

A microscopic image of soil particles, showing various shapes and sizes, some with distinct textures and colors. The background is a light, neutral tone. Overlaid on this image is text in red and blue.

北海道の食土に関する研究

北野 睦子

帯広畜産大学環境土壌学研究室

Geophagia

- 土壌を食べること
- 人間に限らず無脊椎動物（例えばミミズなど）、爬虫類（カメ）、鳥類、哺乳類、霊長類にわたって幅広く知られた摂食行動である。



引用：<http://wiki.healthhaven.com/Earthworm>
http://www.straightfromthedoc.com/50226711/eating_dirt.php
<http://parrotscience.com/page/13/>

- 人間による食土の歴史は世界的にも古く、古代ギリシャのアリストテレスから18世紀のフンボルトに及ぶ多くの著者によって報告されている。

Alexander von Humboldt on Geophagy

Abstracted by V. M. Ponce

Source: Humboldt, A., and A. Bonpland. 1821. *Personal Narrative of Travels to the Equinoctial Regions of the New Continent, During the Years 1799-1804*. AMS Press, Inc., New York, 1966.

The great German explorer and naturalist Alexander von Humboldt was fascinated by the practice of some native American tribes populating the torrid zone to eat earth, mostly from want, but sometimes by choice or custom. What follows is an account by Humboldt himself of the geophagy of the Otomacs, a tribe inhabiting the banks of the Orinoco River. The setting is in what is now Venezuela, c. 1800.

The situation of the mission of Uruana is extremely picturesque. The little Indian village is placed at the foot of a lofty granitic mountain. Rocks everywhere appear in the form of pillars above the forest, rising higher than the tops of the higher trees. The Orinoco nowhere displays a more majestic aspect here, than when contemplated from the house of the missionary, Fray Ramon Bueno. It is more than five thousand meters wide, and runs without any winding, like a vast canal, straight toward the east. Two long and narrow islands (Isla de Uruana and Isla Vieja de la Manteca) contribute to give extent to the bed of the river; the two banks are parallel, and we cannot call it divided into different branches. The

“Nothing is so disgusting that an Otomac will not eat it.”

mission is inhabited by the Otomacs, a tribe in the rudest state, and presenting one of the most extraordinary physiological phenomena. The Otomacs eat earth; that is, they swallow every day, during several months, very considerable quantities, to appease hunger, without injuring their health. I also found traces of this vitiated appetite among the Guamoos; and between the confluence of the Meta and the Apure, where everybody speaks of geophagy as of a thing anciently known. I shall here confine myself to an account of what we ourselves saw, or heard from the missionary, whom an unhappy fatality had doomed to live for twelve years among the savage and turbulent tribe of the Otomacs.

The inhabitants of Uruana belong to those nations of the savannas, who, more difficult to civilize than the nations of the forest, have a decided aversion to cultivate the land, and live almost exclusively on hunting and fishing. They are omnivorous animals of the highest degree; and therefore, the other Indians, who consider them as barbarians, have a common saying: “Nothing is so disgusting that an Otomac will not eat it.” While the waters of the Orinoco and its tributaries are low, the Otomac subsist on fish and turtles. The former they kill with surprising dexterity, by shooting them with an



ハイチ共和国での食土利用風景



アイヌ伝承者のネウシャレモンさん



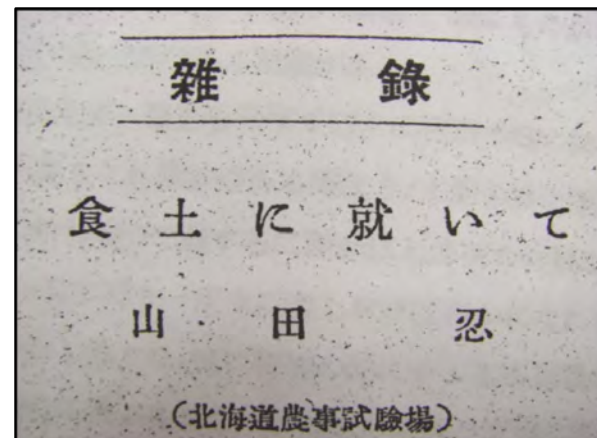
清川ネウサルモン氏(1871? ~1966年)

伝承されている食土の特性

- 粘土質
- 珪藻土
- 赤色、青色、白色、黄色
- 無機養分が豊富
- 川筋や河口に多い
- 火山灰土壌ではない
- 吸湿性がある

食土の文献を残された方々

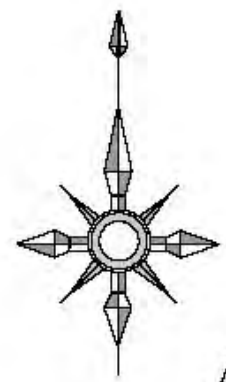
- 松浦武四郎
- 金田一京助
- 山田秀三
- 知里真志保
- 山田 忍
- 鎌田正信
- 伊藤静致
- 土屋 茂



