

Aula 7

ACBC7 CH= @ 8 ê B95 G

META

Objetivo geral: Conhecer a importância da água para a vida e a saúde humana, bem como os cuidados necessários para garantir o acesso à água potável.

OBJETIVOS

Objetivos específicos: Identificar as fontes de água e os processos de tratamento; compreender a importância da água para a vida e a saúde humana; reconhecer os cuidados necessários para garantir o acesso à água potável.

DESENVOLVIMENTO

Atividade 1: Leitura e discussão do texto sobre a importância da água para a vida e a saúde humana.



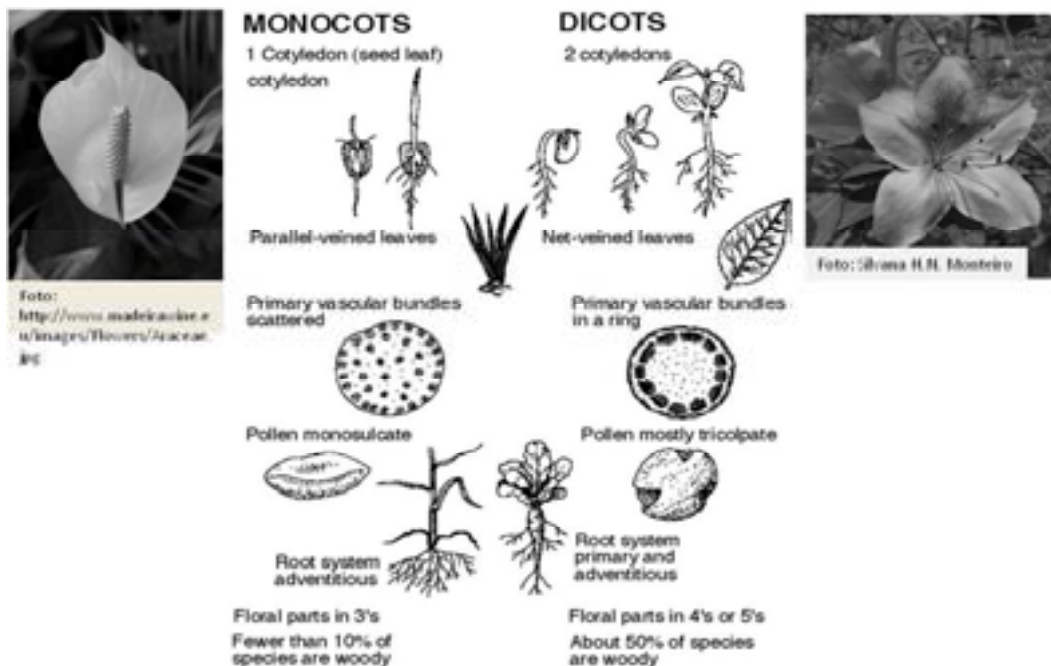
(Fonte: <http://www.jardineiro.net>)

=B HFC 8I uÈC

9a '%, -ž c' Vch]b]W' ZUWg 5brc]bY @U fybh:i gg]Y ž di V]W]i 'U obra *Genera Plantarum* žcbXYXj]Xi 'c f]bc j Y]YUžWa 'UgYbc b•a Yfc' XYWh] fXcbYgYa 'f. g[fi dcg 5 Wm]XcbYgžcbXY]bW]Ug]Wd]U]La Ug Y]bWff]La Ybh]U]i a Ug'a cbcWh]YX bYg/A cbcWm]XcbYgž'd'Ub]g Wa 'i a •b]W'Wh] fXcbY8]Wm]XcbYgž'd'Ub]g Wa 'Xc]g'Wh] fXcbYg flbW]U]La Vfa 'Ug; na bcd]fa Ug"5c 'cb]c Xc'h]a dc'ci hfcg]ghYa Ug g fl]fla YU]i a Ug'a cX]UW" YgZfla 'fYU]n]U]gžbc Ybh]bc Ug]dfU ~c' das angiospermas em Magnoliopsida (Dicotyledoneae) e Liliopsida (Mono-

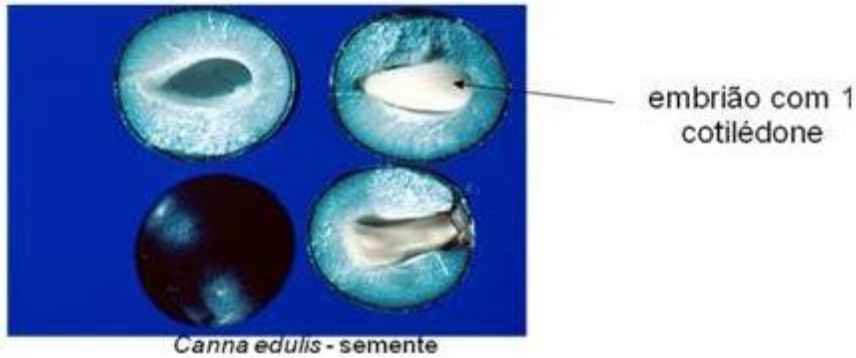
Wm]XcbYU]žci gYU]X]Wh]YX bYgYa cbcWh]YX bYgd]fa UYM U]f a YU]cg XUX]WUXY bcj Ybh]I a UWa V]bU ~c' XYWUM]Yg g]dfU] U essas duas classes (Quadro abaixo).

5ga cbcWh]YX bYgd]fZ]h]a %#) X]gUb]]cg]fa Ug]W]W]X]Y) S"SS' Yg]f]W]g]Wa X]g]f]M]], ~Wga cdc]H]8 YUW]Xc' Wa 'c g]gh]a UX]W]g] g]UW ~c'a Ug]f]W]bh]f]D, ž&SS']Z]ga cbcWh]YX bYg]gh]c X]g]f]M]]X]g] Ya %cfX]bg]Y%\$&Z]a]]U]g]9a g]gh]a Ug]bh]f]cf]Yg]U]W]b]U]i fU ~c'g]Z]Y U]i a Ug]U]h]fU" Yg]Wa c' dcf]Y] Ya d'cžc g]gh]a UX]Y7fcb]i]gh]f%, %Ei Y Ug]cfX]b]U]Y]a **Z]a]]U]g]%'cfX]bg]Y) g] W]U]g]g]'z] Ya 8 U]]f]Ybž7]Z] ZcfX/ M]c]f%,)]Z]fla]bW]]X]g]%'\$&Z]a]]U]g]&'cfX]bg]Y%'\$g] d]f]cfX]bg]"



:]]i fU]! E i U]f' Wa d]fU]j c X]g]d]f]b]W]U]g]W]U]M]f]j]W]g'a cfZ' U]f]W]g]X]Ya cbcWh]YX bYg]Y X]Wh]YX bYg]

A C B C 7CH=@98ë B 95G 75F 57H9F =N5uÈC
 C f[Ya Xc' bca Y d'UblgWa %Wh' fXcbYbUgYa YbHY



: [i fU&i 9a V]-c Wa ia Wh' fXcbYYa 7UbbUYi 'lga cbcWh'YX bYE'

5g'a cbcWh'YX bYUg' gY WfUMf]nLá 'dcf' UdfYgYbHfYa 'Ya V]-c'
 Wa %Wh' fXcbYzdfYgYbHfYa Vfa Ya DdYfca JUFd]dYfUYgLYB Yi a Vc'
 ffUbi bWUYg! 9i XWh'YX bYUgZ WYgYa Ybrc '\YfzWc! UVi ghj czb-c'
 `Yb\cgzLdYbUg%Si Xlga cbcWh'YX bYUgg-c UVCEYgZU[fubXYa Ucf]U
 em Areaceae. Corpus proteicos triangulares nos elementos de tubo crivado
 ftVgYj Ux' hLá Vfa Ya 5f]g'c `cW]UWUYFD]dYfUYg' GghYa Uj UqWUf UHW
 hcgY WfHá Vfa YbWbHfUx' Ya D]dYfUMUYB na d\UUYgZU[]cgYfa Uq
 VgUg' 7fYgYa Ybrc gYMBxZf]c U gYbHzei UbXc dYfYgYbHf-b `ca Cfc[c Ue'
 XlGí XWh'YX bYUg' ft WYgYa Ybrc gYMBxZf]c `cWffYUfUj fgXYU a Ybrc'
 do tecido parenquimatoso). Endosperma helobial ou celular, raramente
 bi WUf fC `YbXcgYfa U\YcV]U' fYbWbHfUx' [i Ua YbHYa `B na d\U
 YUYg' G-c fUfcgYgY Ya d'cgXYd UbHfUbi Ugcí V]Ubi Uq' 5dfYgYbHá i a U
 ZcfHYbX bV]U[`cWdU -c XYLá V]YbHfUei zhWgZgYbXc Uq•b]WgU[]c!
 gYfa UqUcWdUfYa `c Lá V]YbHYa Uf]b`c"; YfUa YbHYXgYbj c] Ya C[-cg
 g Vhff]bYcgZgYUXYdfcdU U -czWa c f]mca UqYfYg' `cgZci XYfYgYj UZ
 Wa c h VffW'cgci Vi `Vcg'B cfa Ua YbHYUbfj U -c Zc]Uf' fduUYUYb-c'
 d]bUx' fYf]WUXU' 5g'UcfYg'g-c hfa YfUgbUa Ucf]UXcgWg'gfYá VUbx'
 ei Yhf]a Yf]U' UcfU' fYbWbHfUx' a Yga c' a cXc' Ya `B na d\UUYgZgYbXc'
 ei Yc [fubXYb•a Yfc XYdY UqUcfUg' fYgYMBxZf]cZc dCEb]fa cbcW'dUx'
 ou derivado desse tipo, mas nunca tricolpado. Apesar de nenhuma dessas
 WfUMf]Wg'gYá WbgXYUfYgY Wg] UqXYa cbcWh'YX bYUg' Ya Yga c'
 Uqga `c' a cbcUYhg' c Xc [fi dc' fWffcVcfUx' dcf Ubz]gYgXYgYé .bWg
 XY8B5 fM["7\UgYhU"% - ' z? } `Yf^ `YhU"% - , E'

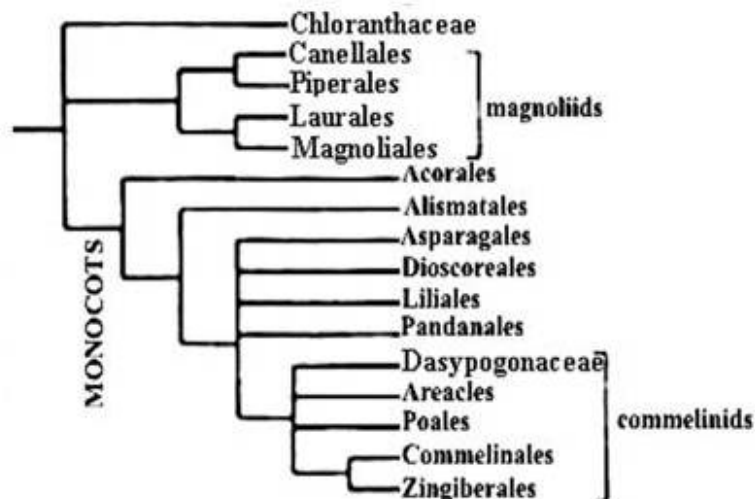


:]i fU Ĩ : c \UgXY5fUWUY8]cgWfYUWYfB chYei YUj YbU -c b-c f dUfUYUWa c bUgXa Ug a cbcWh]YX bYg

7@5GG= =75uÈC '9 '5: =B =8589G'

7ca c] ja cgUhf]cfa YbZUga cbcWh]YX bYgUfYgha j z]UgWUWf
 g]Mgei YUgXYa]hà ždcfja Yg]gb-c'g-c'gbUca cfUga cfZ'CE]Mg'ci gUž
 c' [fi dc b-c UfYghUWUWf]g]Wga cfZ'CE]Mg'Y Wg]Ug

8 YUWfXc Wa 'c'g]hYa UXYWg]ZW -c Xc '5D, 'f&S' Èž5WfUYgY
 5]ga UUYgYh-c bUMgYXc WUc [flà UX]ga cbcWh]YX bYg'5gXa Ug
 cfXbg'Wa d" Ya i a WUcžcbXYfYU" YgXYdUfYbhgW YbhY5gdUfU UYgž
 8]cgWfYUg"@]UgYDUbXUbUg'U]bXUgYh-c]bWfUg'5gcfXbgfYgUbhg'
 formam um grupo denominado Commelinidae, composto por Dasypogo-
 bUMUž5fWUgYDcUYgžei YgYh-c bUMgYXc WUc Y7ca a Y]bUYgei Yf
 [fi dc]fa -c XYN]b]]WfUYg'C Vgfj UgY]hà Vfa 'ei YUga cbcWh]YX bYg
 YgYh-c a UgfYU]cbU]g'gA U bc]]XU'



:]i fU (Ĩ '7UXc [flà UX]gA cbcWh]YX bYg'f5D, '8&S' žUX]hUXc'E'

ORIGEM

5c`cb|c XcgUbcgġ z|Ug`|dCEyġg f| |fUā bUmbUj UXYgYgWfYf`
 fYU~c XLgA cbcWĥj'YX bYUgWā UgXā Ug5b| |cglYfa Ug'5 ā Ucf|UXlg
 \|dCEyġg Yfgj UgcVfYgā Y\U, UgXY| fi dcgYbfYa cbc!XjWĥj'YX bYUg`
 DufUcgYġi X|cgg'c |XU`YfUei YcgdfYgXYa cbc!XjWĥj'YX bYUgUdfY!
 sentassem um conjunto de similaridades maior do que aquele esperado
 Uē`UMg`YzdcfUbczYl d`|M|La `cgYgUXcg|bhfā YXzf|cgzfUbg|VcbUg
 entre esses grupos. O agrupamento que mais foi utilizado para explicar a
 dcegġ Y Xj Yf| .b|UXlgA cbcWĥj'YX bYUgUdfhf'XLg8 |Wĥj'YX bYUgZc|
 Nymphaeales-Alismatales (Takhtajan, 1980).

