Findings From the Examination of DWORC Collection 201907A

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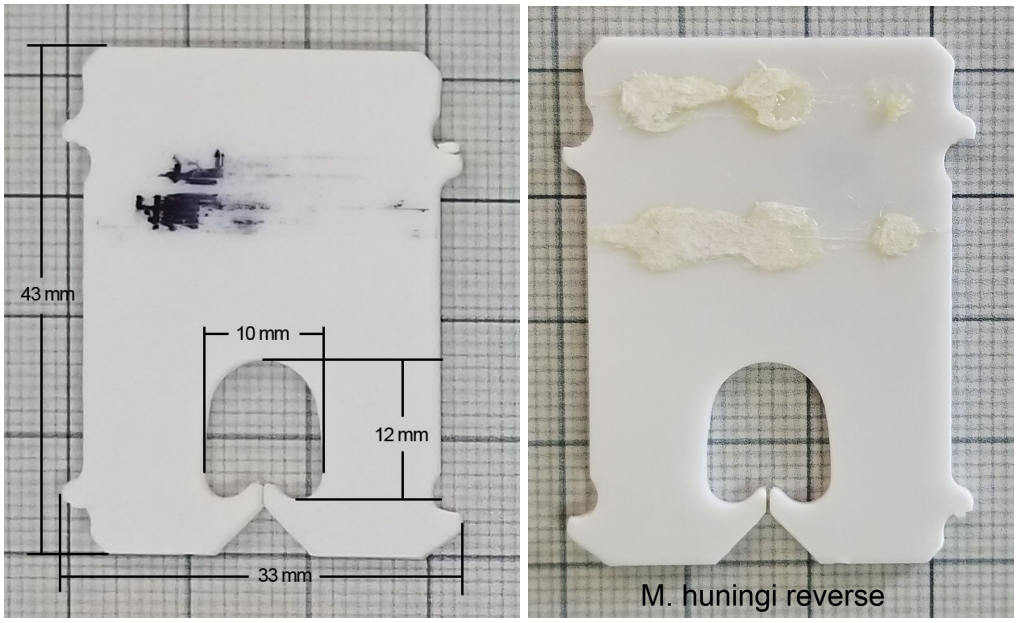
The report represents the findings of the examination of a large collection of occlupanids acquired over a lengthy period of time. Many specimens were collected locally by researchers stationed at DWORC headquarters in Northern California, while many more were collected by field researchers in Georgia, Maryland, Pennsylvania, Virginia, and Washington. Due to this we have limited information on the native habitats the specimens were found in. What habitat details we do have is noted in the descriptions below. Our examination has identified eight previously undescribed species[1].

Megapanis huningi

(Huning's big bread)



M. huningi reverse

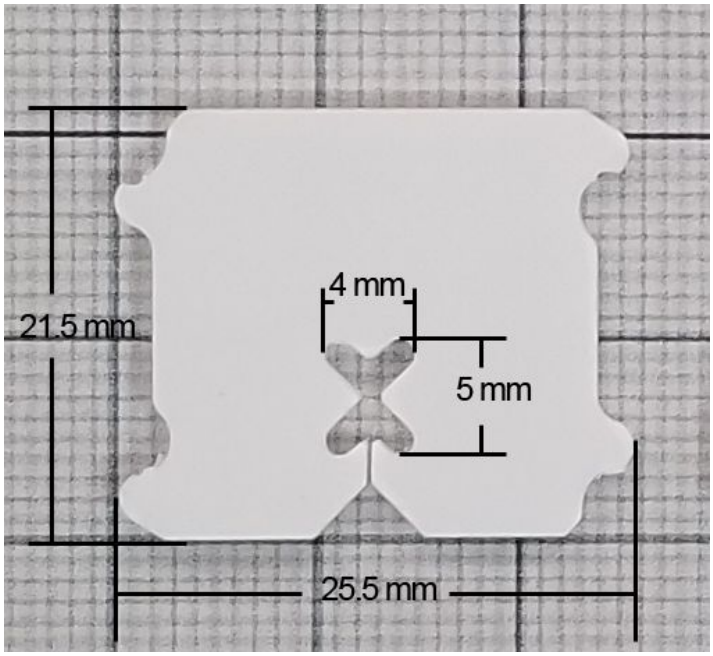
With external morphology essentially identical to Megapanis hursti and Megapanis gregjubyi, M. huningi clearly is a close relative of both. M. huningi however displays an oral groove more rectangular than either. Its oral groove appears most similar to Cyrtogergum viridis, Scabroderma balaniphagus, and even the much smaller Protocrena longibranchium. Several specimens of M. huningi have been examined and <u>all</u> bear

[1] Species names listed are proposed. We look forward to the feedback from the Holotypic Occlupanid Research Group and the Board of Taxonomy on official naming.