目的

かつて、アイヌ民族は土（食土）を料理に利用していたという伝承がある。しかし、その所在、利用目的などについては不明の点が多い。

そのため、食土の伝承が残る地点で土壌を採取し、その基本的物理・化学性を明らかにした。



常呂川イトウ沢

呼人

ユクエピラチャシ

チイトイ

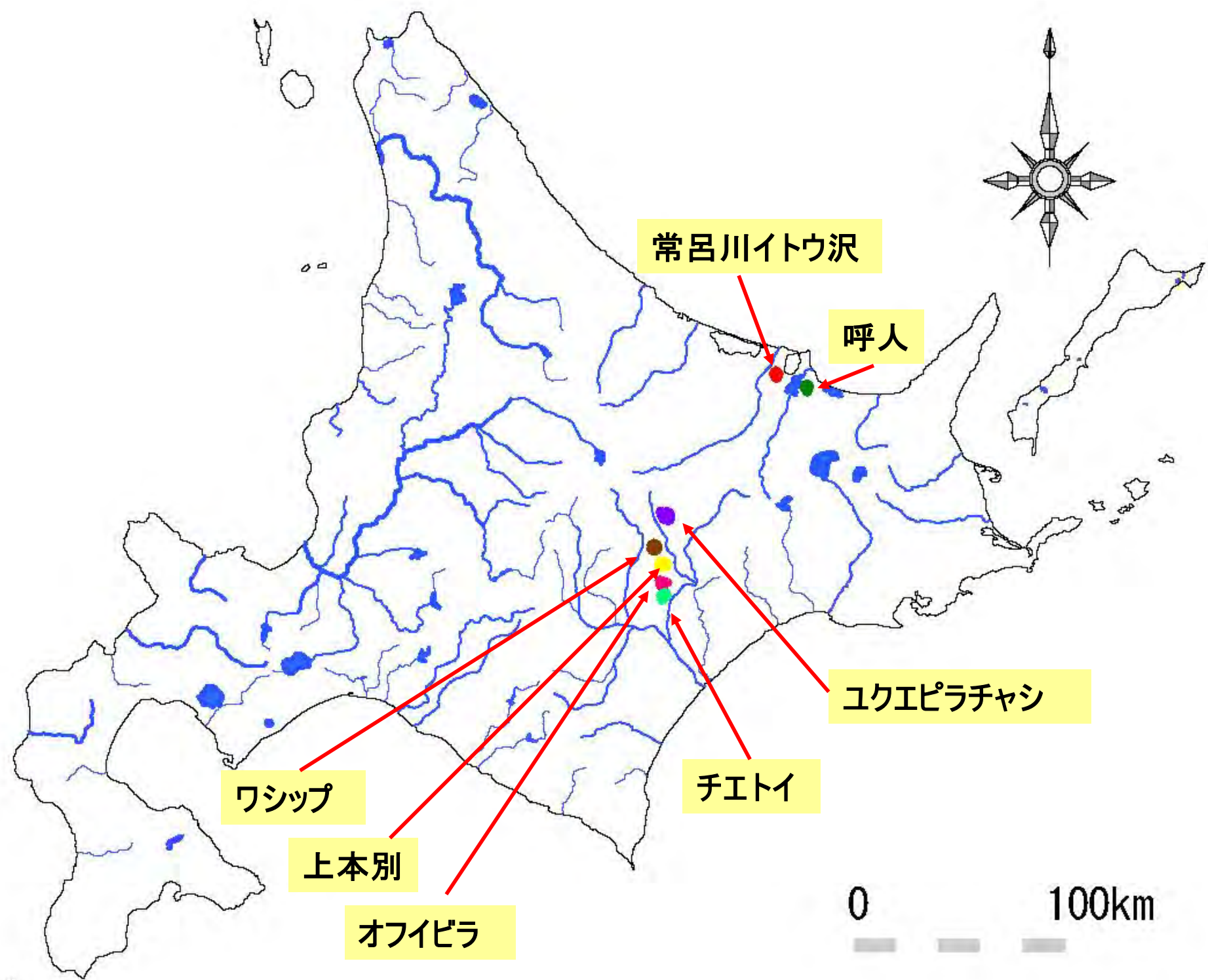
ワシツプ

上本別

オフイピラ

0

100km



分析項目

- pH
- EC
- CEC
- 交換性陽イオン
- リン酸吸収係数
- 水分含量
- 灼熱損量
- 粘土粒径組成
- 蛍光X線分析
- X線回折分析
- 顕微鏡観察