9bfYUgā Y\U, UgXyġgcfXbgXgUWā !gYUhf|a YfJUŪcfU`fYā`
 VfbXc`ei Yc|fUbxYb•a YcXYdY, UgŪcfUgYā B ma d\UUYgfgYmXzf|cZ
 UdcWfd|UzcgZ| Yg| UgWfYgUUmghf|Wgġ UgcgWbUbcXcg{gfUhgZ
 dCEb'a cbcgġ WXc YbXcgYfa U\YcV|UfWā i a` Yā` A cbcWĥj'YX bYUg
 Ya UgfUc Yā` 8 |Wĥj'YX bYUg`5 |bXli h|nUbc Ug`|b\U YbgLei zhWgXY
 XjWĥj'YX bYUgZHU`|Ubg| Yf|`ei Yc'g f| |a Ybte XLgā cbcWĥj'YX bYUg
 cWffY zYā` fYdfYgbUhgLei zhWgUfU fgXYbYchb|UfYXca cfŪzci`
 gYUZYgWbXbhgWdUhgXYgyYdfcXi n|f'a Ygā cWā WfUMf|g|WgWf!
 fYgcbXbhg{g'1j Yb|gXc`UbwgU" Dcf`Yl Yā` d'czUfYX , ~c XYXc|gdUfU
 i a` Wĥj'fXcbYg|U| a Uy |X b|UXYdYXca cfŪ`5 bU|fYrUā cbcŪf|W
 XLgā cbcWĥj'YX bYUgfdci W Wb|hgUdYcgYġi X|cgg'XUVch|b|WY
 Yġi XcgŪc| Yb|WgWbŪfa UfLā`g Ucf|| Yā` Udfhf'XLgXjWĥj'YX bYUg`

8 YggZcfa Uē U fi dLā Ybte Ubf|cfa YbhWā Ux XYXjWĥj'YX bYUg
 a cgfci`b~c gmf bU|fUzgcVc`dcbte XYj |gUŪc| Yb|Wzci`gYzcb~c YfU
 a cbcŪf|WzchbXc`U| i a Ug`|b\U Ybg'a Ugdfcl |a Lā Ybh'fYUWcbUXlg
 Wā`Ugā cbcWĥj'YX bYUgXc`ei YWā`Ugci hfUgXjWĥj'YX bYUg`



: ||i fU) `Ī`Gā |Uf|UXY`YbHYWĥj'YX bYUgLei zhWgfm|`B ma d\UUYg`YUg'a cbcWĥj'
 YX bYUg`

9GHI 8CG'7@58 aGH=7CGA C @97I @5F9G

Bcg• ħa cg &S' Ubcg' Wa 'Udcdi 'UfnU ~c' Xcg'a frcXcg' WXgh]Wg
fa frcXc' ei YUz'lgY' UgfYU" Yg'Y c' i hj Uq' YbhY [fi dcg' XY gY'Yg' j]j cgz
XY'a cXc' UcVhf' Ug U\]gCE]UYj c' i hj Uz'Xj Yfg'g]bZf. bV]g' UMWXc'
fYU'cbLā Ybrc' X]g'a cbcW]h'YX bYUg'Wa Uq'Xā Uq'U]]cgd'Yfa Uq'Wā
como seu relacionamento interno, foram realizadas. Estudos com caracteres
a cfZc' CE]Wg'fYU]nUX'g'dcf' A Ufh]b' Y8 ck'X'f% - %z'W'c'Wj Lā '5fUMU'
Wā c' [fi dc' V]g'U' YbhY'Ug'a cbcW]h'YX bYUg'z'c' hfUU'c' XY'7\ Uq'Y'hi
U" f% - ' Ĩzei Yi h']mci' XUX'g'a c' WU'fYg'z' gli' Uc' [. bYfc' 5Wfi g'Wā c'
[fi dc' V]g'U'YU[i a Uq'Zā]Ug'XYDUY'c'Yj Uq'f'f]g'c' W]UMUz'@U'cf]XU'
WUz'D]dY'fUMU'Y'GU'fi fUMU'Wā c' [fi dc']fa ~c' X]g'a cbcW]h'YX bYUg'
z'Yā % -) '7\ Uq'Y'W'U'cf'U'X'f'Yg']bW'Yā 'bYg'Y [fi dc']fa ~c' ħā Vfa Uq'
Nymphaeales. No mesmo ano Bharathan e Zimmer (1995) incluem Aris-
tō'c'W]U'Yg'Wā c' c' [fi dc']fa ~c' X]g'a cbcW]h'YX bYUg'

5g'WbW'g' Yg']YU'g'c' VY'cg'Xj Yfg'gh'fUM'cg'fa cfZc' CE]Wg'Yā c!
'WU'fYg'z' di V]W'X'g'U'f'c' a ca Ybrc']bX]Wā [fi dcg'XY' dUY'c'Yj Uq'Wā c'
[fi dc']fa ~c' X]g'a cbcW]h'YX bYUg'Ybc']a V]rc' X]g'a cbcW]h'YX bYUg'Uq'
Uz'lg'Yg'a cfZc' CE]W'g'U'cbLā 8]cg'W'fYU'g'Wā c' V]g'U'YUz'lg'Yg'a c' WU'
fYg'gh'Xā U'W'bg'X'f'U'f'5fUY'g'Wā c' [fi dc' V]g'U'YbhY'Ug'a cbcW]h'YX bYUg'

F 9; =GHFC : ê CG=@

C'gdf]a Y]fcgd'CE]bg'Uf]M' Xcg'Ui a Uub]]cgd'Yfa Uz'fLā Wā U'Xcg'XY'
7 U]U'hc' "Yb]h]g'XU]ā 'XY'%% 'a]\" Yg'XY'Ubcg' 9gg'Y]hc' XY'dCE]bzei YfYU'
a cbcgg' W'X'z'z'Yg'U' UdfY'gh'Yā j z]]g'U'cf'U'g'X' 6Uff'Yā]Ubc' YUg'Yā Y'U'
se ao encontrado em Chloranthaceae (especialmente Sarcandra), Piperaceae e
GU'fi fUMU' 'C'gfY]]g'fcg'Z'g'Y'ghā Vfa]bX]Wā 'ei YUg'a cbcW]h'YX bYUg'
g'c' Vā Ubh] Uq'UM]gh'bW]Xc' [fi dc' f'fY]]g'fUM'X'g'XY'c' 5dh]Ubc'!5 V]Ubcz'
W'%%\$SA'U'! a U'W'Z'g'Y'g'XY'5W'W]d'mi a 'g]U'i U'i a fB'cmY/ <]WYñ
% +*LY'dCE]b'XY'@]]U'X]h]g'z'8 cmY'%' + 'L'! dfCE]a c' U'c'g' f]]a Ybrc' X]g'U'!
[]cgd'Yfa Uq'z'ci' g'Y'U'U'Y'U'g'+ a]\" Yg'XY'Ubcg'a Uq'f'Y'W'bh]g'ei Ycgdf]a Y]fcg'
dCE]bg'Z'g'Y'g'Uf]M' Xcg'Ui a Uub]]cgd'Yfa U'f'ic' dCE]b'XY'7 U]U'hc' "Yb]h]g'z'
8 U' [fYb'Y'hi'U'z'%,) L'! 9gg'Y'g'XUX'gei Y]bX]Wā UY]]gh'bW]X]g'a cbcW]h'
'YX bYUg'Ybh'Ycgdf]a Y]fcg' [fi dcg'UYj c' i]f'X' f'ub'Y'df]a]h] U'X]j Yfg'U'W' ~c'
X]g'5b]]cgd'Yfa Uq'z'c' ħā Vfa Wb]U'fa U'Xcg'dcf'Uz'lg'Y'W'X]g']M'g'f'W'bh]g'
<]g'CE]U'Z'g'g' Xc'Wā Ybh'U'U'bh'X'U'ei Yrc'Xcg'cg' [fi dcg'U'i Uq'XYā cbcW'
h]YX bYUg'z'Yg'U] Lā fYU]j Lā Ybh'Vā X]j Yfg'U'W'X'g'bc' 9c'W'bc' fW]SA'U'L'
Yrc'Xcg'ha U'c' a Ybcg'U] i a 'fY]]g'fc' bc' 7fY'z'W'c' \z' W'fW'XY'+\$'a]\" Yg'
de anos (Herenden & Crane, 1995).

G=GH9A äH=75`89`A C B C 7CH=@98 ë B 95G

5`a Ucf]UXLgä cbcWfj'YX bYUgfUei zh]Wzc [fi dc UdfYgbhUi a UX!
j YfgXUXYXWfYgZcfa UgYHä Ub\cgXYÛcfYgei YdcXÄä`gf X]Wä`fXUg`
\ca cWä`fXUg`dYUc]Xgci`UWä`fXUg`ci`Wä`dYf]Ubc`fYX`n]Xc"8 Y
UWfXc`Wä`c`gghä Ua UgfWbhYf5D,`&S`Izei YfVgMUC`Ää`XUcg`
a c`YWUfYg`Ugä cbcWfj'YX bYUg`Yh`c`Xgff]Vi`fXg`Ää`%cfX]bg`Y%S&
Zä`f]Ug`5`g]i`f]j`YfÄä`cgcgdf]bVdUg[fi dcgXUgä cbcWfj'YX bYUg`



:]i fU*`I`Df]bVdUg[fi dcgXYA cbcWfj'YX bYUg`

ALISMATALES

9gYcfXÄä`]bW]`%`Zä`f]Ug`YVWXY" `&S`Ygd]VWg"9ggUWVWb!
gM],-c`]bW]`Ua Ucf]UXLg`Zä`f]Ug`dYf]hbWbhg`{`g`WUggY5`]ga`UfXU`
Xc`gghä`UXY7fcb`ei`]ghf%,`%zUfa`XUZä`f]U5fYVWU`<`z`Xc]gU`fi`!
dLä`Ybhc`gÄä`5`]ga`UUYg`I`a`Wä`c`dYf]Ubc`X]ZfYb]UXc`Ää`gfdUg`Y`
dfUg`YgHä`YgÄä`b`a`Yfc`a`Ucf`Xc`ei`Y*`Y#ci`WfdYcg`Wä`a`Ug`XY" `.
YQei`cg`Wä`d`UWb]U`-c`Uä`]bU"C`ci`hfc`hÄä`c`dCEb`gÄä`UWf]h`fUg`Y`
gÄä`Yl`]bU`B`YgUcfXÄä`X]gUWä`!gYUg`Zä`f]Ug`5fYVWU`Y5`]ga`UWU`

ARACEAE

9fj`UghffYgfygci`Uei`zh]Wz]hYdUXY]fUg`Yd]Ug`fzUXgXYcl`UUh`XY`
WV]c`dfYg`bhZ`V`gUxc`]ff]HU`-c`bUa`i`WgUXUvc`WY[`Uf`U]U]ei`U]Xc`
Wä`]Xc":`c`UgUhf]bUg`YbU`-c`dUfUYUzd]bUXci`dUa`U]Z`Wä`V]b`U`
=bÛcfYgWbWU]bX]hfa`]bU]Z`Zcfa`U]Xc`i`a`UYgd]]`UXYbi`a`YfcgUg`ÛcfYg`
dYei`YbUg`UffU`U]LgÄä`i`a`Yl`c`W]bcg`ft`YgczX]WzY`fg`Vbh]bX]Udcf`
i`a`U[`fU]XYVfz`WUz`UYgdU]":`cfYg`V]gg]i`Ug`Ui`b]gg]i`Ug`YgU`•`hÄä`U`

[YfUa YbhYa d'UbHg'a cbc]Mg'H]fdUg(!* ci U g]bhg'9g]h' Yg%* fl%&Z
 ÚTa YbhcgX]g]h]bcgUwbUXcgZ]bh]f]U]i a Uj Yn]gUf]bXc!gYdcf'dcfcg'
 7UfdYcg&' žcjz]c'g'dYfcz]ci `cg%jz]c]g': fi h' [YfUa Ybh'i a UVU U'
 5fUWU]bW]' "&SS'Ygd]M]g'Xc]g'hf, cg'cWffYa 'bcgB Ych]C]Wg'
 8 YbhYcg'df]b]W]Ug [.bYfcg X]g]h'Ua !gY 5bh'i f]i a 'f]M]W]XY %SS'
 Ygd]M]g'YD\]cX]bX'cb'f) S' B U Z]a †]UždcX]a cg'YbW]bh]f' d'UbHg'
 Wa 'YgtzX]Wg'Ybcfa Yg'f]' "5a cfd\cd\U]i gh]h]bi g'W%'a 'UHLUf]Ug'
 a Ybcf]Y]U]]cg]Yfa U]g'Wb\W]X]g'5]i a U]g'Ygd]M]g'XYK c'Z]UY@Ya bU
 f]Ya bc]X]Už'Ybh'\U]g'X]i U]b-c'UWb, Ua %a a 'XYWa df]a Ybc"9g'
 g]g'd'UbHg'X]a]bi h]g'dcgg' Ya 'i a U]U]U]U] UXY'f]d]c]X]i , -c' U]g]M]i U]X]žc'
 ei YU]g'd]Yfa]h]c'W]d]f'f]U]X]L]a Ybh'Y] h]b]g]U]g'dcf, " Yg'XYz]i U]žc]fa U]bX'
 i a 'h]d]Y]j Yf]Y' bU]g' d]Y]Z]M]Y' XY' U]cg'Y'f]d]f]Y]g]b]h]U]bX'c' i a ']a dcf]h]b]Y'
 Wa dcb]Ybh' d]f]U]U]i a U]g'Wa i b]X]U]g' U]W]g'f]Y]g' C' f]zd]Xc' W]M]g]M]a Ybh'
 populacional e a capacidade de processar poluentes tornam essas plantas
]bh]f]Y]g]U]bh]g'Ya d'Ubcg'XYX]g'c' i], -c' Y' h]g'Ya 'Y] d]Y]a Ybh]cg'Vch]b]W]g'
 A i]h]g'Ygd]M]g'g-c' i h]n]U]X]g'Wa c'cf]b]L]a Ybh]g'd]Y]U]Y]Y]U]XY]g' U]Z'\U'
 [Ya ž]Wa cždcf'Y] Ya d'cžU]W]g]h]Y]U]XY! U]X-c' f]D\]cX]bX'cb'V]d]b]U]h]U]X]i a Iž
 U]V]b]U]b]U]XY]a U]W]W' f]a c]b]g]h]Y]U]XY]M]c]g]U]ž' U]V]C]U]f]C]M]b]X]U]d]g' g'gd' Eci 'U'
 Wa]] c]b]b]i] fa !dcXYf]B]Y]Z]b]V]U]W]U]d]M]E" C i h]U]g'g-c' W'h]j U]X]g'd]Y]U]g'
]b]U]c]f]Y]g]W]U]g'Ygd]M]U]a Ybh'd]Y]U]g'Ygd]U]U]g]]g'h]c]g]U]g'Wa c'c' W]d]c]X]Y!]Y]h'
 f]N]b]h]X]Y]g]W]U]U]h.]cd]M]E]Y]j z]f]U]g'Ygd]M]g'XY 5bh'i f]i a "'5 h]U]c]U]f]U]c!
 W]g]U]Y]g]W]Y]b]H]E.]f]i h]n]U]U]b]U]U]a Ybh]U] -c"'8 Y]]Xc' { 'd]f]Y]g]b, U]XY]W]g]U]g'
 XY]cl U]U]c' XY]W]M]c]ž]U]g'5fUWU]g-cž]b]U]a U]cf]U]ž]C]E]W]g'ei U]bX']b]]f]X]U]g'
 ci 'h'W]X]U]g'd]c]X]i n]b]Xc' Z'cf]h]g'f]f]h]U]" Yg'



:]]i fU+ĭ '5fUWU] 5"D\]cX]X]i a "'6"@Ya bU]a]bcf'f]a Ybcf'U]]cg]Yfa U]"7"'8 YU\YXU]b]U]c!
 f]Y]g]W]b]U]h]g]d]U]U]Y]g]t]z]X]W]E'