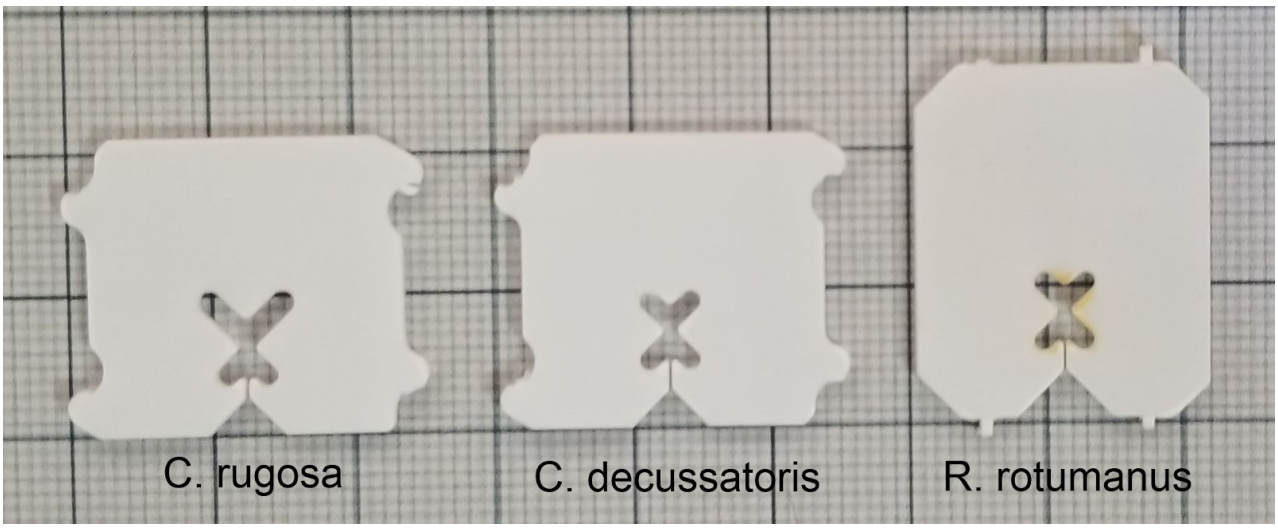
obscure blotchy tribal markings on one side and several rough growths on the opposite side suggesting that a cape or similar appendage was once attached. The field researcher's notes do not include any information on what the appendage may have been.

Constrictula decussatoris

(X-mark mouth, small and constricted)

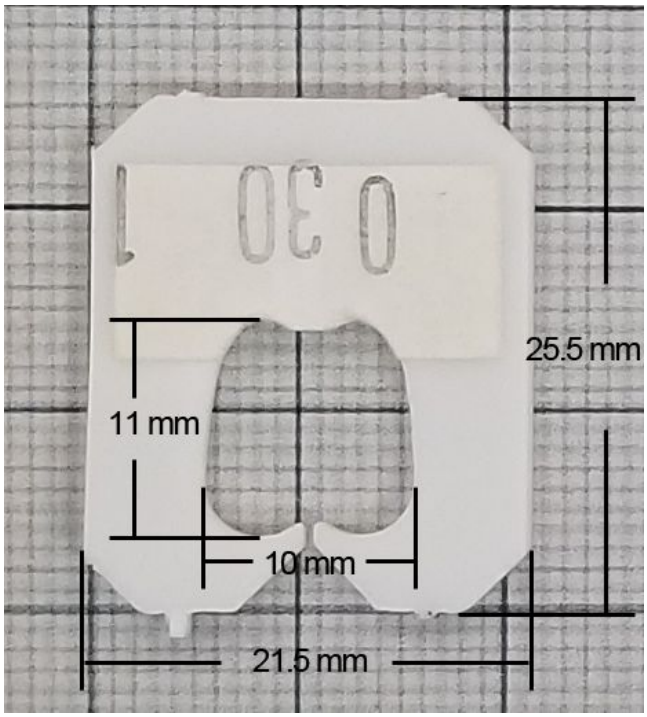


Only a single specimen of this occlupanid has been observed as of this writing. Likely a close relative of Constrictula rugosa due to its external similarities. The oral groove of C. decussatoris has four equal length processes like that of Rugoris rotumanus.

