlorobenzene was given.

Chromosome numbers are listed in Table I and illustrated in Figs. 1 to 23.

The only previous chromosome count for *Cyrtandra* (Ratter, 1963) was of $2n = 34$ in a species from the Solomon Islands. Since the five Malaysian species reported here are also of this number and belong to four different sections of the genus, it seems safe to assume that the basic number of $x = 17$ is widespread in this large genus. A number of cells with aberrant chromosome numbers were observed in *Cyrtandra* roots. In *Cyrtandra* B2584 (near *C. splendens*) nine root tips were squashed and all contained many good figures of $2n = 34$ but in addition five cells in one root showed $2n = 36$ and this number occurred in one cell of another, whilst an isolated figure of $2n = 27$ was also seen. Most figures of *C. pendula* Blume were of $2n = 34$ but a few were $2n = 35$ and 36 and in these cases the extra chromosomes seemed to be particularly small. Isolated cells with $2n = 21$ and $2n = \pm 24$ were also seen in *C. splendens* C. B. Cl.

Aberrant chromosome numbers also occurred in *Aeschynanthus perakensis* Ridl. where the normal number was $2n = 30$ but counts of $2n = 28$ and 21 were made from isolated cells.

Aeschynanthus ellipticus Lauterb. & K. Schum. (Woods 23—a New Guinea collection, has $2n = 96$, whereas $2n = 64$ occurs in another collection (C3742) of this species reported in Ratter (1963). Evidently this species is complex and requires further investigation.

The count of $2n = 34$ in *Chirita lavandulacea* Stapf agrees with Rogers (1954) but not with Suguira (1940) who observed $n = 18$ in Pollen Mother Cells.

Chromosome numbers of *Ramonda myconii* and *Rehmannia angulata* were reported in Ratter (1963) for different collections.

TABLE 1

	Herbarium Specimen Number	*Meiotic Count PMC*	*Mitiotic Count Root Tip 2n*
SUBFAMILY CYRTANDROIDEAE ENDL.			
TRIBE CYRTANDREAE			
*Cyrtandra sp. B2541 (near C. axillaris C.B.Cl.)	C4039		34
*Cyrtandra oblongifolia (Bl.) C.B.Cl.	C4026		34
*Cyrtandra pendula Bl.	C4038		34 (35 & 36)
*Cyrtandra splendens C.B.Cl.	C4037		34 (21)
*Cyrtandra sp. B2584 (near C. splendens)	C4040		34 (36 & 27)
TRIBE TRICHOSPOREAE K. FRITSCH			
*Aeschynanthus ellipticus Lauterb. & K.Sch.	C4041		96 [1]
Aeschynanthus marmoratus T. Moore	C1675		30[5]
*Aeschynanthus perakensis Ridl.	C4043		30 (28 & 21)
§Aeschynanthus × splendidus T. Moore	C3720		32
*Dichrotrichum sp. B2774	C4045		32
†Dichrotrichum ? sp. 60-811	C4046		32
†Lysionotus serratus D. Don	C4054		32[6]
TRIBE DIDYMOCARPEAE ENDL.			
Conandron ramondioides Sieb. & Zucc.	C4047	16_{II}	32
Ramonda myconii (L.) Reichenbach cv. 'alba'	C4048		48 [2]
†Ramonda myconii (L.) Reichenbach	C4049	24_{II}	[2]
Briggsia muscicola (Diels) Craib	C3805		68
†Beccarinda cordifolia (Anthony) B.L.Burtt	C2856		20
Ancylostemon convexus Craib	C3838	17_{II}	34
Chirita lavandulacea Stapf	C3795		34 [3]
Chirita sinensis Lindl.	C4051		36
†Chirita urticifolia Buch.-Ham. ex D. Don	C2673		34
†Didymocarpus praeteritus Burtt & Davidson	C1697	12_{II}	
†Didymocarpus siamensis Barnett	C3717		54
†Boea magellanica Lam.	C3851		16
GENUS ANOMALUM			
Rehmannia angulata (Oliver) Hemsley	C4053		28 [4]

