$Mg_4Al_2[CO_3][OH]_{12}[H_2O]_3$	*hP*26	(189) *P*-62*m* – i^2hgfe^2

$Mg_4Al_2(OH)_{12}(CO_3)\cdot 3H_2O$ [1], quintinite-2H
Structural features: Infinite slabs of edge-linked $Mg(OH)_6$ and $Al(OH)_6$ octahedra alternate with layers containing H_2O molecules and layers containing approximately planar CO_3 trigonal units (split C site). See Fig. IV.6.

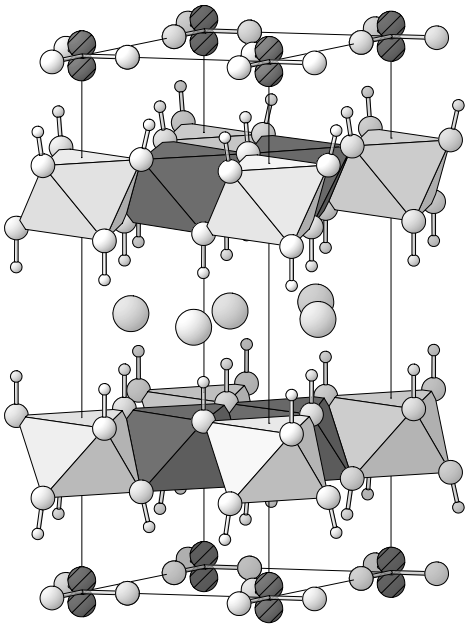

Fig. IV.6. **$Mg_4Al_2(OH)_{12}(CO_3)\cdot 3H_2O$**

Arrangement of $Mg(OH)_6$ (dark) and $Al(OH)_6$ (light) octahedra (O atoms medium, H atoms small), CO_3 triangles (C atoms dark, partly occupied site; O atoms light) and H_2O molecules (O atoms large).

Arakcheeva A.V. et al. (1996) [1]
$Al_2CH_{18}Mg_4O_{18}$
$a = 0.5283$, $c = 1.515$ nm, $c/a = 2.868$, $V = 0.3662$ nm^3, $Z = 1$

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
O1	6*i*	..*m*	0.318	0	0.19		non-coplanar triangle Mg_2Al
O2	6*i*	..*m*	0.651	0	0.325		non-coplanar triangle $AlMg_2$
Mg3	4*h*	3..	$^1/_3$	$^2/_3$	0.243		octahedron O_6
$(OH_2)4$	3*g*	*m*2*m*	0.598	0	$^1/_2$		6-vertex polyhedron $O_2(OH_2)_4$
O5	3*f*	*m*2*m*	0.244	0	0		
C6	2*e*	3.*m*	0	0	0.021	0.5	
Al7	2*e*	3.*m*	0	0	0.259		octahedron O_6
H8	6*i*	..*m*	0.36	0	0.125		
H9	6*i*	..*m*	0.65	0	0.398		

Experimental: single crystal, diffractometer, X-rays, R = 0.039

Remarks: Natural specimen from the Jacupiranga massif, Sao Paulo, Brazil. Short interatomic distances for partly occupied site(s). Hydrogen atoms are not taken into consideration for Pearson symbol, Wyckoff sequence and atomic environments. Space group (194) $P6_3/mmc$ was tested and rejected.

References: [1] Arakcheeva A.V., Pushcharovskii D.I., Rastsvetaeva R.K., Atencio D., Lubman G.U. (1996), Crystallogr. Rep. 41, 972-981 (Kristallografiya 41, 1024-1034).