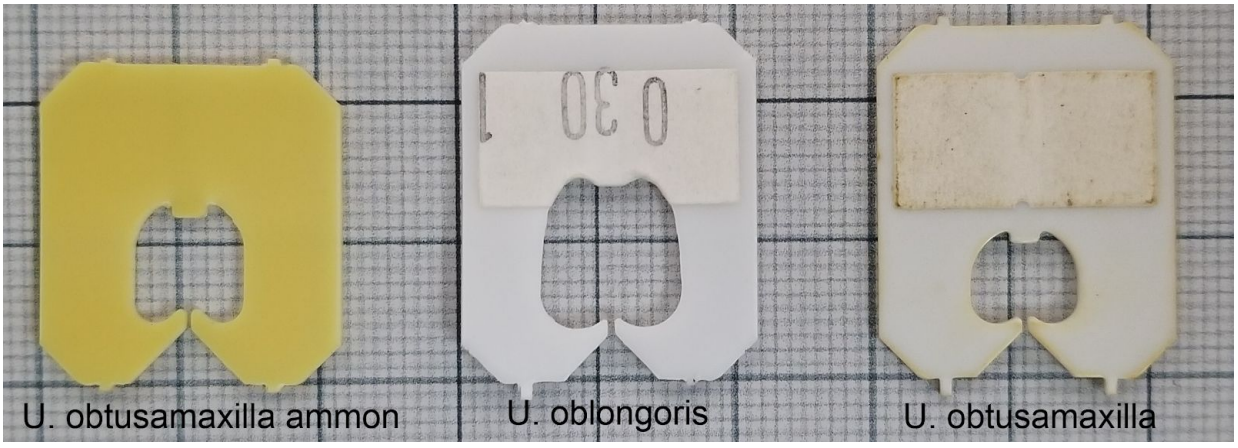


Unidenta oblongoris

(Oblong mouth single tooth)

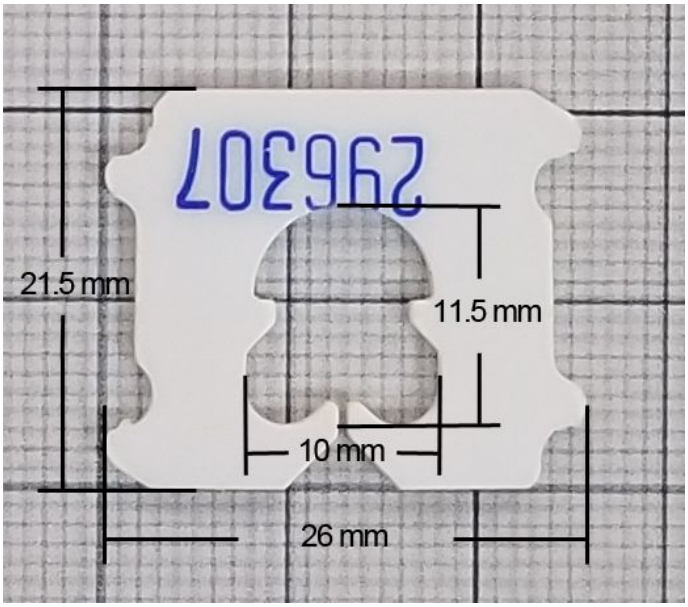


Several specimens of this occlupanid have been observed so far. One white and two pale blue were found in our collection from unknown biomes. A small colony of red specimens we recently spotted locally attached to plastic mesh bags of moldy oranges. It is most similar to Unidentia wrightae, but with an oral groove not matched by any other Haplognathid yet observed. U. oblongoris' oral groove is both deeper and less tapered than that of U. wrightae and among Haplognathidae is only smaller than that of the mighty Megavegivendus gigas.

