

Proposed by P. Vijarnsorn, 1983
Revised by :
P. Vijarnsorn and staffs, 1988
W. Sirichuaychoo, 2004

TAKUA THUNG SERIES

Field Symbol: Tkt

Distribution: Occupies a small extent on coastal region in Peninsular and in Southeast Coast of Thailand.

Setting: Takua Thung soils are formed from recent marine sediment and occurred on active tidal flat. Relief is level. Slope is less than 1 percent. Elevation is about 1 meter above mean sea level. The climate is Tropical Monsoon (Koppen 'Am') or Tropical Savannah (Koppen 'Aw'). Average annual precipitation is from 1,800 to 3,000 mm. Annual air temperature is from 26 °C to 28°C.

Drainage, Permeability and Surface Runoff: Drainage is very poorly drained, permeability is slow and surface is slow. Flooding 2 times every days.

Vegetation and Land Use: Mangrove forest (Rhizophora spp. and Nipa fruitican).

Characteristic Profile Features: The Takua Thung series is a member of the fine-silty, mixed, superactive, acid, isohyperthermic Typic Sulfaquents (soil taxonomy, 2003). They are very deep soils and are characterized by brown to dark brown clay surface or A horizon overlying dark gray silty clay loam with peat fragments. The *n*-values higher than 0.7 in all horizon. Soil reaction is neutral to mildly alkaline, reaction values range from 7.0 to 8.5 and high sulphur content within 50 cm from the surface (sulfidic material).

Typifying Pedon: Takua Thung clay - mangrove forest (Rhizophora sp., Nipa fruitican), nearby the Phangnga National Park Office, Amphoe Muang, Changwat Phangnga, less than 1 meter above mean sea level.

Profile Code Number: Pedon Sa7 of a thesis submitted to the University of Tokyo.* Described by P. Vijarnsorn and W. Sirichuaychoo, 23 April 1983 (moist colors unless otherwise stated).

Horizon	Depth (cm)	Description
A	0-30	Mixed dark brown (10YR4/3) and dark grayish brown (10YR4/2) clay; nearly ripped; massive; sticky and plastic; common fine roots; overwash material as polluted in stream by tin mining; neutral (field pH 7.0).
Cg1	30-75	Mixed very dark grayish brown (10YR3/2) dark grayish brown (10YR4/2) and dark gray (10YR4/1) peaty silty clay loam; nearly unripped; massive; slightly sticky and slightly plastic; many roots and woody fragments (partially decayed); neutral (field pH 7.0).
Cg2	75-125	Dark gray (10YR4/1) peaty silty loam; nearly unripped; massive; slightly sticky and slightly plastic; many fine and medium roots and woody fragments (partially decayed); moderately alkaline (field pH 8.0).
Cg3	125-160	Dark gray (10YR4/1) peaty silty loam; nearly unripped; massive; slightly sticky and slightly plastic; many fine and woody fragments (partially decayed); moderately alkaline (field pH 8.0).
Cg4	160-200	Mixed dark gray (2.5Y4/0) and very dark grayish brown (2.5YR3/2) silty clay loam; unripped; massive; sticky and plastic; common roots and woody fragments (partially decayed); moderately alkaline (field pH 8.0).

Remark: This profile is the Thesis Submitted to the University of Tokyo by Pisoot Vijarnsorn.

Type Location:

Name of district, Amphoe Takua Thung, Changwat Phangnga.

Range of Profile Features:

The surface or A horizon silt loam ranges from 10 to 30 cm in thickness which hues 10YR or 7.5YR, values 3 to 4 and chromas 2 to 3. Texture of clay may occurred. Strongly acid to slightly acid, reaction values range from 5.5 to 6.5 (field condition).

The C horizon silty clay loam (unripened soils) is 10YR, 2.5Y, 5Y or 5GY of gray. Neutral to slightly alkaline, reaction values range from 7.0 to 8.0 with high sulphur content within 50 cm from the soil surface.

Similar Soil Series:

Bang Pakong series (Bpg): fine, smectitic, acid, isohyperthermic Typic Sulfaquents.

Tha Chin series (Tc): fine, smectitic, nonacid, isohyperthermic Sodic Hydraquents, have not sulfidic material in the profile.

Principal Associated Soils:

Takua Thung series is associated with Bang Pakong and Tha Chin series.

ANALYSIS RESULTS (oven dry basis)

Profile code No.: Sa7(thesis)
Soil series: Takua Thung series (Tkt)

Lab No.	Depth (cm)	Horizon	Particle size distribution analysis (% by weight)								Texture		pH		CaCO ₃ %	P, mg kg ⁻¹ Bray 2	K, mg kg ⁻¹ NH ₄ OAc
			USDA grading			Sand-fraction grading					Lab	Field	1:1	1:1			
			sand	silt	clay	vc	c	m	f	vf	result	estim ⁿ	water	KCl			
	0-30	Ag	3.7	29.6	66.7	0.1	0.3	1.0	0.1	2.2	c	c	4.5	4.2		15.5	820
	30-75	Cg1	10.1	62.9	27.0	1.0	0.7	3.4	2.5	2.5	sicl-sil	peaty-sicl	3.2	3.0		16.5	848
	75-125	Cg2	10.1	65.5	24.4	0.7	1.1	3.2	0.2	4.9	sil	peaty-sil	2.8	2.7		14.8	544
	125-160	Cg3	8.7	60.2	31.1	0.4	0.9	4.2	0.7	2.5	sicl	peaty-sil	3.0	2.9		14.6	984
	160-200	Cg4	7.2	56.5	36.3	0.3	0.6	2.3	1.8	2.2	sicl	sicl	3.0	2.8		18.3	856

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol ₍₊₎ kg ⁻¹)									Base satur ⁿ (%)		ECEC (B+D)	Al KCl extr. cmol ₍₊₎ kg ⁻¹ (D)	Electrical conduct ^y (ECx10 ⁶) dS m ⁻¹
				Ca	Mg	K	Na	SUM cations (B)	Extr. acidity (A)	SUM (B+A)	CEC NH ₄ OAc (C)	CEC 100g Clay	B/Cx100	(Bx100)/(B+A)			
				0-30	7.0	3.74		3.70	14.00	2.20	42.50	62.40	13.80	76.20			
30-75	12.1	9.56		7.10	24.50	2.10	62.50	96.20	34.60	130.80	31.7	117.4	100	74		14.70	
75-125	13.5	11.84		8.90	29.80	0.90	70.90	110.50	46.50	157.00	42.1	172.5	100	70		17.15	
125-160	7.4	11.62		8.40	29.70	2.10	72.00	112.20	42.30	154.50	39.1	125.7	100	73		19.60	
160-200	7.1	9.70		7.50	27.70	1.90	60.30	97.40	39.00	136.40	37.5	103.3	100	71		18.13	

Surveyor: Pisoot Vijarnsom

Reported by: W. Sirichuaychoo

Date: April 23, 1983

Date: Nov. 2, 1998