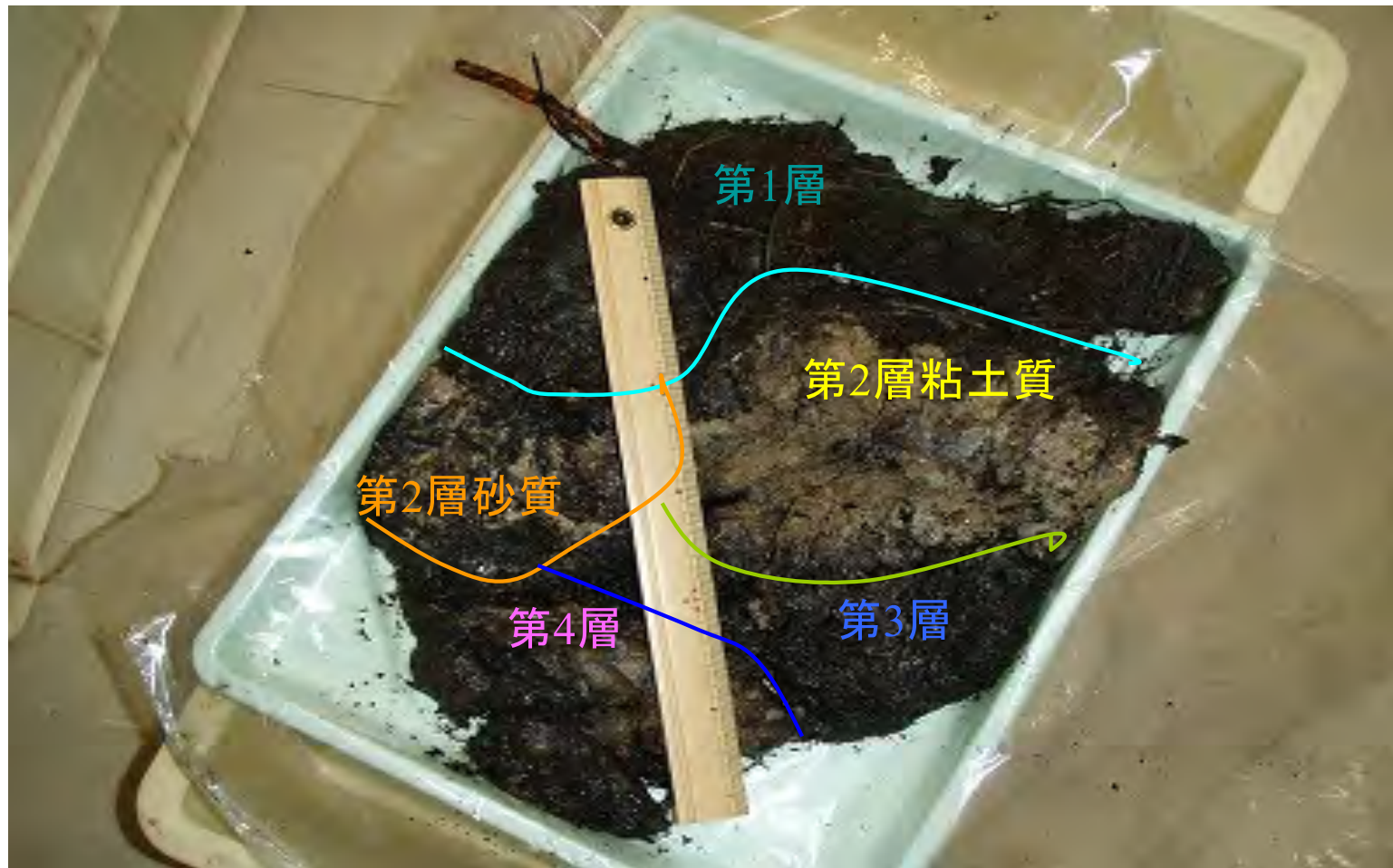
明治29年の十勝本別の地図



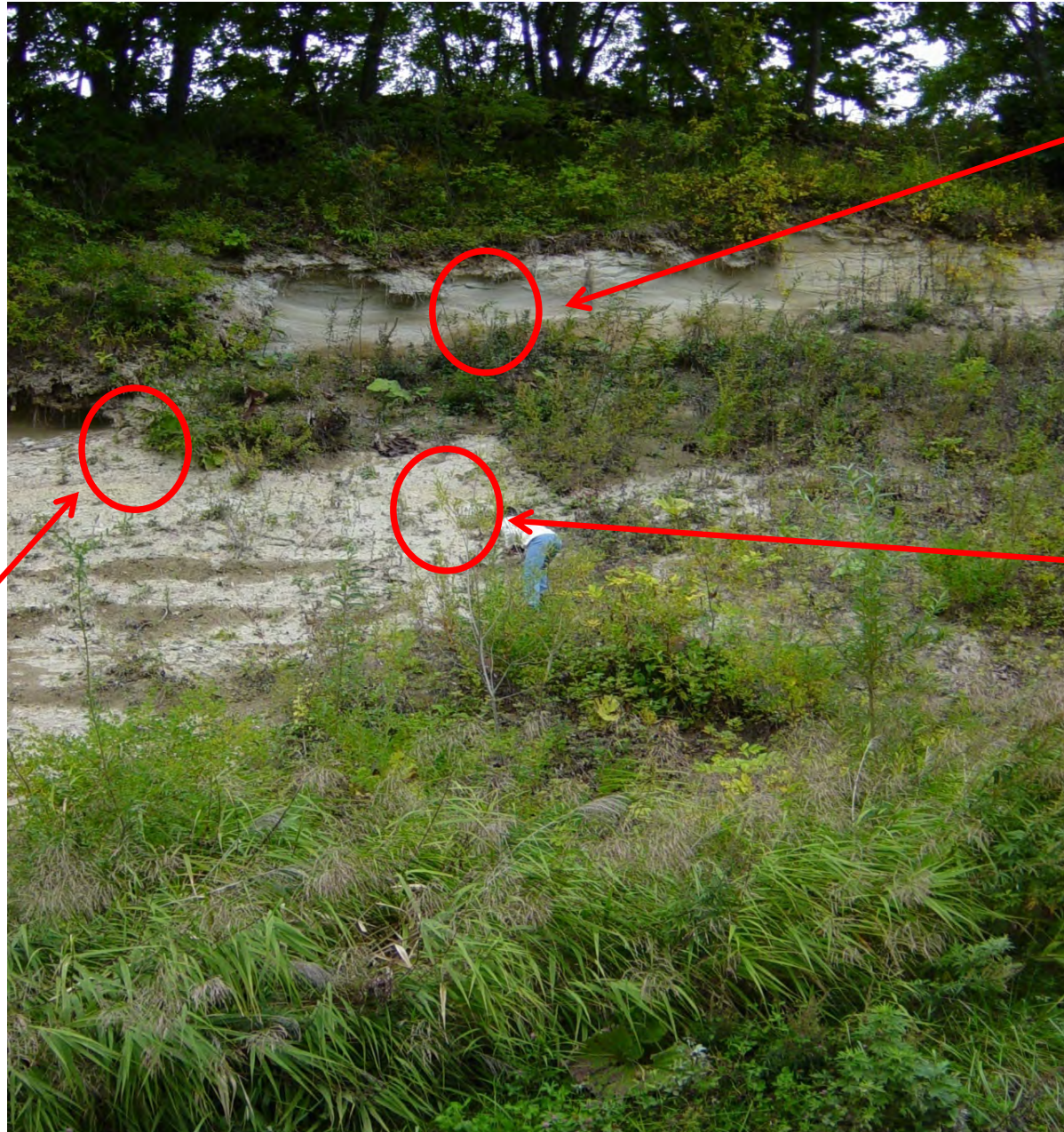
提供： 早田国光氏

オフビラ

農家さんから恵与



チエトイ



チエトイ崖上層
(高さ7m)

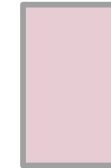
チエトイ崖下層
(高さ3m)

チエトイ崖中層
(高さ5m)

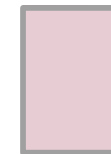
ユクエピラチャシ



第1層 7-12cm



第2層 15-25cm



第3層 28-37cm



第4層 38-43cm



第5層 45-55cm

ワシツプ



常呂町イトウ沢



利別川沿 上本別粘土(ネンバン)