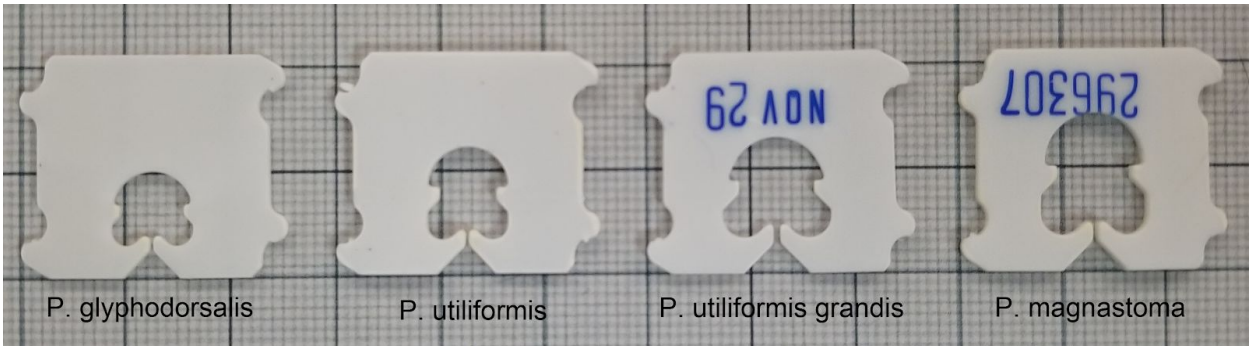


Palpatophora magnastoma

(Big mouth palp-bearer)

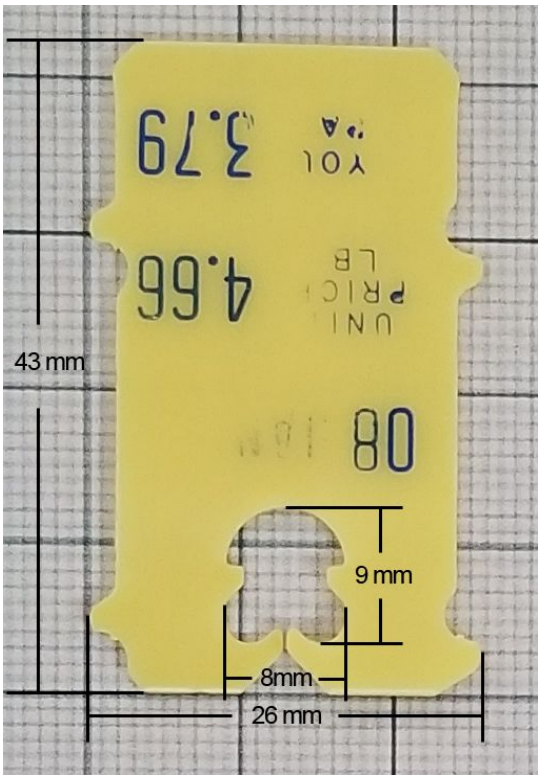


At first glance P. magnastoma could be one of a few very common occlupanid species: P. glyphodorsalis, P. utiliformis, or P. utiliformis grandis. Closer examination shines a light on P. magnastoma's stand out feature. It's rather large oral groove, is equal in size to that of Porrectofrontus mechadeus and only smaller than that of Aspericardis lehmeri among other Toxodentidae. P. magnastoma has been observed in biomes similar to those P. mechadeus is found in, namely plastic bags containing large and/or heavy produce. Perhaps its smaller external morphology makes it safer from predation. Also of note is that the bags it has been seen attached too are often a mix of plastic mesh and plastic sheet. It is unclear whether P. magnastoma requires this mixed biome to remain healthy. A dozen specimens have been observed, most with tribal markings, and all white but for a single pale blue example.