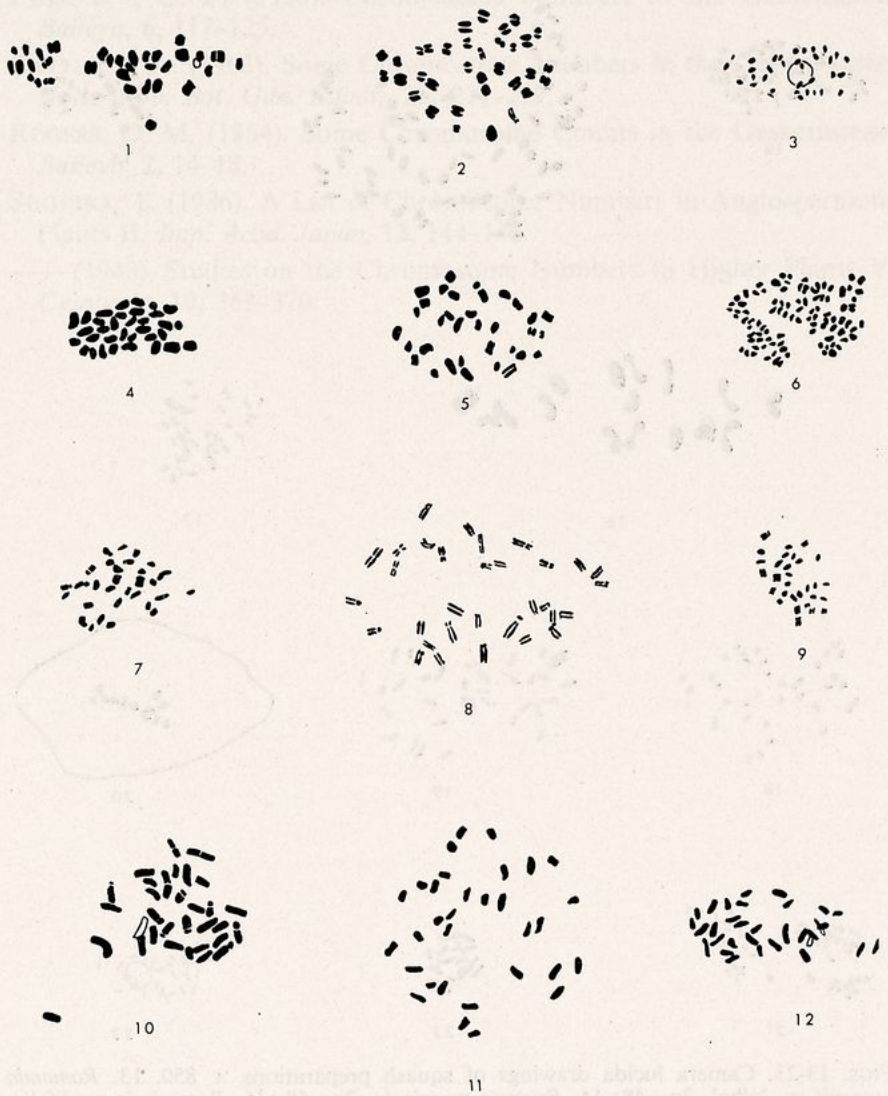
* Recent introductions sent back by Burtt and Woods from Malaysia in 1962.

† Other collections of known wild origin.