現地農家さんから恵与

- 鑄型作成に利用していた

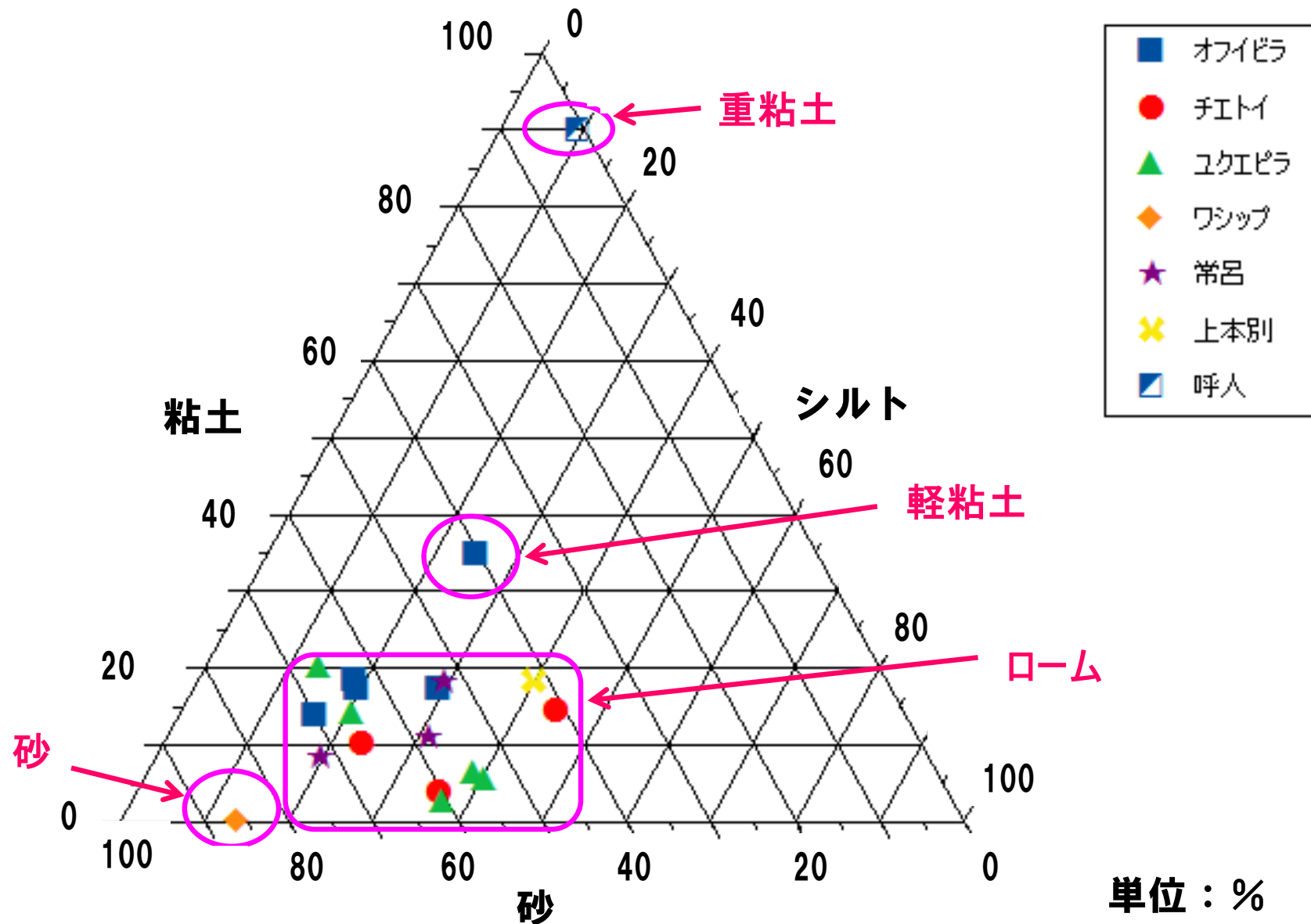


呼人(網走湖畔)