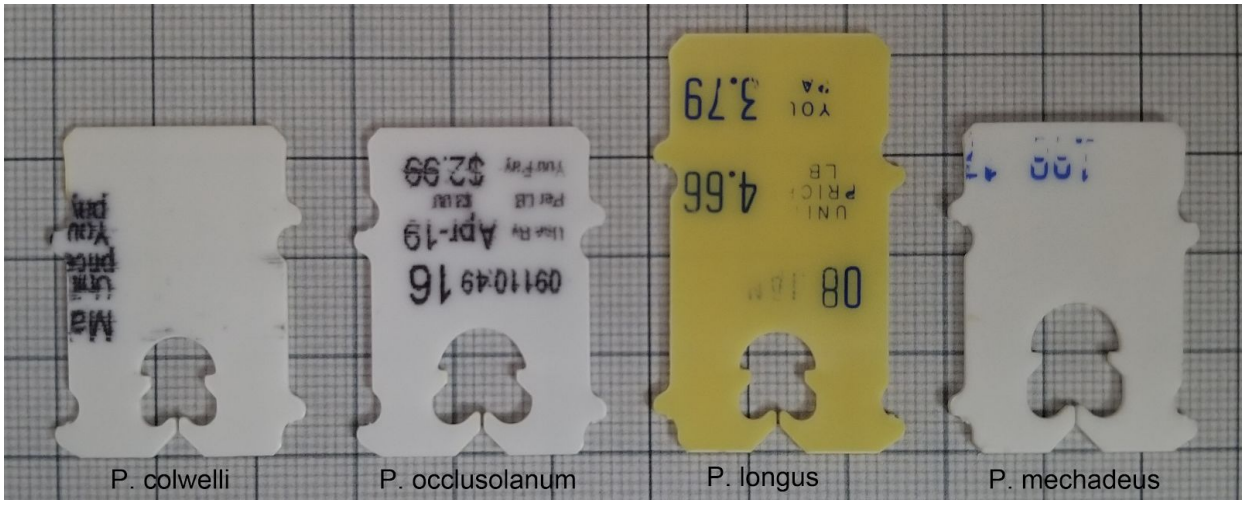
Porrectofrontus longus

(Long stretched front)



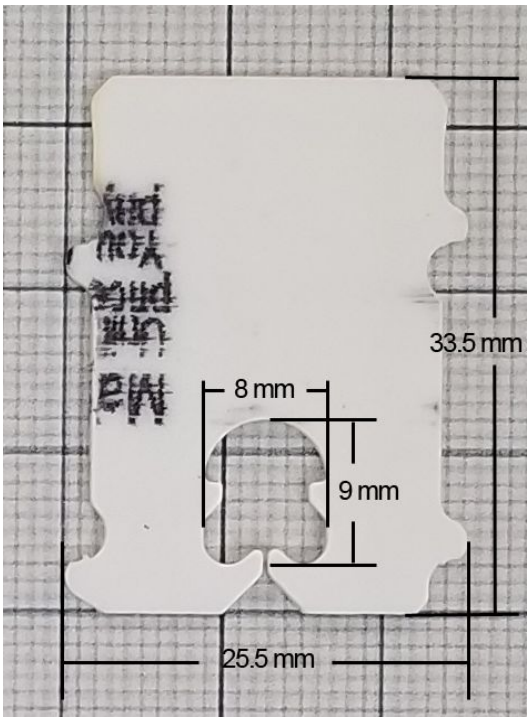
P. rubikarloffia

P. longus stands out for having the largest surface area of any Toxodentid with an oral groove of comparable size, though P. microstoma may have a greater surface area to oral groove area differential. P. longus bears a close external similarity to Porrectofrontus rubikarloffia but appears to bear a narrower oral groove. The oral groove of P. longus is similar to that of Palpatophora utiliformis, while P. rubikarloffia appears to have an oral groove like that of Porrectofrontus occlusolanum. Only three P. longus have been observed, two yellow, and one green.

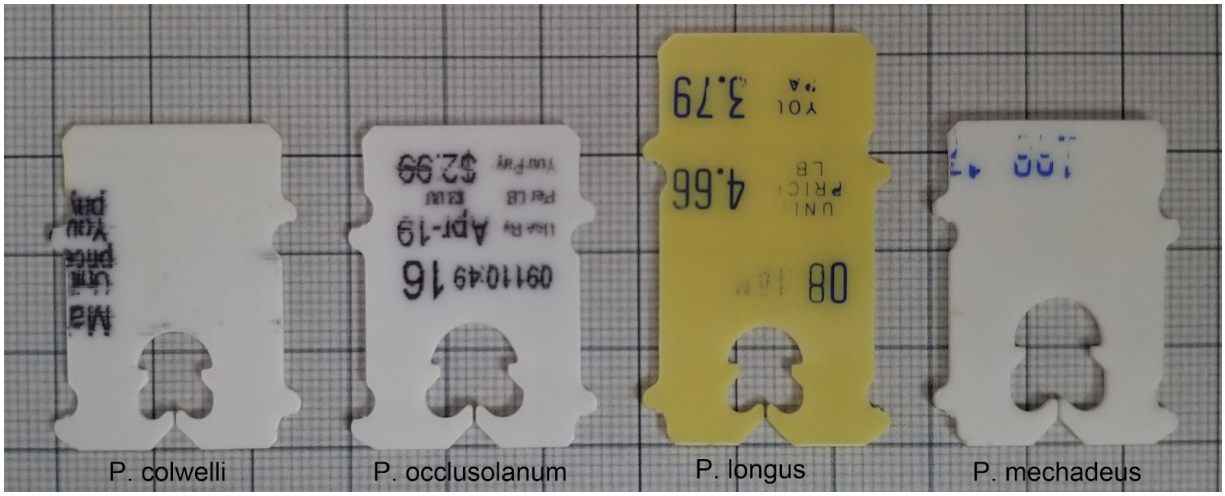


Porrectofrontus colwelli

(Colwell's stretched front)