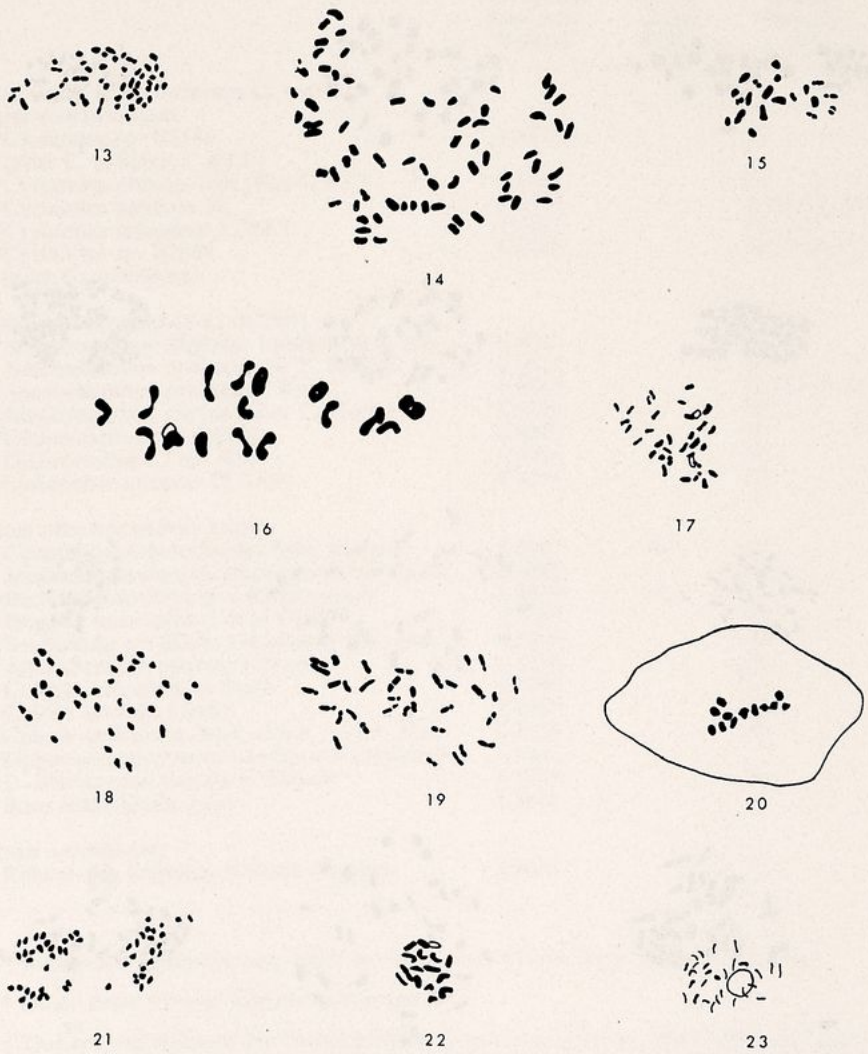
§ This is a repetition of the record previously published (Ratter, 1963) under the name *A. parasiticus* (Wall.) Spreng. It seems doubtful if the true species is in cultivation.

Previous counts are noted by the small numbers.

1. Ratter (1963) 2n=64 root tip.
2. Ratter (1963) 2n=48 root tip cv. 'Wisley Rose'.
3. Suguira (1940) n=18 P.M.C.
   Rogers (1954) 2n=34 root tip.
4. Suguira (1936) n=14 P.M.C.
   Ratter (1963) 2n=28 mitosis in anther tissue.
5. Rogers (1954) 2n=30 root tip.
   Eberle (1956) 2n=28 root tip.
6. Fussell (1958) 2n=32 root tip.



FIGS. 1-12. Camera lucida drawings of squash preparations × 850. 1. *Cyrtandra* sp. B2541 (near *C. axillaris*), 2n=34; 2. *Cyrtandra oblongifolia* 2n=34; 3. *Cyrtandra pendula* 2n=34; 4. *Cyrtandra splendens* 2n=34; 5. *Cyrtandra* sp. B.2584 (near *C. splendens*), 2n=34; 6. *Aeschynanthus ellipticus* (Woods 23), 2n=96; 7. *Aeschynanthus marmoratus* 2n=30; 8. *Dichrotrichum* B.2774, 2n=32; 9. *Aeschynanthus perakensis* 2n=30; 10. *Dichrotrichum* × 60-811, 2n=32; 11. *Lysionotus serratus* 2n=32; 12. *Conandron ramondioides* 2n=32. (Unless otherwise stated figures are of root-tip mitosis).



FIGS. 13-23. Camera lucida drawings of squash preparations × 850. 13. *Ramonda myconii* cv. 'alba', 2n=48; 14. *Briggsia muscicola*, 2n=68; 15. *Beccarinda cordifolia*, 2n=20; 16. *Ancylostemon convexus*, P.M.C., 17 bivalents; 17. *Chirita lavandulacea*, 2n=34; 18. *Chirita sinensis*, 2n=36; 19. *Chirita urticifolia*, 2n=34; 20. *Didymocarpus praeteritis*, P.M.C., 12 bivalents; 21. *Didymocarpus siamensis*, 2n=54; 22. *Boea magellanica*, 2n=16; 23. *Rehmannia angulata*, 2n=28.

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