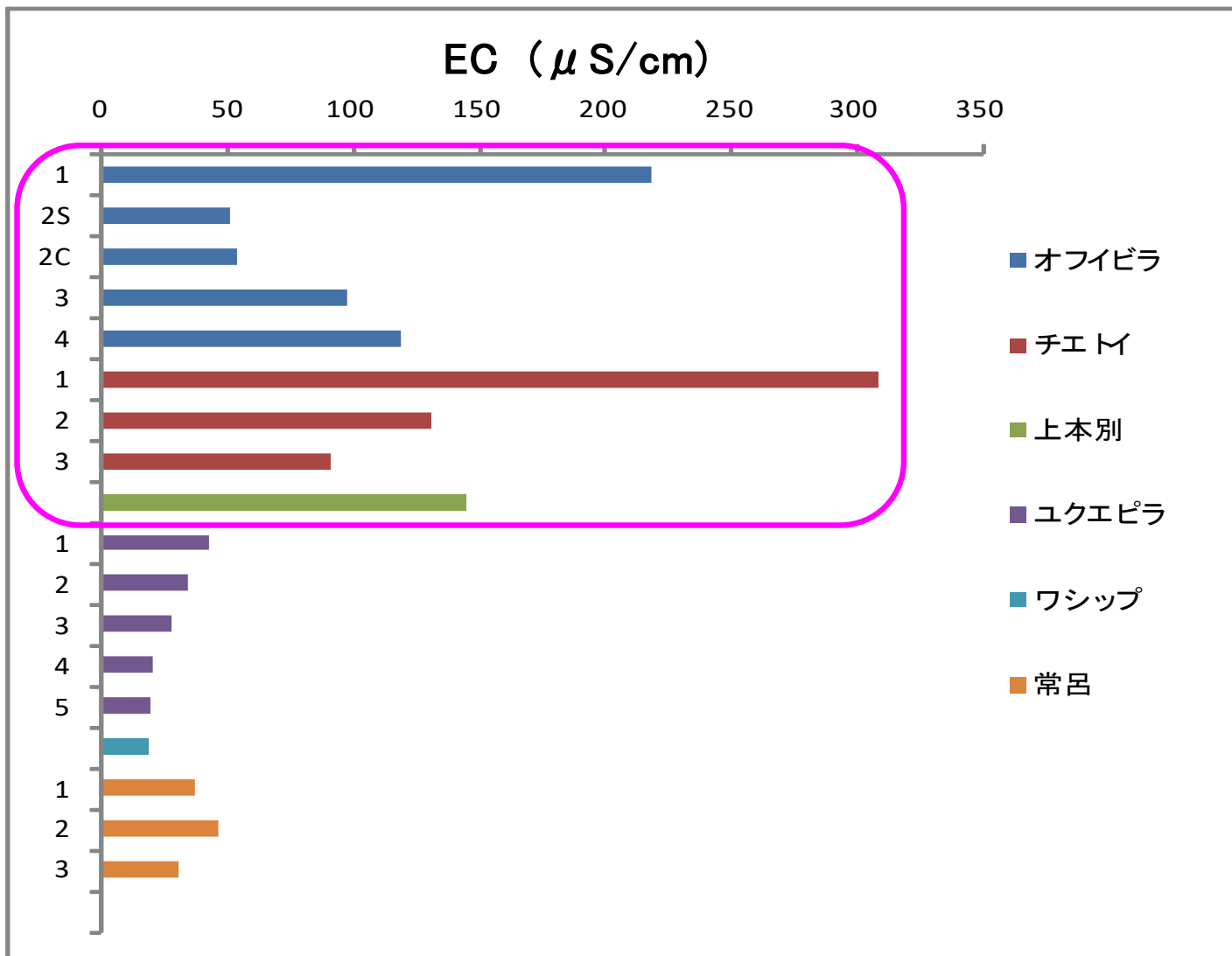
研究室所蔵の参考試料



食土試料の土性

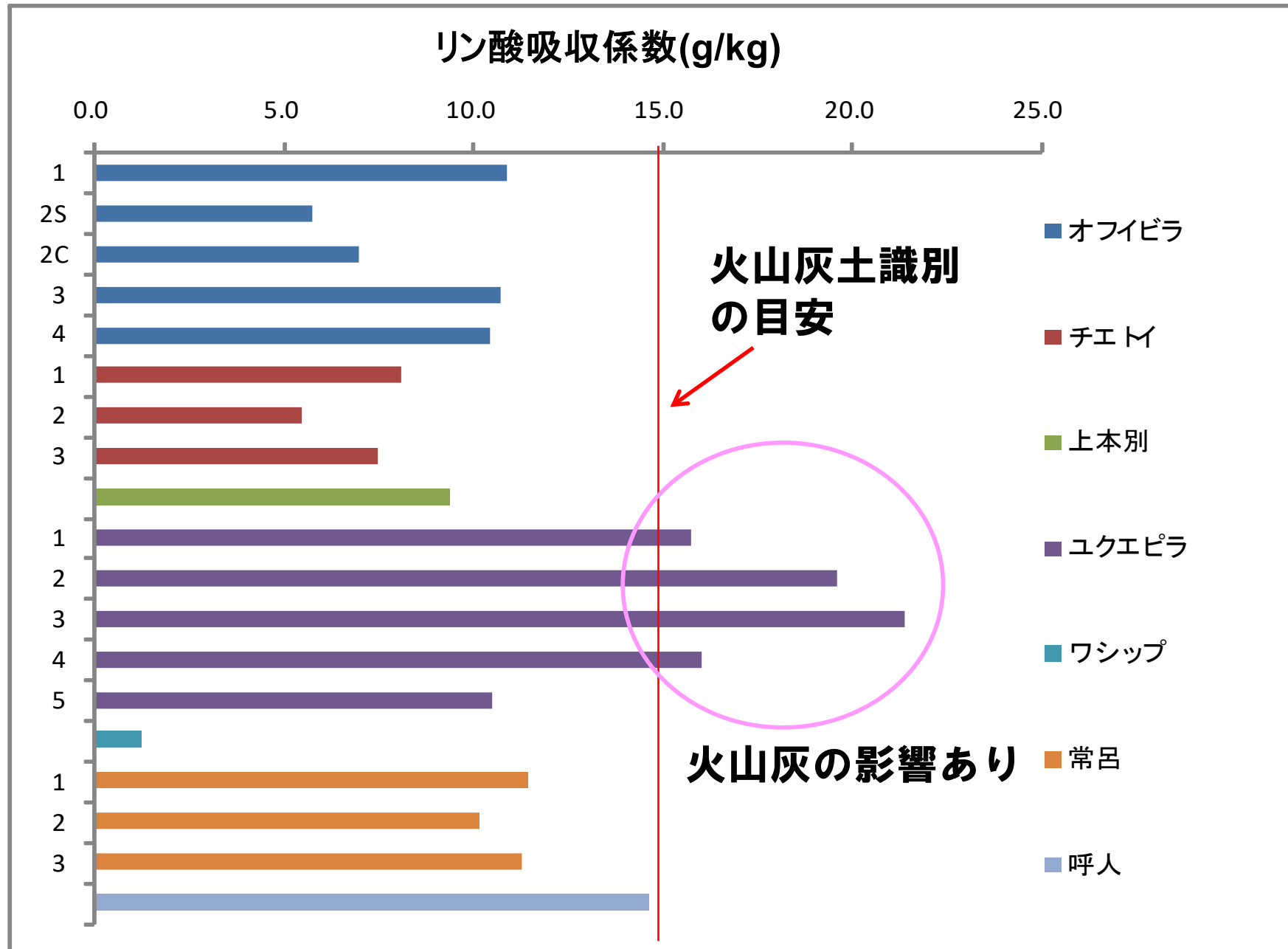