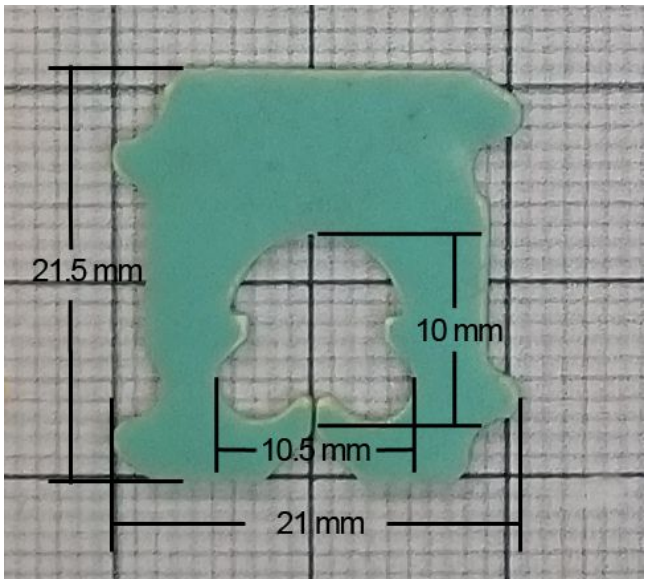
P. colwelli is externally a close match for P. occlusolanum and P. mechadeus but with an oral grove smaller than both, but larger than that of P. microstoma. The proposed binomial is in honor of occlupanid researcher R. Colwell, owner of the creativitches blog, who first identified this occlupanid as undescribed in post "Improved Occlupanid Curation System" in 2015[2]. P. colwelli stands out for its seemingly large population and diversity of color morphs. We have observed over three hundred individuals, in seven color morphs compared to fewer than 80 P. mechadeus in four color morphs, and ten P. occlusolanum in two color morphs.



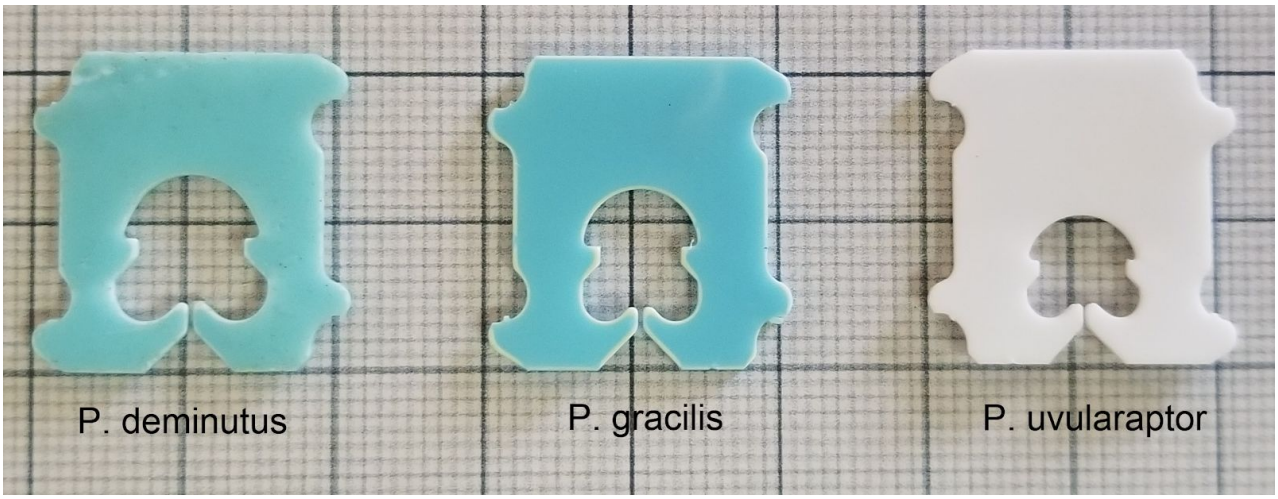
[2] Occlupanid researcher K. Andrews correctly credited R. Colwell's identification of this occlupanid but misidentified it as the same as their discovery, P. occlusolanum. Despite this error, we agree with their assessment that it is time that P. colwelli is formally described.