ALISMATACEAE

9fj Uğ Lei zhWg ci `XY` cWg YbWUfWkçz` UhgWbhçz f]mca Urcgğ`
 : c`Ugga dYgUhbUgVgUgVUj\Udfc`cb| UbXc!gybc dWc`c ZYe` Ybh!
 a Ybh' Wa `Ug Zc`Ug g Va YfgUg Xg]bhUg Xg Ya YfgUg` =bUcfYgWbVUg
 hfa]bUgçfUWa cgUgY Ybi Ua YbhZcfa UbXc`dUbWUgUcfYgXgdcgUg
 Ya `bcUc`cb|c`Xc`YgWdc": `cfYgVggY i UXgUWbca cfZg`dCE]bUg
 X]Wa`XUg`YhfcWa`XUg/gfdUg` zdfUg` zUj Ug`7UfdYcg) Uj zfcg`
 : fi hcgLei .b]cg`

: Ua f]UWga cdc`hZWa` %&|. bYfcgYVWVXY, S`YgdVWgUa YHXY
 cWffYbXc`bc Bcj c`A i bXc"5`a Ucf]UXUgYgdVWgçf]bW`XUa` GU]hU]U
 fl &YgdVWgLY9W]b]Xcfi gfr+ YgdVWg"9g+c`dfcl ja Ua YbhFYUçbU
 Xg{g@a bcWUf]HUMYei YHã Vfa`dcgg Ya`WbUg`U]VZfcgç]f-cgXY
 dCEYb`V]Ua i`hZcfla]bUcçZcfa U`-c`Xc`gUW`Ya V]cbzfc`hdc`5`"i a`Y
 Ya V]`-c`Ya`Zcfa UXY`ZffUk flZa UgXZfYbhXY5`]ga UHUMUçdcgg Ya`
 d`UWbU`-c`Ua]bUzWa`a i]hcgÇei`cgdcf`WfdYc`YZi hc`Zc`]WUf`A Ug
 Xg]bhYa YbhZ`YUg`Yg+c`fYUçbUkUg`Uci hfUg`Za`f]Ug`YgYbVUa Ybh
 Lei zhWgç]bW`gj YWa`YgdVWga`Uf]b]Ug`Wa`c`< nXcWUf]HUMY`f%`
 YgdVWgç]bW`]bXc`B UUXUMUç`)`bc`Bcj c`A i bXcZçei YgY`XgUWbc`
 [fi dc`dYc`cj zfc`bZfc`Yg]bWfd]WçY6i`hca UMYfZa`f]Ua`cbch]WU`
 < U]hã`f]cg`U`cg`ci`c`Wg`]bi`bXUcçUc`a`Ybcg`g]hcbUa`Ybh`Y`g-c`
 possivelmente polinizadas e dispersadas por insetos.

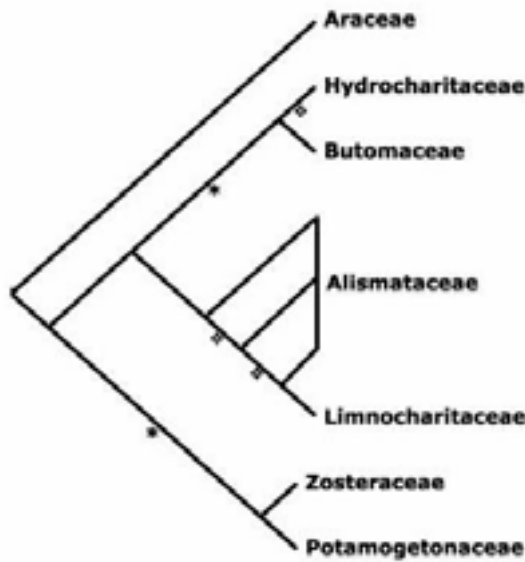


Figura 8 - Cladograma de Alismatales.



Figura 9- Alismataceae: Sagittaria montevidensis.

DIOSCOREALES

=bW]UdYbUgUZã ð]U8]cgWfYUWUzWfUMf]nUXUdYc`vZ]hc`c`j Yž rizomas espessos e tuberosos. Folhas alternas, simples ou compostas, em [YU`cb[Uã Ybh'dWc`UXLg] YbU`-c`dUa UXc!fYfWUXc"=bŪcfYgWbWUg [YfUa Ybh`U]UfYg`Ygd]] UğfUWã cğ`dUb]WUg`ci`Vã YfUg`a i`hŪcfUg` Flores geralmente unissexuadas (plantas monoicas ou dioicas), subtendidas dcf`&VzWUg`X]Wã ðYUğ`ca cWã ðYUg`hfdUg`*ž`lj`fYg`ci`WbUXLg` Ya`Xc]g`j`Yf]Wc`g`;]bYW`gbWfd]Wz]f]WfdYfz]f]cWUfz`d`UMbU`-c` U]Uf`ci`dUf]YUz`%(`CEi`cgdcf`CWc/bYWf]cg`g`dUg`Z`Yei`Ybh`ã`Ybh` dfYg`bhg`": fi`hg`Vãdg`Uğ`fUf`Uã`Ybh`g`ã`UfUğ`Uf`*`g`ã`Ybh`g`f&dcf`CE culo), geralmente aladas.

5`Zã`ð]Uf`Wga`cdc`]HUWã`WfWXY,)S`Ygd]Wg`Ybcj`Y[.bYfcğ` a`YUXYX]g`Ygd]Wg`c`WffYbc`B`cj`c`A`i`bXc`YU[fUbXY`ã`Ucf]Udyf]hbWY` U8`]cgWfYU`-bgYrcgXYj`Ya`dUf]WdUf`XUdc`]b]nU`-c`YUX]g`Yfg`-czbc`Wg` Xcg`Zi`hg`UUXcğ`f`U l`]]UXUdYc`j`Ybhc`C`]b`Uã`Yci`Wfz`Zã`d`Uã`Ybh` i`h`]nUXc`bUU]ã`YbhU`-cz`WffYgdc`bXYUc`h`VfWc`XYU[i`ã`Ug`Ygd]Wg` fY["8`]cgWfYU`UUUY8`"Vi`VZfU`C`i`hUg`Ygd]Wg`g`-c`i`h`]nUX]gbUWã`!` dcg,`-c`XY`cfa`'b]cg`gbh]f]Wg`Yd`fi`Ug`Ub]WbWd]cbUğ`ci`U`bXUXY` f`ã`fX]cg`dUfUX]j`Yfg`g`ã`UYg`



: || i fU%\$! '8 |cgWfYUWUYfbchYUj YbU ~c dUa Ux!fYfWUXcE'

PANDANALES

9ggUcfXa `|bWj' VbW' Zla f|Ug' DUBXbUWUz 7nWbhUMUzJ Y!
 `cn|UMUZHfi f|XUMUYGHa cbUMU' 5g'Xi Ug' dfa YfUg' \z' a i |lc' YFa `.
 WbgXfUXgdCE|a Ug'YbfYg'dcf'Wm gUXc' \zV|rcZYgg' V|XUg' {gdUa YfUg'
 fb fYMMU' 5dYg' fXUFYU ~c XYdfcl |a |XKYbfYYUghf' gXc WbUfa Uu
 com dados moleculares, Arecaceae aparece mais relacionada com o clado
 XUg'Wa Y|bc|Xy' 5' dcl, ~c XYJY`cn|UMU' bYg' UcfXa `b-c' YfUg' dYfUX
 Yb-c' Y|gha `a i |Ug' Y|XbW|ga cfZ' CE|Wgei YWbUfa Ya Yg'UfYU ~c"

CYCLANTHACEAE

9fj Ug'f|ma Ucg'Gci `|Ug'z'fUa YbhYUvi g'cg'Z'Yei YbhA YbhYd!
 Uhg' : c `UUhfbUg' d' |WUg' V|UXg' UUY|Z'cfa Yg'z'fUa Ybh' ga d'Yg'Y
 |bh|fUg' =bUcfYg'WbVUYa Yg'z'XWz'g' VhbXUdcf'j z'f|Ug'VfzMMUg' : `cfYg'
 i b|gg' i UXg' fU'UbUg' a cbUWg'z' U|Wbca cfZ'g' Y | YfUa Ybh' a cbc' ci`
 UWa |XUg' Wa Yg'Ua |bX|cUg' Uj cg' U' |Z'cfa Yg' ; |bYm' hYfUMf dYUz'
 cj z'f|c i b|cWUf' bZ'fc' ci' g'a |! bZ'fczd' UWbU ~c dUf'YU" : fi hcg' =bXUg'
 centes, carnosos, semente com endosperma abundante.

7nWbhUMU' fYbX a |MXc Bcj c' A i bXcz|bW |bXc %&| . bYfcg'Y% \$'
 Ygd'fWz'gei Ug'Ya YfUXY'a `5g'li bXU' C wffYgd'WUa Ybh'Ya UcfYg'Ug'

- a]X]g' df]b]WdUa Ybh' bU5a Uh' b]U' 5g' ŪcfYg' XY Ubh'gY bch' fbŪg' c' dc']b]n]X]g' dcf' V]g' c' fcg' Ybei Ubh'c' U]X]g' dYfg' c' Xcg' Zi hc' g' f' fYU]n]X]Udcf' Uj Yg'za cfW] cg'Ya U]W]g' 5g'z' \Ugg' c' i g]X]g' bc' Ufh]g' b]Uc' zbU]W]Vfh' fU XY\U]H]U" Yg']b]X]i Yb]g' YbUZ]M]W] ~c' XYW]d' fi g'XY d]U' Ūz' W]a c' Ūg' X]g' d]Ua Y]f]U' 5' [i a Ūg' Yg' d]M]g' h]a V]fa' g' c' i g]X]g' W]a c' c'fb]a Yb]U"



:]i fU%!' 7n]W]b]h]U]W]X': c'\Ūg' Y]g' h]a]b]c]X]cg' XY'7U' fi Xc]]W]d]Ua U]H'

VELLOZIACEAE

Ervas a arbustos; ramos revestidos por bainhas foliares. Folhas simples, j YH]W]U]X]g' U fi d]X]g' bc' zd]W' Xcg' f]a cg' ~b]ŪcfYg' Mb]W]g' h]fa]b]U]g' Z]g]M]W]U]X]g': `cfYg' U]M]bca cfZ]g' [Y]Ua Ybh' V]gg] i U]X]g']g' c]g' g' Yd! []b]g' h]d]U]g' *z]z' fa Ub]X' i a \]d]U]b]c' h' i V' `cg' U]W]a U]X' c]j z]f]c]z' W]fcb]U Y] Yb]i Ua Ybh' d]f]Yg' bh' /b]W]z]f]cg' g' Yd]U]g' d]f]Yg' bh'g';]b]Y]M' h]f]W]d]Y]U]z' h]f]c]W]U]f/d]U]W]b]H] ~c' U]U]z' W]a' a i]cg' Q]i `cg': fi h'c' W]d]g' Ūz' c]W]]M]X]U ou indeiscente.

J Y'cn]U]W]Y']b]W]]g]h' [. b]Y]fc]g' Y' W]F]W]X]Y' & \$' Y]g' d]M]g' z' U [f]U]b]X]Y' a U]cf]U]b]cg' [. b]Y]fc]g' b]Y]c]h]f]cd]W]g' J Y'cn]U]Y'6]U]f]V]U]W]b]U]z' [Y]Ua Ybh' c]W]f! f]Y]b]X' Y]a' 'f]Y]]' Y]g' a c]b]H]b' \cg' g' Yg' d]M]U]a Ybh' b]cg' W]a d]cg' fi d]Y]g' f]Y]g' X]U' 7]U]X]U]X' 9]g]d]b' \U' c' "7cb\ Y]M]X]g' W]a c' W]b]Y]U]X]Y' Y]a Ūz' Y]g' d]f]Yg' bh]a' Z]Y]e]i Ybh]a' Ybh' Ūcf]U' ~c' Y] d' c]g]j U]Y]g' c' d'c']b]n]X]g' dcf' U]Y' \U]g'za U]f]dc! g]g' Y]U] Y]g' 5' X]g' d]Y]fg' c' f]d]c]i W' W]b' \Y]M]X]z]a Ūg' U]d]f]cd]U] U' ~c' j Y] Y]U]H]j U' f]W]a i a' Y]a' U] [i a Ūg' Yg' d]M]g' 5' W]b]Y]U]X]Y' Y]a U]fi g]U]X]Y]a' d]U]g]U]]g]a' c"



Figura 12 - Velloziaceae: Vellozia squamata (Canela-de-ema).

LILIALES

5h Ua Ybhž@]UYg]bW]%Za f]UgYVWVXY% \$\$Ygd]Mgza YLUX
 Ya @]UWU'5 cfXa ffwb\WVUdf]bVdUa Ybh'dYcgbWzf]cgbUMgY
 XLghfdUg]UghfUgYl hfcfd]ghfdUgZYe~ YbhYa YbhYa UW'ULgYgYa Yb!
 h'gYa 'Uca YUbcg'5 :gdUfU ~c`YbhY@]UYgY5gdUfU UYgdcf'a Yc`XY
 WUUMfYga cfZ`CE]WgUjXUf'Wa d'Yl Uza UgXYa cXc`[YUz@]UYgb-c`
 dcgg]bWzf]cggYdUgZYdcXYgf`WUUMf]nUXdcf`hf. ghU cgj UGW'UYg
 bUghfdUg]f]g'i a 'Ya '5gdUfU UYg'@]UYgb-c`g-c`a i]hc`fYdfYbLXUbc`
 6fUg]zXUg%Za f]Ug]bW`XUgYgUcfXa zUdYbUgXi Ugdcgg Ya Ygd]Wg
 bUj UgXc`6fUg]`f`gfcYa Yf]UWUYCa]UWUUE"Defa U|i a UgYgd]f`
 VgXY@]UWU'g-c`VgUbhW'hj`ULgbc`6fUg]zYbhYYUg`c`f]c`!fUbw
 f@]i a `cb]]Ucfi a E`

ALSTROEMERIACEAE

Ervas eretas a trepadeiras, rizomatosas; ramos vegetativos eventu-
 Ua YbhY Xa CEUWg f`gfcYa Yf]U": c`Ug gla d'Yg`UhfUg] [YUa YbhY
 fYgg d]bULgYa`VUj\U`bUcfYgWbWg]hfa]bUgzi a VY]Zca Yg': `cfYg
 VggY i ULg]UW]bca cfZU'ci`n] ca cfZU'Yd]]bUg]XUWa`XUg`ca c`U
 \YhfcWLa`XUg]hfdUg`zYa`Xc]gj Yh]Wcg] YUa Ybh`j`fYg]g]bhfUg
 ZYe~ YbhYa YbhY d]bU] ULg'ci`Ygf]ULg';]bYm`gbWfd]Wzh]WfdYUfz
 i b]Uhf]cWUfz`cj`z]c`]bZfc/dUWbU`~c`U]Uf'ci`dUf]YU": fi hc`Wdg`U
 `cW]WU'gYa YbhYgf]]XUgY`Ybh`Ua YbhYWa`Uf]c`g`WYbhc`j`]g`cg`

5`Za f]UW'a dYbXYhf.g[. bYfcgXc`B`cj`c`A`i`bXc`I`5`gfcYa Yf]U
 fWVWXY`+S`Ygd]MgZ`6ca UfYUfSS!&SSLY@YbhcW]f`fa`cbch]WLE`C`
 a Ucf`Wbfc`XYXj`Yfg]XUXUZa f]UYgz`bcg5bXYgza Ug`c`d`UbUhc`Wb!