供試土壌のEC

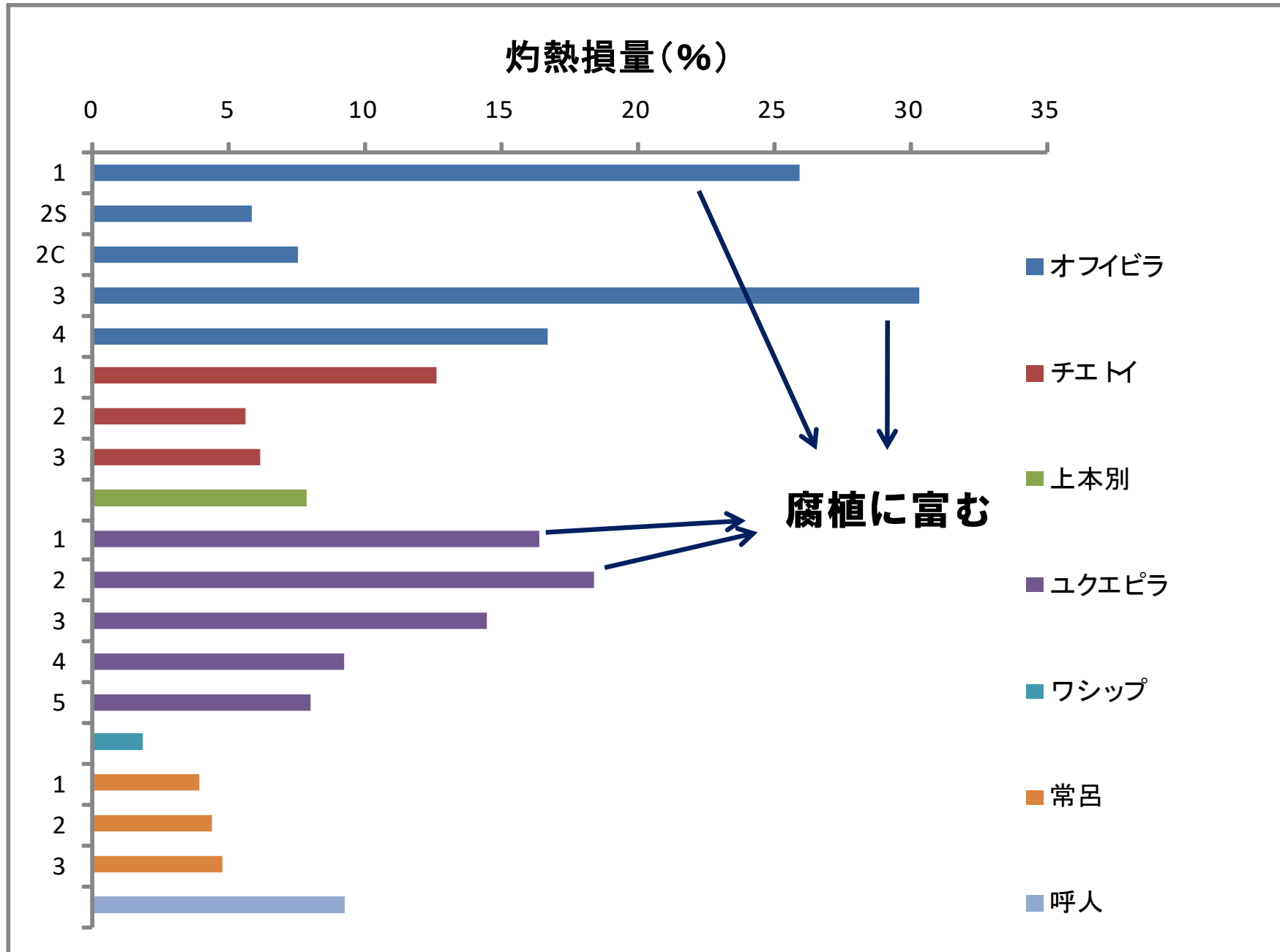


本別町の土壌はいずれもEC値が高く、
可溶性塩類の量が多いと考えられる。