Palpatophora deminutus

(Diminutive palp-bearer)

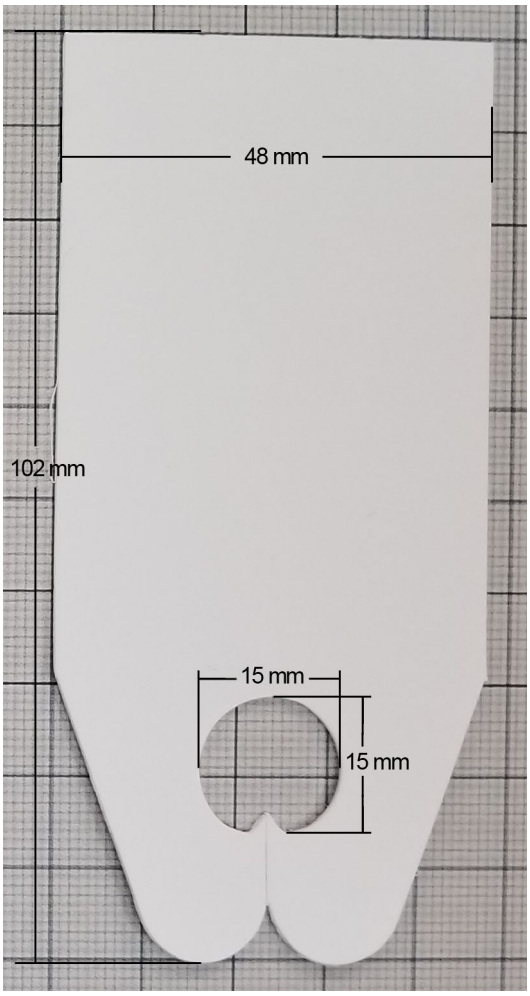


P. deminutus joins, P. gracilis, and P. uvularaptor as the smallest Toxodentid thus far identified. It is differentiated from its close relatives by having that largest oral groove of the three species. A total of four specimens have been observed in four different color morphs, pale blue, yellow, green, and red. P. deminutus has been observed on bags of Rainbow brand buns.



Taxoarbora magnifolia

(Big-leafed tree-sorter)



Found attached to a Japanese maple at a local nursery, T. magnifolia is a huge specimen, at 102 mm x 48 mm. Its flexible body is similar to the description of Taxoflora longifolia and it seems to fill a similar ecological niche, but whether this is due to the two species being closely related or due to convergent evolution is unclear. In contrast to the decidedly rectilinear oral groove of T. longifolia, it has an almost perfectly circular oral groove with small sharply inclined oral hooks.

Appendix

On The Further Classification Of Occlupanid Specimens

Introduction

The Holotypic Occlupanid Research Group (HORG) have done superb research in the area of occlupanid morphology, effectively defining the terminology used by the entire field. Furthermore HORG has set the standard for a taxonomy of occlupanids and continue to serve as the central source of truth for all occlupanologists as new species, subspecies and other taxa are discovered. As their name suggests HORG has restricted their publically available collection to a single specimen of each species or subspecies. There is substantial variation in color, palp arrangement, markings and attachments within species. Some collections including that of the DWORC seek to catalogue these intra-species variations to greater or lesser extent. For researchers who seek to catalogue similar degrees of variation we propose classification schema for color morph and handedness. In addition, we propose classification nomenclature based on markings (or lack thereof) and attachments (sometimes called capes). DWORC hope that our fellow researchers find these schema helpful.

Classification by Color Morph

Even casual observers of occlupanids will have noticed that they appear in a wide variety of colors or “color morphs”. When examined more closely it is clear that the number of color morph variations is greater in some species than others. In addition, even the most common color morphs (when taking occlupanids as a whole) are not observed at all in some specific species. Further, within a given species, the color morphs that are observed are not evenly distributed, meaning that some color morphs are more common than others. At this time it is not clear what role these color morphs play in occlupanid biology or culture. If we have any hope of understanding the role of color morphs we must gather more information across the field. In pursuit of this goal we offer up the following scheme for classifying occlupanid color morphs.

Just as binomial nomenclature and taxonomy in general uses Latin, we look to Latin for names for each observed color morph. Our reference point for a list of latin words for various colors is Glosbe - the multilingual online dictionary. When a new color morph is identified we select a word from the Glosbe’s English to Latin translation that best describes the color morph, and that has not already been assigned to another color morph. Examples of all color morphs found in the DWORC collection to date can be seen in figure 1.