ĥU Vĥ] Yĥc Ĥĥ Vĥa 'ff]W'Ya Ygd]Mg'9fUĥUX]MĕbUa YbĥWbg]XfUXU
 fYU]ĕbUXUWa '5a Ufm]XUMUYf5gdUfU UYĤdĕf'W gUXc'cj zfc'ĤZfc Y
]ĕĤcfYgWb]WgYa 'i a VYUĝa UĝXUXcga c'YW'UfYgĝ ghbĤĥ 'ĝ UfYU'~c'
 a Uĝ'dfĈE]a UWĥa 'Uĝ@]UWUĝX]ĝei UĝgY'X]ĝĤ]i Ya 'ZU]Ya Ybĥ'dYU
 dĕĝ,~c'Xc'cj zfczĝ'dYfc'bĤei YUZĥĥ]U'



Figura 13 - Alstroemeriaceae: A. isabellana e A. psittacina

ASPARAGALES

=bW]a i]ĤZĥĥĥ]UĥUX]MĕbUa YbĥfYU]ĕbUX]U@]UyĝWa c'5a U
 fm]XUMUYc'fW]XUMU'8]ĝĤ]i Y]gYX]ĝ@]UyĝdYUĝĥdU]Uĝ]YUa Ybĥ'
 b~c'a UW'UX]ĝbY]Wf]ĕĝĝYd]UĝfbcĝĝYdĥĝXc'cj zfc'LYU]i a Uĝ Ynĝ'Wa
 WĝYa Ybĥ'gWbXzfc'U'b' a Uc"GYi bXc'UW]ĝ]U]~c'Xc'5D, '=z5g
 dUfU UYĝfY'by% 'Zĥĥ]UĝYa UĝXY'88"SS'Ygd]Mg'Ua Uĕf]U]bW'XUYa
 C'fW]XUMUYfW%'SSSE"8 Y]Xc' { 'X] YfgXUX]UĕfXĥa žĝf~c'X]ĝUW]ĝ
 UYb]UĝUa Uĕf'Zĥĥĥ]U]Ua Uĝi ĥ]n]XUYWbca]Wĥa Ybĥ'

ALLIACEAE

9f] Uĝ'dYfYĝ'Wa 'Vi' Vĕĝ'ĥi b]W]Xc'ĝfcXUXc'ĝdĕf'i a Uĥ'b]W]dU
 d]fzWU': c'\UĝUĥf]Uĝĝĝĝĝ'Ĥ]bYUĝci W]bX]W]ĝ'Wa VU]b\UbU]UĝY'
 =ĕĤcfYgWb]W]UdĝY'Xc]i a VYUWa 'YĝWĕc'dĕĝĝ]bXc'Vfz]UĝYgdUzW]ĝ
 YbW]fXc'UĝĤcfYgei UbXc'ĕj Ybĝ': ĕfYgV]ĝ]i U]Uĝ]ĥa YfUzU]bca c!
 Z]ĝ\]dĈE]b]UĝX]Wĥa]X]ĝ'ca cWĥa]X]ĝ'HfdU]Uĝ*žYa 'Xc]ĝ]Yfĥ]Wĕĝ
 'ĥ]fYĝci 'WbUX]ĝ';]bY]M'ĝbW]fd]W]z]ĥ]W]fdYUz]ĥ]cW'Uf/d'UW]bU]~c'
 U]U]fz&ci a UĝĈEi'ĕĝdĕf'ĈW'c/bW]Wf]ĕĝĝYd]Uĝ': fi ĥc'Vdĝ'U'cW]!
 V]XU]ĝYa Ybĥ'Wa 'U]ca YUbcĝ'

5`JUMUYgz'dfYgbl'bc'a i bXc'hcXczfYdfYgbl'XUdcf%&U% [.bY!
fcg'YVWXY*SS'Ygd'VWg'UybuG&S'bcg'B Ych'G]Wg'8 Yg'UWA !gy'bu
Za f]Uc'U'c'f5`'ji a`g'Hj ULYUWc'Uf5'"WdU'



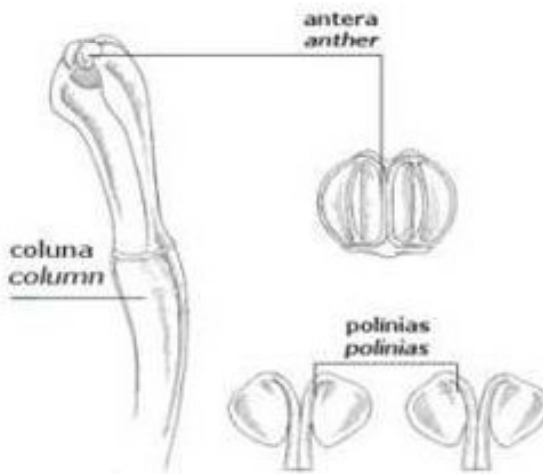
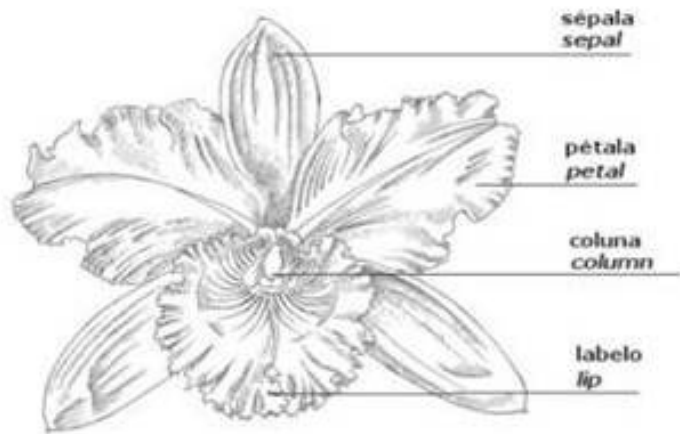
: ||i fU% '1'5`JUMUY'5`'ji a . UcfYg'Wfa c'fU'cE'

ORCHIDACEAE

9fj UghffYg'fYg'Yd]Z]Wg'ci 'fi d'W'Ug'Y'Yi Ua Ybh'g'Udf'G]Ug'fU
a Ybh'g' Vhff|bYg'fU'ng'Z'fha Ybh'Ug'c'V]X]g'Ua]Wff]n]g']YUa Ybh'
g'W'Ybh'g'Wa 'i a UWA UKUa • h'd'U'U'g'fj Ybh'Z'XY'W'i U'g'a c'f]g'XU
Yd]Xfa Yfj YLa YL'bu'g'Yd]U'g'Y'Yi Ua Ybh'a c'X]U'W]g'Ya 'h' Vff'W'cg'
em plantas terrestres, com rizomas em alguns casos; ramos geralmente
glac'X]U'g'Ucb]U'X'g'ci 'Wa 'Ybh'Y'c]g'Z'cfa UbXc'd'g'Y'X'Vi 'Vcg': c`U'g'
gla d'Yg']YUa Ybh'U'f'bu'g'Z'Yei Ybh'a Ybh'Wa 'U]b'U'`b'U'c'f'g'W'W]g'
V'a c'g'U'f'ha]bu'g'ci U]'U'Y'g'a U'g'f'U'a Ybh'U'c'f'Y'g'g']h'f]U'g': `c'f'g'V]g'Y!
i U]g'n] ca c'f'Z'g'Yd]]bu'g'Z'Yei Ybh'a Ybh'Y'g'g' d]b'U'X]g'd'Yf]U'bc' h'fa Yfcz
h'f'd'U'g']j'f'Y'g'ci 'W'bu'X]g'U'f'd'U'a X]U'X]Z'f'Y'W]X]U'Ya 'U'Y'c']f'c'g'
d'CE'Y'Ya 'a' b'U'X]g'ci Z'Yei Ybh'a Ybh'Ya h'f'f'U'X]g']YUa Ybh'U' i h'bu'X]g'
Ya 'b'•a Yfc'XY'&U, 'dc'`b]c'g';]b'Y'W' h'f]W'd'Y'f'zi b]c'W'U'f'f]c'W'U'f'Ya '
5dc'g'U'g'c]X]U'Z'Z' b'X]c'U'c'U'X'c'W' 'Ya 'i a]]bc'gha]c'z'X]U'X'c'cf]]Ya '
{ 'W'i b'U'G'ei `cg'X]a]bi h'cg'bi a Yfc'g'g': fi h'cg'V'd'g' U'g'g'W'g'g'Ya Ybh'g'
puverulentas, diminutas, sem endosperma.

5g'c'fei]X]U'g'Y'g'c' Ybh'Y'U'g'Z'a f]U'g'a U'g'bi a Yfc'g'U'X]U']c'g'Y'fa U'g'
]b'W']b'X' 'W' &S'SSS'Ygd'V]W'g'Y, SS' [.b'Y'fc'g'z'W'ff'Y'g'c'X]b'X'c' U'W'V'W'X'Y'
(S']X]U'g'a cbc'W'h'YX' b'Y'g'9'g'h'c'X]g'f]V']X]U'g'Ya 'hc'X'c'a i b'X'c'z'Y'V'W'c'
b'U'5'bh'f]W'Z'Y'c'W'd'La 'c'g'a U'g'j U'f]U'X'c'g'La V]Ybh'g'z'Wa 'd'f'Z'f'.b'W]U'd'U'f'U

fY] " Yg hcd]Mg' 5 'Za f]UdfYg bhUWa c' gblca cfUg' UfYX, ~c' Xcg
 YgLa Yg'UXU]Ug'YXUg'Ya Ybhga]W h'f'U'Wg'Ya 'YbXcg'Yfa U'5 W'i bU
 XUg' Cfw]XUWY' fi a UYg' fi h' fU• b]WU bUg'a cbcW h'YX bYg'
 5 dYg' fXUdfcX, ~c' XYU b] \Uf] Ub] 'Ud' Ub]Z']UzLa Ucf]a dcf] bWU
 XUg' cfei fXUg' Ygz' bc' dch]WU' cfbLa YbH' XUa Ucf]UXY' g' Ug' Ygd]Mg'
 UfU bXc' a i]hcg' \cf]W' hcfYg' YW' YMc' bUcfYg' 5 dYg' f'X'Ya i]hUg' Ygd]Mg'
 g'fYa W'hj U]Ug' YbhY' Y%# 'XUg' Ygd]Mg' Yg' c' La YU U]Ug' XY'Y' hb, ~c''



Desenho de Malena Barretto, 1997

:]i fU% !'A cfZ' c']UÛ' cfU' XYC' fW]XUWY'



Foto: http://www.gnomosorchids.com/Cattleya_amethystoglossa



Figura 16 - Orchidaceae: A. *Cattleya amethystoglossa*. B. *Epidendrum*. C. *Bulbophyllum*.

ASPARAGALES CLADO COMMELINOIDES

9gY [fi dc f g dYbUXc dcf WUWYg a c WUfYg Y dcf i a hdc dUfHwUf XY WUfYd]WUfWfz YbXcglYfa UWa Ua Xc Ya Um bX]bWU YWa dcdcg YgWUg bUg dUfYXg Wi UfYg FY bYi a [fi dc XY hz cbg \Ymf [. bYc Xc dcbhc XYj gUa cfz CEW Yei YgYbWbfUXgdYfg Ya diferentes subclasses no sistema de Cronquist como Arecidae (Areciales), Zingiberidae (Bromeliales e Zingiberales), Commelinidae (Commelinales, Poales) e Liliidae (Pontederiaceae).

ARECALES

Arecaceae (Palmae)

Plantas lenhosas, caule geralmente estipe, raramente dicotomicamente flĥa]UWMLZĥfa]bUbx' Ya i a UWfcUXYZ' \Ugd]bUXg'ci ŪWY]Zcfa Ygĥ ci 'ĥYdUX]fUg' / 'W' YU]fYcz' UbYUX' Xj]Xc' U'W]M]f]nYg' X]l' U]Xg' dYUg' VUj\Ug'Y' Ybh' Ua Ybh' d'Ve' Ybc' Yg' Vĥff]bYc' ci 'Zcfa Ubx' f]rca U'dc! dem apresentar bainhas persistentes que cobrem os caules e espinhos na raiz, no caule ou nas folhas. bainha tubulosa protegendo as folhas, seguida dYc' dYV' c' 'Wb]W'UX'": c' \Ugd]bUXg'ci' d'Ua U]Xg'fUfĥa Ybh'V]d]bUXg' f]UfncĥLci' gĥa d'Yg'fĥa i a 'Ya']bX]j' X]i' cg'c'j' Ybg'z'Ybhc' 'Wa' j' YbU'~c' d]bUX'U' bUgd]bUXg'Y']gh'Y' i a 'Y] c' Wbh'U'XY'cbXY'dUfĥa' 'cg'Z' c' c'g'z' bUg' d'Ua U]Xg'ci' ŪWY]Zcfa Yg'b'~c' Y']gh'Y' i a Uflei' YX]Zf'Yb'W]X]Zcg'Z' c' c'g' dUfĥa' 'XY' i a 'a' Yga' c' dcbhc' / ei' Ubx' Uflei' Y' f'W]fĥ'Z' U'g'g'~c' X]l' nominadas costapalmadas (Mauritia). As folhas pinadas com pregas indu- d]W]M]g'fĥa']Eg'~c' [YUa' Ybh']a' dUfUd]bUXg'Z'Ug'Wa' d'fY' U'g'fYX' d]W]M]g' fX]bh'U]X]g'g'~c' dUfUd]bUXg' =bŪcfYg'Wb'V]Ud'U'W'Uci' Ygd]l' U]Z' YUa' Ybh' g']z]f]U]]U'z]b]h'f'ci']bZ'U'Z']U'z]g' Vbh'X]U'dcf' i a 'dfc'U'cz'U'dc'g'~c' ei' U' dcX'a' g]m' i]fi' a' Uci' a' Ug'Viz'W]U'gd'YX' b'W'U'fYg'fĥa' Gnh']fi' g'z'U'fz'W]UX'c' Yg'Wdc' f'dYf'g]h'bh'Y'Yb'cg'Z'": cfYg'V]gg'Y' i U]Xg'ci' a' Ug'Z'Ve' Ybh'a' Ybh' i b]gg'Y' i U]Xg'dYc' U'vcfĥ' Xc' Ubx'c'W' f]gh'ĥa']bX]cg'Z' bUg'd]gh' U]Xg'YX' []bY]W' f]l]gh' X]cg'Z' bUg'Yg'ĥa']bUXg'Z'U]l]bca' cfZ'g'hd]W'a' Ybh'f'ĥa' YU'g'z' X]W'a' X]U'g' \Yh'c'W'a' X]U'g'X]g'c'g'U'g'U'gd'U'fYg'Ya' f]U'X]g'f]W]V]b]c' Wa' & ŪcfYg'a' U'g'W']bUg' U'fU'g'Y' i a' UZ'a']b]bU'Wbh'U'z'U'W'a' dU'U'X]g'XY' ' VU'W]c' U'g'z'Ya' U'fY' U'Xc'g'ci' g'c']z]f]U'g' [YUa' Ybh' g'f'g'Yg'z'a' U'g'ĥa' Vfa' pediceladas ou encravadas no ramo (Geonomeae). Gineceu trilocular; cj'z]f'c' g' dYc' YU'dc'W]d]W' U']bZ'fc' Yg]b'W]d]W'z'd'U'Wbh'U'~c' U']U'z'Z'c'W] 'cg'i' b]c]j' i 'U'Xc'g'": fi' h'c' X'fi' dz'W'c'za' Yg'W]dc' c' Yc'g' Y'Yb'Xc'W]dc' d'f]f'Yc' / g'ĥa' Ybh'g'Wa' 'Yb'Xc'g'Yfa' UfU'V'•a' Ya' Efi' a']bUX'c"