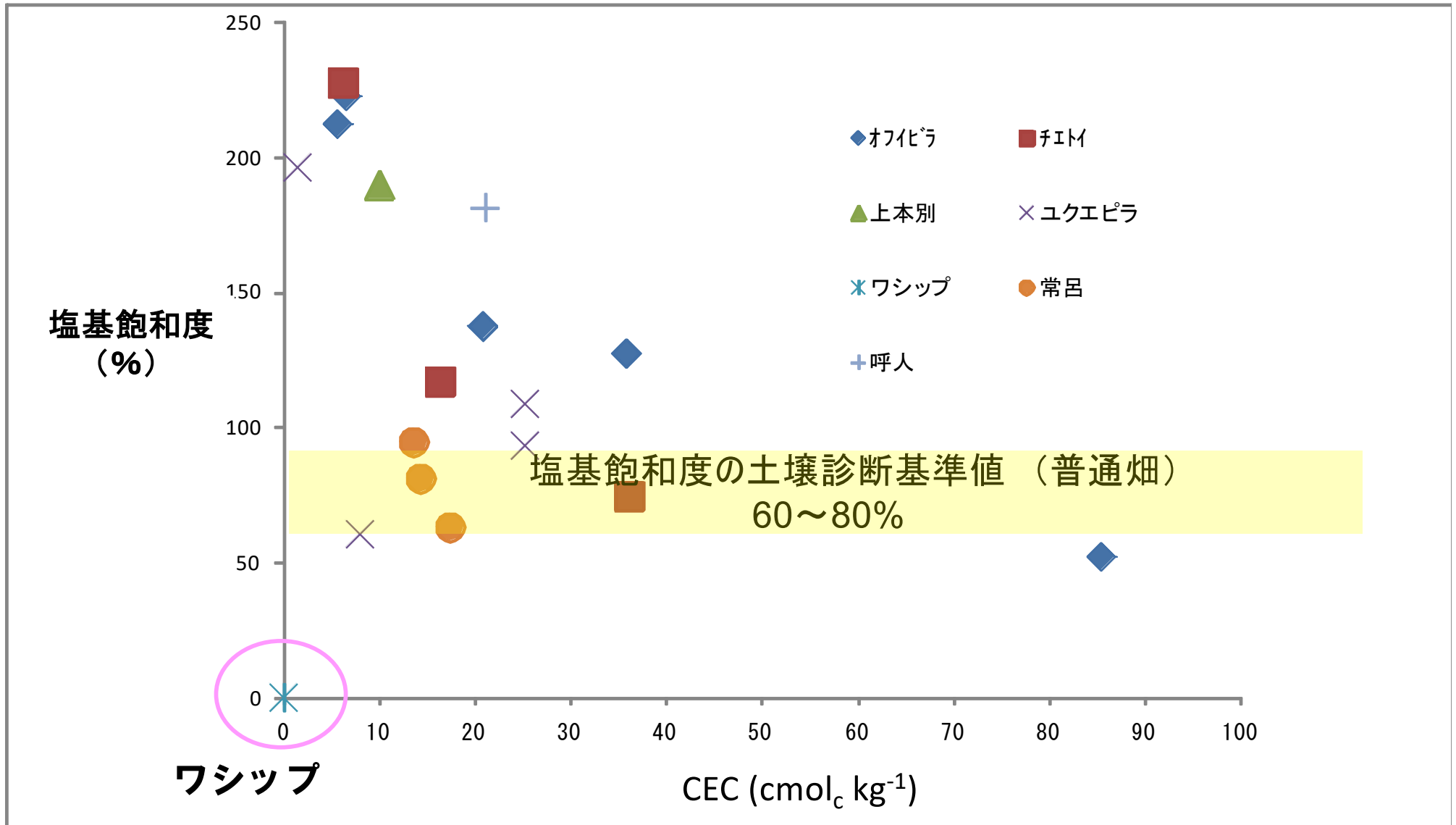
供試土壤のリン酸吸収係数



供試土壌の灼熱損量 (%)



CECと塩基飽和度(%)の分布



交換性陽イオン