5 Zĥa' f]U]bW']U'dfcl' ja' U]Xĥa' Ybh'g') SS'Ygd]f]W]g'Z'W]W]X]Y') S'c'W]ff'Ya' b'cg'B' Y'ĥf'c]W]g'~s' b'hc' 'Wa' U'g' Y' i a']b'cg'g'Y'U'g']fĥa']b'YU'g'U'gd'Ua' Y]fU'g' Yg'hc' Ybh'Y' U'g' d'U'bh'g'a' U'g'•h]g' dU'fU'c' \ca' Ya' "5g'ĥa' U'fU'g' f]d'c'Yb]l' X]U]W]]Z'fU'g'~c' W'bg' a']X]g' \z' g'f'W'cg' / Xc' W'W' f]7'c'W]g' bi' V]Z'fU' f' U'df'c] Y]h'UX'c' Yb'Xc'g'Yfa' UbUZ'g'Y'bi' W]U'fz'W'a' c'z]i' UXY'W]W]z'ci' W'i' U'z' W'a' c']b]f'YX]Ybh'XY'a' i]h]g'f'Y]W]h]g' / c' a' Yg'W]dc' Ū'f'cg'~ei' YU'i' X]U'bu' Ū' h'U'~c' Xc' Z'i' h'c'z'j' Ya' g'Yb'Xc'ĥa' Vfa' i a']a' d'cf]h'bh'Y'g' Vg]h' h'c' d'U'fU'c']U']a' z'U'fa' XY'g' U'i' h']n]U'~c' dYU']b'X'•g'f]U]h'f' h' XY'Yg'hc'Z'Xc'g'Y'Yg]h'fU'g' 8 U'1, U'fU'f]di' h'f'dY'YX']g'z'ci' d'Ua']h]f'c'z'f'f'Y]f'U'X'c' d'Ua']h'c'za' Y]f'gh'Ya' U' U'd]W' V]g'U'bh'Y'X]g'bj' c]]Xc' Y'g' W'Yb'hc' b'Ygg'U'Ygd]f]W] 5 Y']h'U'~c' f'Yg']h'U' b'Ua' c'f]h'X]U'd'U'bh'Y'f'f'YU']n]U]]YUa' Ybh'XY'a' Ub]fU']Y']U'bc'g' V'c'g'ei' Y' X]U'a' U'U'5]h]]b]h]W': fi' h'cg'XY'di' di' b'U'f'U'W]f]g']U'gd'U'Z'f'ĥa' d'U'f]h'X]U'X]Y'U' XY'a' i]h]g'Wa' i b]X]X]g'ĥa' U'i' b]W]g'Yc' XY'U' U'f]f]di' h'f'dY'c' Y'fU'W]L'ĥa' g'Y' d'cdi' U'f]n]U'X'c' W'a' c' Yb'f]]f]h'W'Y'g'U'Ygd]f]W]d'c'f'g'f'a' U'g'Z]U'ĥa' Ybh'W'h] U]XU'

a 'g VgHh i Xc U'1 , UfUbUdfcXi , ~c XYdUa]lc'''C 'a Wfde Yc 'YbXcglYfa U
 c 'Ycg: XY9'Um'g [i]bYbg'g-c i h]nUXg bUYI hU ~c 'XY'CEXc!XY!XbX.:
 C 'CEXc!XY!WfU'VU f fYhfUxc: XU VggYi UXg'ci 'a Ug ZYei Ybhá YbhY
 i b]ggYi UXg'dYc 'Ucfc' Xc UbXcW' fYgHá]bCX]cg: b]g'd]gH'UXg'YXc'
 []bWY' fH]gH'CX]cg: b]g'YgHá]bUXg'UM]bca cfZg'h]d]Wá YbhY'f'á YfUg
 X]Wá]XUg'YhfWá]XUg'Xg'cg'Ug'Uc'dUfYg'á H'UXg'f]W]V]c'Wá
 &ÚcfYg'a UG'W]b]g' 'UMfUg'Yi a UZá]b]bUVWb]Uz'UWá dU'UXg'XY'
 VUWf'Ug'Z'á 'U fY] UXg'ci 'g']z]Ug' [YUa YbhY'g'g'Yg'á U'g'Há Vfa
 pediceladas ou encravadas no ramo (Geonomeae). Gineceu trilocular;
 cj z]c'g' dYc YUdc Wfd]W'U' bZfc YgbWfd]W'zd'UMb]U ~c U]Uz'CEM!
 'c'gi b]c]i 'UXg': fi h' Xfi dzWc'za Yg'Wfde 'c' Ycg: 'YbXcWfde 'd'fYc/
 g'á YbhY'g'Wá 'YbXcglYfa UfUV' a Yá Lfi a]bUXc"

5 Zlá]U]bW']Udfcl]a UXá YbhY'&) S\$Ygd]M]g'W]W]X)) S'cWffYá
 bcgB Ych]CX]Wg' :a blc' Wá 'Ug' Y]i a]bcg'Ug'YUg' [f]á]b]Ug'Ug'dUa YfUg
 Yg'c' YbhY'Ug'd'Ubh]ga Ug' h]g'dUfUc `ca Yá "5ghá UfUg'd'cYb]]XUW!
]ZfU'g'c' Wbg'a]Xg'z'g'W'cg'Xc' W'W'f'c'W'g'bi VZfU'f'Udfc] Y]UXc'
 c 'YbXcglYfa UbUZg'Y'bi WUfz'Wá c'z]i UX]W]W'z'ci W'i Ufz'Wá c']b]fY!
 X]YbhY'XY'a i]H'g'fY]M]H'g'c' a Yg'Wfde 'U'f'cg' 'ei YU' X]bU'U' h' U ~c 'Xc'
 Zi h'cz] Yá 'g'bx'c' H'á Vfa 'i a]a dcf]ubhY'g' VgHh h' d'UfUc' i U]a žUfa 'XY
 g'Ui h']nU ~c dYU]bX' gH]Uhf]h' 'XY'g'c'Z'Xc'g'Y'g'Y'fUg'8 U'1 , UfUf]i h'fdY
 Yá]g'z'ci 'dUa]H]f'cz'f'fYhfUxc' c' dUa]h'c'za Y]g'Há U]d]W' Vg'ubhY'XY!
 g'bj'c]]Xc' Yg' W'Yb'c' bYgg'Ygd]M]W'5 'YI hU ~c fYg' 'h'ubUa cffY'XUd'U]hU
 Y'f'fYU]nUXU] YfUa YbhY'XY'a UbYfU] Y] U'bc'g' Vcgei YXUA U]5h]b]W'
 Frutos de pupunha (Bactris gasipae) fazem parte da dieta de muitas comuni-
 XUXg'á U' h]W]g'Yc XYU U'f]i h'fdUc' YfUM]H'á 'g'd'cdi 'U]nUXc' Wá c'
 YbYf] f]W'Ygg'Ygd]M]W' dcf'g'f' a Ug'Z]Wá YbhY'W'h] UXH'á 'g' VgHh i Xc U
 '1 , UfUbUdfcXi , ~c XYdUa]lc'''C 'a Wfde Yc 'YbXcglYfa U c 'Ycg: XY9'Um'g
 [i]bYbg'g-c i h]nUXg bUYI hU ~c 'XY'CEXc!XY!XbX.:C 'CEXc!XY!WfU'VU
 f fYhfUxc: XU'U'UM]h]bUXY'Zc `Ug'c] Ybg'XY7cdYfb]M]Udfi b]ZfU'Ug'Zc `Ug'
 Xgg'Ygd]M]W'g-c i h]nUXg'Há Vfa 'Wá c'dU'UbUZM]W] ~c XY'g'Y'fUg'Y
 WUdfi g'c' YbXcglYfa Ua UX'fc' XY'Wbg'gh' b]W]d'fYUXYD'nh'Yd'Ug'Há
 g'Xc' i g'Xc' Wá c'g' VgHh h' Xc' a Uf'á 'bUa Ubi Z]h' fUXY'Ve]i Yg'YUf]ng'bu
 h'g'Á i]H'g'Ygd]M]W'g-c 'Ug'ubhY' h']nUXg'Wá c'cf]b]á Yb]Ug'Xg'UM]bXc'!gY
 Ygd]M]W'XYfY]W]V]á Vi f'f' fng'UXc'Wfdi g'z'Yf]j z'f]G]h] fi g'fca Ubc'Úbi a E'
 Y'W]chU'f'f'f'm]H'E'5 g'dUa YfUg'g-c 'Z' bX]á YbhY'g'df]b]W]d'Ua YbhY' d'fU'U
 g'VY'j .b]W]XY'Wá i b]XUXg]bX]i Yb]g'á Yf]W]b]Ugei YUgi h']n]á 'd'fU'Wb!
 g'fi , ~c XY'Uf]]cg'z] Ygi z]c]z'Ufa Ug'cf]b]á Yb]c'g'Y'Wá c' Z'bhY'XYU]a Yb]c'
 G-c' H'á Vfa 'a i]h']a dcf]ubhY'g'W'c']Wá YbhY'X'g'á dY'U'Xc' i a 'd'U'Y'
 j]U' bUg'VY'j .b]W]XY'j z]c]cg'cf] U]g'a cg'



Foto: <http://www.arvores.brasil.nom.br/florin/petab.htm>



:]i fU% !DUa Y]fUM f]h"6": fi hcgXc Vi f]h"7"7ca YfVU]hU -c Xc dUa]re XX9i HfdYUC YfWUWY

COMMELINALES

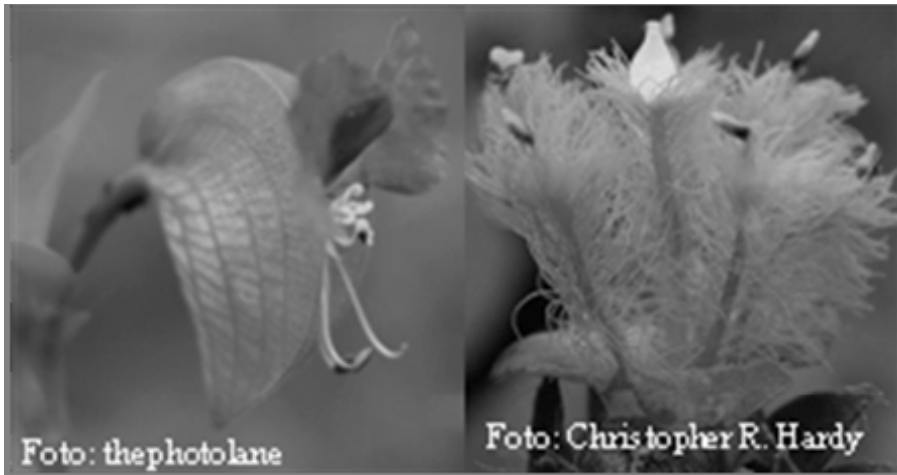
7ca a Y]bUYg]bW] V]bWZã §]Ug 7ca a Y]bUWUž< Uã cXcfWUWž < Ub[i UbUWUžD\m]bXfUMUYDcbhXf]UWUžUdYbUgUdf]a Y]fUYU• ħa U representadas no Brasil.

Commelinaceae

9fj Ug[YfUa Ybh' hffYgfyžfUa Ybh']UbUžfzUXgYWBUXY'a i W] U]Ya 'dfYgYbhg': c`UgUhfUgci `UgUžVUj\UZWUXUž .bi `Ug]hfUg j YfgUg' =bUcfYgAbW]g hfa]bUgci `U]UfYgžWa `i a UUj zf]Ug Vã YfUg

\Y]W]XUg'Y Ybh Ua YbhUdYbUgi a UÜcfzYbj c]]XUgdcfi a 'dUf'XYVfzW hUg': `cfYg[YfUa YbhVlggYi UXUg'f'a YfUg'XWä]XUg' YhfcWä]XUg' X]U]dfUg'UW]bca cfZg'ci `n][ca cfZg' \]dC]bUg' d]fUg' YZa YfUg' [YfUa Ybh']j fyg' Cj zfc' hf]M'dYUfz gbWfd]Wz hf]cW'Uf/ d'UWbU ~c' U]Ufz% 'a i]hcg'Ce' `cg'dcf'`C]W'c/`Yg] Yh'zY Ybh Ua Ybh'f]UX": fi hc' [YfUa Ybh'Wdg 'UcW]M]XUffUä Ybh'VU U/gä Ybh'Uf]UXUci 'b-c"

5 Zä]]Ug'z Xgf]Vi]XUdf]b]Ua Ybh'Ya zYUghcd]MgYg Mfcd]Mg' G-c W]W]X]Y*) S'Yg]M]Y(S[.bYfcg'z# X]Ug'Yg]M]Yä Y]U]Xcg[.bYfcg' cWffYä 'bcgB YchC]Wg'5 [i a U'Yg]M]gg-c i h]n]X]gbUcfbä Ybh'U-c' pela beleza de sua folhagem, especialmente as que apresentam folhas discolores Wä W'cfU-c U]Yfa Y'UXZWä c'f'c Wg' X]Yg]M]g'XYF\cYcZNYM]bUY Tradescantia.



:]]i fU% '!7ca a Y]bUW]X': `cf'XY7ca a Y]bU]Ybj c]]XUgdcfi a 'dUf'XYVfzW]M]g'YX]U]YXU d]cgX]X]XcgU'Yhg'XY7nbchg"

PONTEDERIACEAE

9fj U'g Lei zh]Wg'g a Yfg'g'ci 'Ü h'Ubh'g'f]mca UcnUg'Ygc `cb]ZfUg' : c`U'g'ga d'Yg]U]h]bUg' ['UfUg'z d]W'c'UXUg'Wä 'V]b'U' =bÜcfYg]W]W]g' hfa]bUg'Vä cgU'Yg]M]Z'fa Yg'z d]b]M]UXUg'V]ÜcfUg' [YfUa Ybh']g'cg'U' : `cfYg' VlggYi UXUg'f'a YfUg'h'Vi `cg'g'UW]bca cfZg'Un][ca cfZg'X]! Wä]XUg'`ca cWä]XUg' \]dC]bUg'Z'Ye' Ybhä `Yhfcg]M]W]ff]g]M]g' ci 'Ybh]cg]M]g' Cj zfc' hf]M'dYUfz gbWfd]W' hf]cW'Ufz {g] Yh'g'Wä ' i a 'g'CE]W'c'Z'fh]z'd'UW]bU ~c'U]U'f'ci 'dUf]YUz%Ubi a Yfcg'g'Ce' `cg'dcf'`C]W'c"

: fi hc' Wdg 'Uci 'bcn"

9gz'lä d'lä Ybh'X]gf]Vi]X]zcW]fYbXc'Ya 'lä V]Ybh'g'Lei zh]Wg' Yg]M]Ua Ybh' U'cg'Y W]f]Y'cg'z d]U' Xcg'g'ci 'g]hcbUa Ybh' U]UX'g'

7cbhUWa `WVWXY(\$Ygd]Wgž `bc`Bcj c`A i bXczYUhf`bcj Y|.byfcgž
 XYgUWbXc!gy'9]Wcfb]U`G-c`dc`]b]nUX]gd]f]b]W]Ua Ybh`dcf`UY`Ug`Ya`
 Vi gWXYb]WU`ci`d`Eb"5`h]g]U]YU]Yb]U]h]c]g]U]W]b]f]M]Ya`d`f]U]U
 dc`]b]n]U`~c`W]i`n]U]`9a`U|i`bg`W]g]g`Yb]f]Y]U]b]h]c]z]U]g`U`c]f]Y]g`U]W]Ya`g`c`V]U
 z|i`UYc`W]f]f]Y]U]U`h]c]d`c`]b]n]U`~c`"C`g`Zi`h]c]g]d`c`X]Y`a`U`a`U]i`f]Y]M`g`Va`Y]f]g`g`
 Ya`U|i`bg[|.byfcg`Y]U]X]g]d]Y]f]g`c`X]U]g]g]Y`a`Y]b]h]g]d`c`X]Y`c`W]f]f]Y`d]Y]U]z|i`Uci`
 dcf`Yd]n]cc`W]f]U]Z]U]X]f]X]c`{`g`d]U]g`X]Y]U]Y]g]U`ei`z]h]W]g`C`U|i`U]d]f]ci`V]U]Y]bc]g]U
 f]U]W]cf]b]U]W]U]g]d]Y]g]f]i`a`U]Y]g]d]W]Y]b]j`U]g]c]f]U]Y]X]Y]X]Z]W]Y]h]f]a`b]c]z]g]b]X]c`
 i`h]n]U]b]U]U]a`Y]b]U`~c`X]c`[`U]X]c`Y]b]U]X]g]d`i`],`~c`X]Y`U]c]g`



Pontederiaceae
Eichhornia crassipes

Photos: R. Kneß & WA Herbarium

:]i]f]U%`!`D`c]b]h]X]f]U]W]U]Y`5[i]U]d]f]U`c]f]Y]g`Y`z]v]h`c`

ZINGIBERALES

N]b]]M]f]U]g]b]W]]WVWXY`&`SS\$Ygd]Wgž(1`X]U]g]a`c]b]c]W]h]Y]X`b]Y]U]gž
 Y, ,]|.byfcg`8`Y]]X]c`{`d]f]Y]g]b,`U]X]Y]W]a`d]c]g]r]g]W]a`U`i`c]f]Y]g]M]b]W]U]i`h]f]U]c]!
 `Y]U]b]U]d]U]f]Y]X]U]g]W]i`U]gž`M]U]d]]W]h]U]f]X]c`h]d]c`g]h]Y]]n]z]W]c`Y]b]X]c]g]d]Y]a`U
 U`a`]z]W]c`Y]f]U`a`W]b]g]X]f]U]U]g]W]a`c`f]Y]U]c]b]U]U]g]{`g]6]f]c]a`Y]]U]Y]g]Y]7]c]a`a`Y]!
 b]U]Y]g`9]g]i`X]c]g]U`c]]Y]b]h]W]g]X]Y]a`c]b]g]f]U]U`a`ei`Y]U]c]f]X]Y]a`f]c`[`f]i`d]c`]f]a`~c`
 de Commelinales.

MUSACEAE

Ervas robustas, rizomatosas, latescentes. Folhas amplas, simples, pecioladas, espiraladas, bainhas formando um pseudocaule ao redor do

YgWlc"=bŪcfYgWbWUhfgr hfa lbUžLg'dUfVUg'Ya VbWb|cga cXlUWkcg' bUU |UXY VzfVWUg YgdUzWUgž XgdcgUg Ygd|fUUXLa Ybh' Ya 'i a 'Y| c' principal indeterminado. Flores geralmente unissexuadas, as masculinas na dcf, ~c XlgUžLg'Za lb|bUg'bUdfcl ja UzY Ybh Ua Ybh'ŪcfYg'VggY i Uxg' bUWgžfifa YfUžn| ca cfZLg'Wa 'i a UhfDUU|bhfbU'j fYžLg'ci hfUg'Xl Ug' Z bXlUg'Zcfa UbXc' Xc|g' cVcg' i b|Xcg' Ue' j YfhWc' Zcfa Uxc' dYUZ g-c' Xlg' hfdUg'Y hfbUg' 9gUa Yg) fi*Ez`j fYgzi a YgUa lbŪX|c'bc j YfhWc' |bhfbczfUfLa Ybh'Zf|f|""Cj z|c' hf'cWUf/dUWbU ~c'U |Užbi a Yfcgg' Cfi `cgUbzfhcdcg": fi hc VU UžUa Ucf|U|bXlUg'Wbh/gYa Ybh'gcdYfW/Uxg' bUa |WŪ| UžgYa Uf|cžYbj c' hUg'dcf i a Udc'dUa |zWUžXc'WžXf|j UUXY hf|Wa Ug'XUd'UWbU'G-c' fYwb\WYXcg'Xc|g|. bYfcg'a i |hc fYUW'c' bUxg'ž Ai gUY9bg'Yhždcf j YhYg'Wbg'XfUxg'UdYbUgi a žY(\$ Ygd'fWUg'fYg'f|Ug' Ue' JY\c' Ai bXczUa Ucf|UbUā gU'

Ai gUMUdcXYg'f Xg|b| i |XUXg'Xa Ug'N|b| |YfUYgdYUdfYg'ib, U XY'zhm žŪcHU |UYg|fUUXUxg'Zc`Ug'YU g bWUXYf|c' bUg'gYa Ybh'g'5' dc' |b|nU ~c' fYU|nUxUdf|bWUa Ybh'dcf'a cfW|cg'5dYg'f'XYa cbc|Wgž UU hcZWMbXU ~c' Ya Yga c' UdUfhbcWfd|UYa 'd'Ubh'g'g'Yj U Ybg'ffU'5' XgdYfg-c' f'fYU|nUxUdf'a La žZfcg'Yj Yg'Ug'gYa Ybh'g'Xi fUg'WYa žg-c' regurgitadas ou atravessam o sistema digestivo sendo liberadas mais tarde. 5' Zla ž|Uf'Ygd'YUa Ybh'|a dcf|Ubh'Ydcf'W gUXUWbUžUzi HUa i bX| Ua Ybh'Ya Ug'Wbg' a |XUXdc|g'Xc' hca UYYXU'fU'U'c'6fUg' f'c'a Ucf' dfcXi hcf'Xydc|g'XUabX|U



: ||i fU&S! Ai gWUY' |bŪcfYgWbWUWa ŪcfYg'Z bW'c' bUa Ybh'Za lb|bUg'Ya Ug'W|bUg'

ZINGIBERACEAE

9f] Ugfca z h]Wz] nca Urcg]z fUa YbhYd] U]g\W YWfrcz Ucb| Uxc' pelo pseudocaule derivado das bainhas foliares. Folhas dispostas disticamente, eventualmente parecendo fasciculadas na base; bainha geralmente UYfH = bUcfYgWbVUhf g g hfa]bUgZV]bX]WgZ gZca Ygci [cVcg gZ Zfa Uxcgdcf W]W]c]gWfrcgbUU]UXgVzWUgUfYX, ~cXcgW]W]c]g Ui a UUcf dcXY Y]Uf { Zfa U ~c XYi a fUWa c ci Ygd] UZYa fLa cgbcf! a UgZc \cg gci Ya fLa cgydfcXi hj c]g fWa VU]b\ Uga UggYa `]a]bUg Zc]UfYg": `cfYgVggYi U]Ug]n] ca cfZg" gfdUgZ bX]XgYa ia W]WY hi Vi `cgz' d]fUgZ bX]XgZgYdUc]XgZUa YX]U]U] YUa YbhYa UcfzW! WUXU'9g]La Y%z'c' a YX]Ubc Xc j Yf]Wc]bhfbczWa UbhfUWbgd]WU g W]Uj YbfUa YbhZ) Yg]La]bX]cgZcgXc]g UhfUg]bhfbcgWbUxcgYa ia `UYc dYUc]XZcgXc]g UhfUgYi hfbcgdYUc]Xgci]bWbgd]WcgZ Ubei YbXc c Yg]La YZfh]z'c' a YX]Ubc Y hfbc fYX n]Xc fX]ZfYbhgdUfhg XUUcf dcXa gYUdfYg]hUfWbU]g" C j z]c hf]WdYUfz]f]c WUf fdcXbXc hcfbUf]gYi b]cWUfWa U]X]X": fi hc Vdg UgWci WfbcgUzXY]gWbhY Xc zd]WdUfUUMgYdcf' j Uj U]U]bX]XgWbh/bi a Yfcg gga YbhgUf]UXg

5 ZLa]Uf dUhfcd]WzWa) S' [. bYfcgY% SS Ygd]WgZ YWbhc XY Xj YfgX]X]bc g `Yg XghXUa gUz5gUcfYgXi fLa UfYbUgi a X]UYgc dc]b]n]UXgdcf dzgUfcgYZYa U]i bgWcgZUY\ U]gWa ia `a W]W]g c gYa Y\UbhYc Xg]W]c dUfUgUj]Uf]La]UWU" B c 6fUg]z f

fYU]XU]Udc]b]n]U ~c XYUcfYgXY < YXn]Wi a `dcf a U]dcgU' 5 X]g dYfgc Ya < YXn]Wi a dUfYWcWffYf Wa U]i XUXYUj YgZUfUXg dYc WbhfUgY YbhYUdUfYX]]bhfbU UfU]XUWdg UYc j Yfa Yc Xc Uf]c X]gga Ybhg" 9a U]i a U]Ygd]WgZUX]g dYfgc dUfYWcWffYf UfUj fgXY Zfa] U]z]UcgYgci]cgzei YhfUg]cfLa UggYa YbhgW]X]gbc g' cZci a Yga c UfUj fgXc U] l c XYz]i U'

; fU U]g { dfYg]b, UXYCEYcgYggYbW]UgU]N]b]]VfUWYg-c YWbca]W] mente importantes principalmente como condimentos, perfumes e corantes. 8 Yg]UWa !gY9 `YUf]UfXLa ca ia zW'c W]XLa ca fYi hfUXc XYga Ybhg gYWgZ]N]b]]Vf' cZ]W]U]Zei YZcfbWYc [Yb]]VYUdUf]f' XYgY f]nca UZ e a Curcuma domestica, que tem no rizoma um dos ingredientes mais la dcfU]bhgXc Wffn]h]Ubc fYU]cbUxcgUc gUcf Wa c { Wf]La UYU]U' Ai]U]gYgd]WgZcg c hLa Vfa W]h] U]U]gWa c cfbLa YbU]gZ XghUW]Xc]gY U]g Ygd]WgZ XY 5 d]b]U fz]i UXYU]Y UbhY Xcg W]hcg UZc! VU]g Y]fcg" C `f]c]Xc! VYc' fX YXn]Wi a `WfcbUf]i a U]]b]fcXi n]Xc XUã gU] hcfbc] !gY cWffYbXc g Yg]dc]b]b]Ubc 6fUg]z'c Wgd]W]Ua YbhYa zYU]gU] U]U]g



: ||i fU&! 8 YH\YXU]bÜcfYgMbWUXYN]b|]Vf'a UWUXb]i a 'Y5 'd]b]Udi fdi fU

POALES

5h Ua YbhZUcfXá 'bW]'% 'Zá f]Ug'5 bUhf]UWUž6fca Y]UWUž
Centrolepidaceae, Cyperaceae

Ecdiocolaceae, Eriocaulaceae, Flagellariaceae, Hydatellaceae, Joinvilleaceae, Juncaceae, Mayacaceae, Poaceae, Rapateaceae, Restionaceae, Sparganiaceae, Thurniaceae, Typhaceae e Xyridaceae.

BROMELIACEAE

9fj UğfUá YbhYUf g'cgfDi nÜZZYei Ybhá YbhYdÜUgWa W 'YY
fUnYgfYX n]Xcg": c\UgZYei Ybhá YbhYgfYUgUhfUgXgdcgUg]a !
Vf]WUá YbhYá fcgYUgZcfa UbXc i a 'hbei Yci 'a UgfUá YbhYg]Wg'
=bÜcfYgMbWUhf]a]bU'Ya 'Ygd]] UzfUWá c'ci 'dU]WUzVUWU": `cfYg
[YfUa YbhYVgg]i U]gffch]bX]Wg]h'a YfUgU]bca cfZgUn]] ca cfZg
\]dE]bUgUyd]]]bUgXWá]XUg\YhfWá]XUg]bUU]UXYi a UVzWU
j]g'gUgfdUg' /dfUg' ž]j fYgci WbU]g'Cj zf]c]h]'cWUf/d'UWbU]-c'
U]UzWá 'a i]cgCei `cgdcf`CWc": fi h' Wdg 'Uci 'U]UzY Ybh Ua YbhY
Zcfa UbXc 'Zi h'ga • h'd`cgf5bUg]"

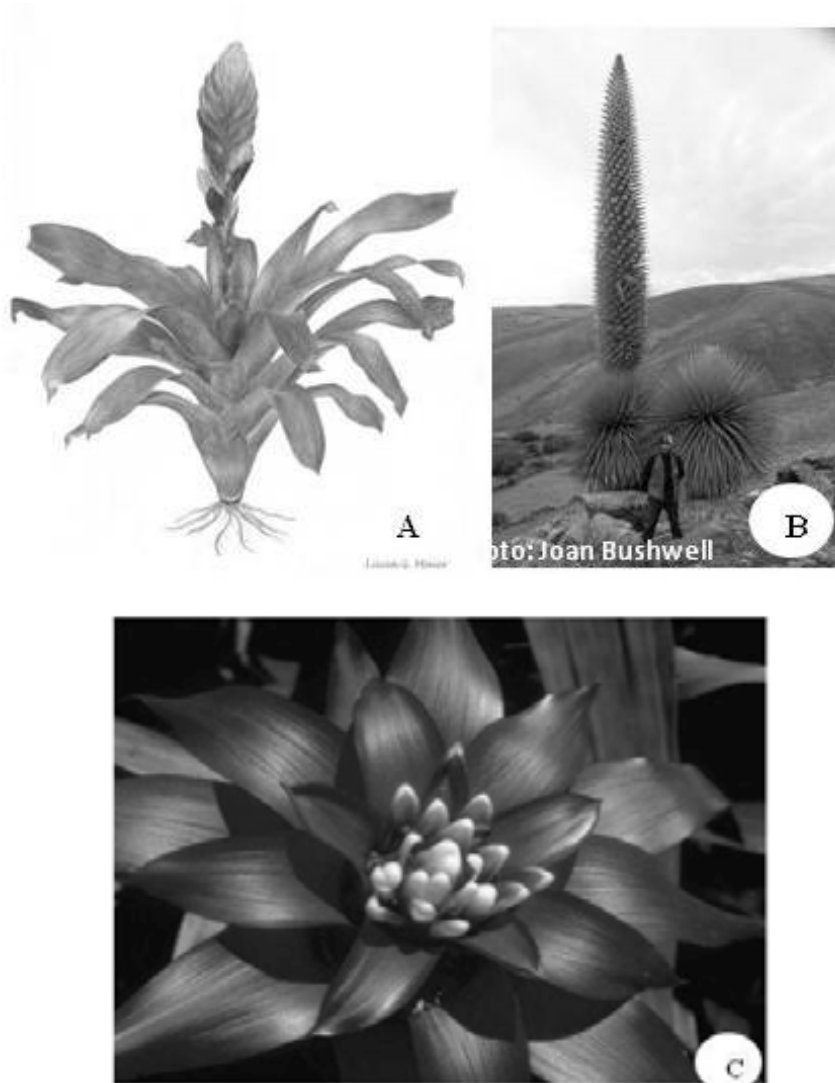


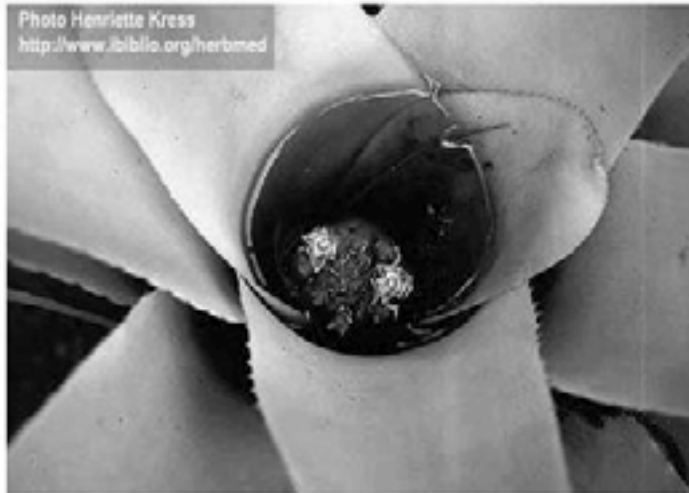
Figura 22 - Representantes das subtribos Pitcairnioideae (A), Tillandsioideae (B) e Bromelioideae (C).

5 ZLã ð]U]bW]VFWXY&SSSYgd]M]gbU5a ff]W]fcd]W]Yg Vfcd! WzH]`UbXg]Ui gbYc]X]Yg]M]U]V]U]X]j Y`c]Lc]W]ff]Y]b]X]c`Ya`hc]X]U]Y]g]U]F]M]]-c` 9l]gh]z]Y]b]f]Y]U]b]c]z]i`a`U]Y]gd]f]M]Y]z]D]l]W]M]f]b]j]U]Z]Y]M]b]L]z]Y]b]X`a`]W]X]U]ã`Z]F]W] C`V]X]Y]b]U]`G-c`W]b]g]X]f]U]L]g]h]f.g]g]V]Z]ã`ð]U]g]D]l]W]M]f]b]c]X]U]z]W]ã`%#`X]L]g] Y]gd]f]M]g]l]b]W]]b]X]c`d]f]b]W]d]U]ã`Y]b]Y]d]U]b]h]g]h]f]f]Y]g]f]Y]g]l`Y]f]c]Z]l]W]g]W]ã`c]j]z]f]c` g`d]Y]f]c]z]i`hc`W]d]g`UY]g]ã`Y]b]h]g]U]U]L]g]z]Y]f]U]W]b]g]X]f]U]U]g]V]Z]ã`ð]U]ã`U]g] V]L]g]U`Y]d]f]c]j]U]Y]ã`Y]b]h]Y]d]U]U]f]h]W]`6]f]c]ã`Y]l]c]X]U]Y]W]ã`Y]gd]f]M]g]h]f]f]Y]g]f]Y]g] Y]Y]d]U]L]g]z]c]j]z]f]c`b]Z]f]c`Y]Z]i`hc`V]U]Y]f]U]W]b]g]X]f]U]ã`U]g]X]f]j]U]L]z]U]g]l]ã` W]ã`c`H]`U]b]X]g]c]X]Y]U]z]U]ã`U]c]f`X]L]g]g]V]Z]ã`ð]U]g]z]b]W]]b]X]c`U]d]Y]b]g]Y]d]U]L]g] W]ã`c]j]z]f]c`g`d]Y]f]c]z]i`hc`W]d]g`UY]g]ã`Y]b]h]g]d]i`ã`c]g]g`

G-c`U]ã`d]U]ã`Y]b]h]Y]i`h]j]n]U]L]g]W]ã`c`c]f]b]U]ã`Y]b]h]U]g]z]X]g]h]U]W]b]X]c`!g]Y]gd]f]M]g] de Vriesea, Aechmea, Nidularium, Billbergia, dentre outros. O abacaxi

fBbUbG'Wa cg g' f i a UYgd'fWXY [fubXY]a dcfh' bWUWb' a]Wdcf' Wl gUXYg Ugb'UcfYgMbWgWfbcgUg' B c B cfXghZB Yc ['Uhcj]Uj UfM Uu ft 'WfczLZcfbYW'UfUgdUfUHWU Ya 'YwfXcUf]U'

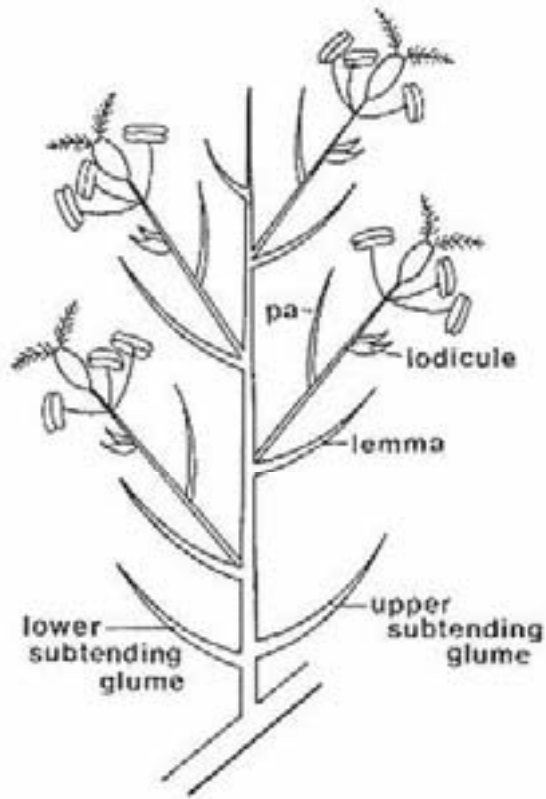
5`[i a UgVfca f]UgfM["H]"UbXgUdcgg Ya fUnYgY hfYa Ua YbhfYX! n]XgUgcfj YbXc'z[i UYbi hf]Ybhg'Wa U l f]c XYhf]Wa UgYgMa]Zcfa Yg dYHUXg' 9a `a i]Hg Ygd'fWgZ Ug VgYg XgZc`Ug Zcfa Ua 'Hbei Yg ei Y Ufa UnbLa `z[i UY`•a i g'Ygfj Ya 'XYUf]] c`dUfj zf]cg'Uba UgZ'XbXc' cf]] Ya 'Ui a `a]McLa V]Ybh'Wa 'Zi bUYUcfUgdUfh]W'fYg"



:]i fU& `!`6fca Y]UWU'`Hbei YZcfa Ux`dYUgZc`Ug`C Vg'fj YU]bUcfYgMbW]Ubc `Wbfc"

POACEAE (GRAMINEA)

Ervas perenes ou anuais, menos frequentemente escandentes ou arboreas- WbhgfMa Vi gl]f]nca UrcgUci Wa Ygc`cggcVc'g'c`M' YuffYc Wa c' W]bX]WZUgi `cgz`YfvWc'ci `Yb`cgzYj Ybi Ua YbhWYc": c`UggfgygZ Xig]Wg'Wa `Uj\UUWfUY`]] i Ua Ya fUzWUci `Ya `h`ZcgXYhf]Wa Ug' =bUcfYgMbW]Ugd]] i YUWa dcgUdcf`Xi Ug'U'YfUgXYVzWUgUhfUg'bu fzei]UgXi UgVgUgf] i a Ugj Un]Ugc fYgUbhYZcfa UbXc UbhMcgi a UUc! fYUg VhbX]Udcf`Xi UgVzWUg'U Ya UY hfblá YbhYUdz`YUz] YfUa Ybh' a YbcfYhfUg`•VXLZ]bhfbLa YbhYgd]] i YUgUfU'UXgYa Ygd]] UgXgdcgUg X]]]HXLá Ybh'ci `Ya fUWa cgzYj Ybi Ua Ybh'flá]UMMgYa `dUb]W'Ugdcf` j Ynyga i]c WbX]bgXg": `cfYgVggY i UXZfUá Ybh'i b]ggY i UXZ`dCE]bZ Wa Xi Ug`cX]M'Ugf]dUg'fY n]Xg'buUgY`C j zf]c V]MfdYfzi b]cW'Ufz uniovulado; dois estigmas plumosos. Fruto cariopse.



:]i fU&! '9gei Ya UXUa cfZ: c]JUc fU XYDc UWUf

DcUWUf WbgXfUJUzã ð]Ua UgYg]WU]nUXYggY[fi dc Xj]Xc' { fYX, ~c Xc dYf]Ubr dLfu%&`cXWUgfydfygbhXc`c j Yf]Wc]bhfb` fUdz YUfydfygbh]Ug Xi Ug hfdUg Yl hfbUg WcW ~c a i]tc YgdYW! `Uj Uzd]g]c i b]cWUfzi b]c j i `UXc`YYa Vf]c[.byYXc h]dc [flã]bzWc" 9a U[i bgWcg`aci j YfYX, ~c Xc b`a Yfc XYg]ã YgYUXZfYbWU ~c Xlg`cXWUg"

5g[flã]bYg]bWYa `YbfY*) \$Y+*S[.byfcgYVWXY- "SSSYgd]f! Wg' 9gãc dYgYbhg Ya `hcXcgcg]ã V]bhg Yg-c Xca]bYbhg Ya `VWV XY &Sì `XUg dYfZMY XUHYffUz Wa dcbXc`dUg] Ybg Wa c `Ug dfUXf]Ug bU5a ff]WXC`B cfhZUg YgYdYg Ygj UbUg UZ]WbUg cg d]ã dUg bc`F]c` ; fubXYXc`G` `Ycg Wa dcgXc`6fUg]`7YbfU" G-c`ZU]ã YbhYfWb\YV Xlg dYUg Ygd]]i YUg Wa ` [i a Ug YUbh]Wcg Wa dcgcgdcf` Ya UYdz YUz dfYgb, UXY`cXWUg Zi hc`W]cdgZUfa`XYWUMf]g]WgXc Ya Vf]-c Y Xc`dCEb" Gã Y`Ub, Ug Wa `7mYfUMY g-c fYg`hUXgXYWbj Yf[.bWUg' 7mYfUMY Ygz`a Ug fYU]cbUXWa `i bWUMUZYbei Ubr`DcUWUf Ygz` mais relacionada com Restionaceae.



: || i fU& ' ! DcUWY' 5 " 8 YHUYXU " | i ' U' 6" - bCcfyGAbWUXc ' Hf | | c " 7 " 8 YHUYXU | bCcfyGAbWU de Arrhenatherum elatius.

5g[fUa bYUg] bWYa hCxcgcgWfYUgžUWbžcgMa Vi gžcgdUhcYfW C i gc XYWfYUgfa]YbUž, U%\$a] Ubcgbc C f]Ybh'a fX|c ffbXYc Hf | | cž Tristicum aestivum, e a cevada, Hordeum vulgare, habitavam naturalmente) YbUã gUžcbXYc Uffcn'fC f]nUgUj UZc] Xca Yg]Wxc" BU9i fcdUžcfla ' domesticados a aveia (Avena sativa) e o centeio (Secale cereale). Existem [f-cg'W'hj UXcg'bUã Z]WHLã Vfa žWa c'Gcf[i a 'V]W'cf'YDYbb]gMi a ' ['U Wa "B Ug5a f]Wg'XgUWgYc a] 'c'fNYa Uhg'Yc W'hj c XUWBU Xc'g XgYUgzhw' fCUWfi a 'cZ'buY" 7YfWXY+Sı 'XUgZ'hYbXUg'bc'

a i bXc Yghc Z bXUXgbc W/hj c XY[fUā ſbYgzei YfydfYgblā) Sĭ Xlġ Wcf]UgXUñi a Ub]XUX'Ci hfU]a dcfĥbWUXg[fUā ſbYgYgzbUdfcXĭ , ~c' XY dUgĥ' dUfU U W]U ~c' XY Ub]a Ug' 5 `i a Ug Yg]WYg' g-c']bj UgcfUg XY W'h fUg Wa c' c' W]a ! [cfXi fU fA Y]b]g: Y U V fUēi]zf]U f6fUW]U]U' C' 6Uā Vi a ' fi h]nUXc bUWbgfi , ~c' W]j' Ya ' a i]hġdUfhgXc' a i bXc" 8 c' 7ma Vcdc[cbzW]a ! `]a ~c' YVWfcbYUg-c Z]hġ]bZġ g' YgYI hfUXcgCEYcg para perfumes e repelentes.

CYPERACEAE

9fj UgdfYbYgci Ubi UgzhffYgfygZfUā Ybh'Uēi zĥWgZ]mca Uocġg/ W YUfYc Wa cgfb]XUXj]g-c YbhYbCgYbhYbCgZĥ]U]i ' UfYgYa ' WfYhUbg YgZWYcgZfUā Ybh'Ugi `cggZfYēi Ybhā Ybh'zUcgYb-c' fUā]UWc'gUW] c XU]bUcfYgMbWU: c `Ug[fUā]bC]XgZ] YfUa Ybh'Wa ' VU]b\UZWUXZgYa `]i UZffU bUXgYa hi ZgbUMgYXc W YZ] YfUa Ybh' h]g]Wgfiā " gff]g": `cfYgi b]ci VggYi UXgfi Ubh'ga cbc]WgZffU! UUXgYa Ygd]] Ugfygd]] i Yhġzg VhbXUXgdcf VfzWUgZ' i a UgZUgdfcl]! a UgYUgXgUgZfYēi Ybhā Ybh'j U]UgYgd]] i YhġYa ' dU]WUgZ'Y Ybi U! mente condensadas, formando um aglomerado de espiguetas, ou reduzidas U i a U•b]WYgd]] i Yhġg VhbXUXgdcf VfzWUgZ']zWUg': `cfYg\]dC]]bUgZ Xg]cġUgXg]Wci Ygd]fUUXā Ybh'/df]Ubr U gYbh'ci fYdfYgblUX' dcf' YgMa UgZUg]gci h]Wa Ug' 9gUā YgM'L fl*EzUYhg']j fyg' Cj z]c V]ci ' h]WfYUfzgbWf]Wzi b]cWUfzi b]cj i UXc/d'UWbU ~c' VUgZyġ] Yh'V] ci h]UXc/gā bYWf]cg': fi h' Uēi .b]c UggVUXc UVzWUg'dfYgghbYg'



:]i fU& ' 17ndYfUWU' -bUcfYgMbW]g' C Vgfy Ya VfzWUgZ']cggbUWgYXlġYgd]] i Yhġ

=bWV] Udcl ja ULá YbhY (") SS' Ygd/VWg'Y*S' [. bYfcgžXygUWbXc!gY
 7UfYl 'Wa 'VFWXY &SSS' Ygd/VWg' B cgB YchCd]WgžcWffYa 'VFWXY
 %SSS' Ygd/VWgžXygUWbXc!gYFnbWcgdcfUžWa ' & S' Ygd/VWg' 9gž' Uá !
 d'Uá YbhY Xlgl]M] Xž df]b]M]Ua YbhY Ya 'fY]]' Yg' hÁ dYUk]g'Y bUncbU
 g' Vzfh]Wžá Ug'b-c' bU5blzfh]W' C WffYa 'dfYXca]bubhÁ YbhY Ya 'c'W]g'
 UMFhcždUi Xcg'gžYgd/VW]a YbhY Ya 'fY]]' Yg'XYU]h' XY'G-c' WFUNf]nUk]g'
 dcf' WfdcgXYg]W]h]U]b]i 'UfYgbUYd]Xfa YžÚcfYg'Wa 'f. g'Yg]Uá Yg'XY!
 [YbYU ~c XYf. ga]M]Cgdcfcgei YdUg]Uá U]bWfdcfUf UdUfYXYc' ei U]hc'
 fYg]UbhY f]d]g] Xca ' bUXYZi a 'C]i 'c' XY d'UWb]U ~c' V]g]Už Zefa U ~c' XY
 YbXcg]Yfa Ubi WUf'f]YcV]U'Ya 'i bW]M]U]LYZi hc]bX]Yg]WbhY'5 X]j]g-c'
]bhfbUXUZá]U]Ygž V]g]YU]bUÚcf' YbU]bÚcfYg]Mb]W]U'G-c' dfchc]]b]W]g'
 YU]bÁ C]U]g' U]g]ÚcfYg]g-c']bW]bg]d]M]g]W]a 'd]f]U]bc' fYX] n]Xcžc' Yg]U] a U
 f'cb] Uá YbhYf]Uá]U]M]XcžU]g]U]bhYf]g]dcg]g] Ya 'c' U'Y]Y'Ucb] U]Xc' bU]bh]g]Y
 c'd]C]b'f]U]i bX]bhY'9bhYf]U]bcžY]]ghÁ 'fY]]g]f]cg]XY'j]g]U]g]XY]bg]Y'cg]Ya '
 Vi g]M]XY'd]C]b]"8 YdYbX]bXc' XUZ'fa U]žcg]Zi hc]g]dcX]Á 'g]f'X]g]d]f]g'g]dcf'
 z]i U]ž Y]bh'cž'cz]g]f]cg]ci Z'fa]U] U]žá U]g]cg]W]cg]Xc'Wa YbhXc]gg-c' Ygd]U]f]g'g'
 5 fYd]c]X]i , ~c' j Y] Y]U]h] Udcf' d]U]h] , ~c' Xc' f]nca Uf'Wa i a "

8 YbhYU]gi h]X]U]Yg]XUZá]U]X]Yg]U]M]g]U]d]c]X]i , ~c' XYd]U]l]fc' f]7m]Y!
 fi g]d]U]l]fi g]l]bc' U]h]]c' 9]]hc" A i]U]g]Ygd/VW]g]g-c' i h]]n]U]k]g]Wa c' a U]h]U'
 d]U]U]U]W]bg]fi , ~c' XYW]g]c]ž'U]b] U]k]g]Yá VU]U] Yb]g' C h' V]f]W'c' XYU]]i a U]g'
 Ygd/VW]g]XY7m]Yfi g]fa U]b] U]f]]hc]L]f'W]bg' a]Xc' Ya 'd]U]g]Yg]cf]]b]U]g]Ya i]U]g'
 g-c']bj U]g]cf]U]g' U]f]Yg]j U]ž X]g]U]W]bXc!g]ž'bc' 6f]U]g]ž' Ygd/VW]g' XY 7m]Yfi g'
 conhecidas popularmente como tiririca.

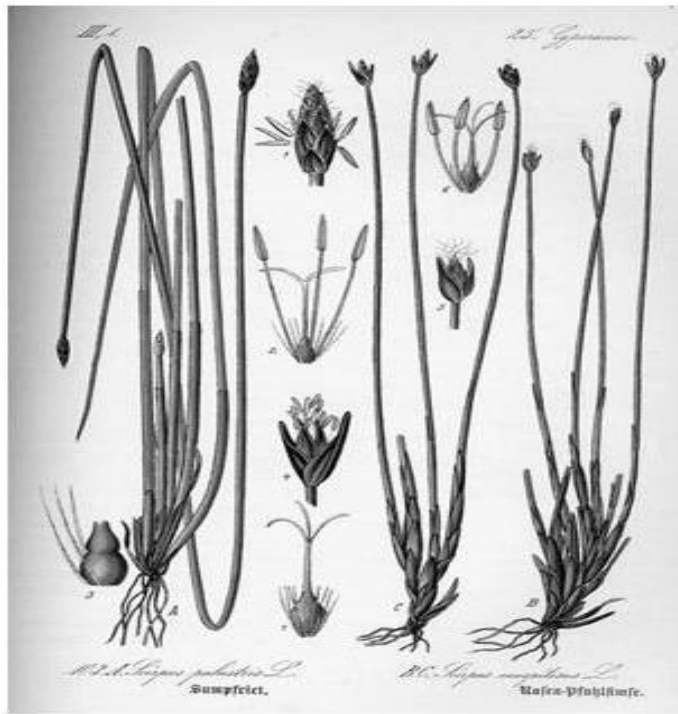


Figura 27 - Esquema da morfologia de Cyperaceae.



:]]i fU& !'7ndYfWUW' < zV]rczf]rca UYVUj\UZWUWU

B CH5. '5gXgW], " YgXlgZla †]UgZcfa fYĥFUlgXYFUd]b]z5 "'&SS*" CgXgYb\cgei YWa d" Ya UgdfUWUgXgUdcdg]Uei Ygĥc gYa U ĥcz g-c XYXca †]c'd•V]W'

7CB 7@I GĒC ·

B YgU U'UbGj]a cgei YUg a cbcWĥ]YX bYgZcfa lā 'i a '[fi dc' a cbcU'fhWzci 'gYU]bWYa ĥcXcgcgXgWbXbhgXYi a 'UbWĥU'W! a i a 'a UgfYwbhza UgUygUfXggc UgWUWf]g]Wgei YUgXY]a]ĥā 'a cf! Zc'c]Wā Ybh'g-c ĥā Vfa 'Wa dufĥ\UXgdcf'ci ĥUgUbl]cgdYfa UgYUg b-c UdYgYbhā WUWf]g]Wga cfZ'Ĉ]WgY W'gj UgUjXUWb\WUg'5g a cbcWĥ]YX bYg]bWYa Zā †]UgYwb\WUā YbhXYU]a dcfĥ]bWU Ywb' a]WbcgXj YfgcgY]a Ybhg'XgUWbXc!gY'c U]a Ybh'Wā 'Ug Gramineae (Poaceae) e ornamental com as Orchidaceae, Bromeliaceae e @]UWU'9a 'fYU~c Ucf]] Ya 'XggY] fi dc'di Xā cgj Y'ĥā Vfa 'ei Ycg fY]gfcgZĈ]g]bX]Wā 'c gY' UdUfY]a Ybh' b-c'a i]ĥc XgUbhXc'ei YgY WbgXYfUc'fY]gfc'a UgUbh]]c'XgUbl]cgdYfa Ug'C'fY]gfc'ZĈ]ĥā! Vfa 'XcWa Ybh'Uei YUXj YfgUW]~c XYĥXlgUg a cbcWĥ]YX bYgUĥi Ug YgUj lā 'fYUj lā Ybh'Yā Xj YfgUW]lgbc 9cVbc fW]SA ULYĥXlgĥa ž dYc'a Ybcg'U]i a 'fY]gfc'bc'7fYzWc'\z'WUWXY+S'a]\ " YgXYUbcg" 5'gdĥā zh]WXc'[fi dc'gZY' U]i a Uga i Xb, UgUc'cb]c'XcgUbcg'Wa ' fYU~c Uc'b'a Yc XYcfXYbgYZā †]Ugbc Ybh'bh'g-c dci Wg'cgVch]b]Wg ei Ywbh'gUā 'UbUĥi fYUa cbcU'fhWU]g a cbcWĥ]YX bYg

RESUMO

5g a cbcWhj`YX bYUg Yb| `cVla `&1 `Xlg Ub| |cgdYfa Ug Y g-c `Yb! WbhfUMLg bcg Xj Yfgg `zV|HUG XY hcXcg cg WbhbYbhYg a i |Hlg j YnYg Xca |bUbXc Uj Y| YU -c"5gd`UbHgdYHbWbhgUYggY| fi dc `UdfYgblA ` [fubXY]a dcfh|bWUYWb' a |Wzdf|bVdUa YbhYbc `Wa dc `XU`cfh|W`hi fU YXLgd`UbHgW`hj UMLgWa c U|a YbhMlg`9a `Wa dUfU -c `Wa UgXa Ug Ub| |cgdYfa Ug Ubhf|cfa YbhY Xyba |bUMLg X|Whj`YX bYUg Zcfa Ua `i a ` [fi dc `Va X|Ub|Xc fa cbcU`fhW`LdYgUf Xyb-c UdfYgblYfa WUUMf|g|! Wga cfZc`CE|WgY W`gj UgZdYc`a YbcgU|bXUb-c `YbWbhfUMLg`8 YUWfXc `Wa `UWggjUW -c `U| U`dfcdcgUdYc`5D, `fR&S` lzUga cbcWhj`YX bYUg |bWYa `%\$cfXybgY%\$&Za †|UgWa `WfWXY) S`SSS`YglfMlg`B UMLgY Xc`WXc`Zcfa Ux`dcf`YggY| fi dc `Yg+c`5WfUYgY5`|ga UUYg`5gcfXybg fYgUbhg`Wa d" Ya `ci hfc`U fi dLa Ybhc`cbXYUg fYU" Yg XY dUfYbhgW` YbhY5gdUfU UYg8 |cgWfYUg@|]UYgYDUbXUbUYgU|bXUg-c |bWMLg`5g demais ordens formam um grupo denominado Commelinidae, composto dcf`8 Ugnlc| cbUMUz`5fWYg YDcUYgzei Y Yg+c`bU UlgY Xc`fYZf|Xc` WXc`Y7ca a Y|bUYg`g f| Y`Wa c` [fi dc`|fa -c`XYN|b| |MfUYg`HUX|! VcbUa YbhYg-c XY|a |HXLgdcf`UdfYgblYfa `Ya V| -c`Wa `%Whj`fXcbYz Ggha Uj Ugm`Uf`UUM`gh|WzZc` \UgWa `byfj i fUgdUfUY|b|fj YgZdCEb` a cbcggj`WXczfUhg`ZgWMLg`YUj YbhMlg`UcfYg`f`a YUg`Y`zV|hc` \YVzWc! UVi ghj czb-c`Yb`cgzUdYbLg`%\$ `Xlga cbcWhj`YX bYUg-c` UfVCEUgU|fubXYa Ucf|UYa `5fYWMU

ATIVIDADES

- %`7|Hj`Ug`WUUMf|g|Wg`X|U|bc|H|Wg`XYA cbcWhj`YX bYUg f| Y| YU|j UY reprodutiva).
- &`8 YUWfXc `Wa `UWggjUW -c `Wa `UlgY`a `XUcg`a cfZc`CE|Wg`I`f.g [fubXy| fi dcg`Zcfla`fWb`W`Xcg`YbhYUga cbcWhj`YX bYUg !`5ei zh|Wg !`8 |Wa`XUg`< ca cWa`XUg`DHUc|Xg !`5Wa`XUg`ci `Wa`dYf|Ubc`fY`n|Xc
- Localize no cladograma do Livro de Souza e Lorenzi (2005) (disponibilizado na plataforma moodle) como essas mesmas plantas (MONOCOTI-@98ë B95GLYg+c`cf| U|nUMLg` '``7ca c`Uga cbcWhj`YX bYUg Yg+c`cf| U|nUMLg`|MfUei |Wa Ybh3 ("E i UgZa †|Ug Yg+c`|bgf|XUg`bYg`fYZf|Xc`gbj Yg`|Mzfei |Wg3)`E i UgZa †|Ug`ei YcWffYa `bc`6fUg`3
- *``C`g`I`f.g|fubXYg| fi dcg`XYa cbcWhj`YX bYUg fYZf|Xc`g`Wa `UlgY`bU WggjUW -c`a`cfZc`CE|Wg`Ya`Uhf`a`bUWggjUW -c`U| U3





DF ê L=A 5'5I @5

B UdfCE]a UU `U]fYa cg`Yġi Xf`UġFcg]XUġzi a `] fi dc `WUMf]nUXc`
dYUdfYyb, UXYŪcfYgX]Wā :XUġYd/fUġ`j] fyġfXU]dYU]L`

F9: 9F â B 7=5G`

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[]cg]fYa `D`nç[Ybn; fci d`WġġŪMĥb`Zcf`hYcfX]fġbXZā]]YġcZ
Ūck Y]b] `d`Uġġ`5D, ="6çĥ">`@]bb"ÇW(%' --İ (' *"
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`U]Xd`U]ġġYXd`U]ġU]XŪck Y]b]` `d`Uġġ`D`U]ġġġ'9j c`&% .& -İ & +"
FU]b]ž5" &SS*" ĠġĥYa zĥW]J Y] YU. `9a V]ŪĤġġ`5dcġ]U]X]zĥW]XU
disciplina BIO-248, Universidade Estadual de Feira de Santana.
Fçei YžB" &SS)"HU cbca]U]Y] YU. `5b]]cg]fYa Uġ`5dcġ]U]X]zĥW]XU
XġM]`]bUA cfZ`c[]U5d`]WU{ HU cbca]UY:]c[Yb]UXY5b]]cg]fYa Uġ
Instituto de Biologia, Universidade Fedral da Bahia.
Walter S. Judd, Christopher S. Campbell, Elizabeth A. Kellogg, Peter F.
Ġġ Yġġ/ `A]WUY`>`8 cbc[`i Y`&SS- "ĠġĥYa zĥW]J Y] YU. I a `9bZçei Y
:]c[Yb]f]W"5fla YX`
75GHFCžJ" Çci nġ`@CF9BN=ž< " &SS+" 6çĥb]WU GġĥYa zĥW` ; i]U
]i ġfUX`dFU]X]bĥŪW`~c XġZā]]UġXY: U]YŪĤā UġbUġ] UġY] ŪWġ
no Brasil, baseado em APG II. Instituto Platarum.