Albus
Azureus
Caesius
Cerasinus
Citreus
Coeruleus
Cyaneus
Flavus
Fulvus
Gilvus
Luteus
Perviridis
Piceus
Prasinus
Pullus
Puniceus
Ravus
Rubudis
Rufus
Sufflavus
Violaceus
Viridis

Figure 1

Classification by “Handedness”

Occlupanologists will be familiar with the palps sported by many species of occlupanid. All currently identified species of palp bearing occlupanids have four palps, two each on the right and left sides. The four palps are known as the greater and lesser distal palps and the greater and lesser proximal palps. The greater and lesser palps of each type (proximal or distal) are on opposite sides of the occlupanid, the proximal palps close to the side of the occlupanid where the oral groove is, the distal ones close to the side opposite the oral groove. The pairs of palps are not in line with each other, instead being offset slightly. The palp that is closer to the side it is named for (proximal or distal) is the greater palp. The palp that is further away from the side it is named for is the lesser palp. The greater proximal palp is always observed to be on the opposite side of the specimen from the greater distal palp see figure 2.

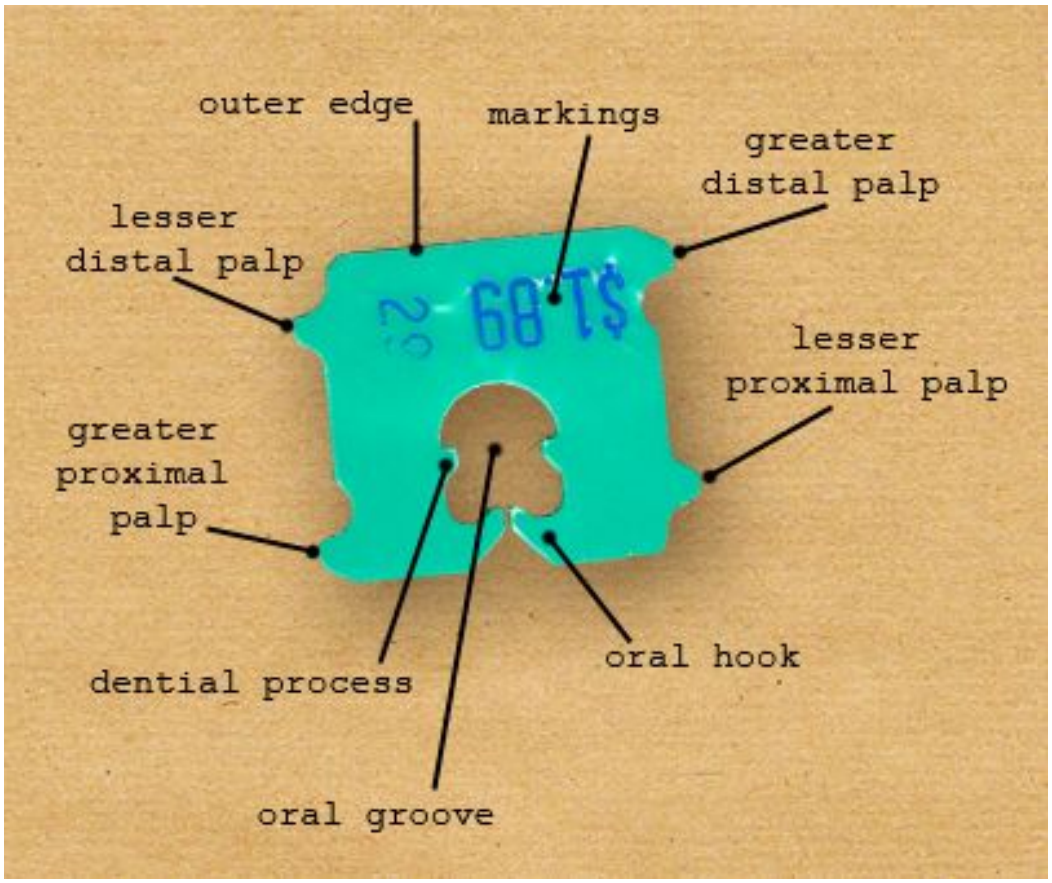


Figure 2 - Original from the HORG page on Occlupanid Morphology

The greater palps can be on either the left or right side of the occlupanid (see figure 3). The reason for this variability in palp configuration is unknown, and the need for further research in this area has prompted us to establish a nomenclature for the variations. We define the two variations as either “dexter” (latin for right - aka right handed) or “sinister” (latin for left - aka left handed). The greater distal palp of a right handed specimen is on the right side of the occlupanid. In turn,

the greater distal palp of a left handed specimen is on the left side of the occlupanid (see figure 3).

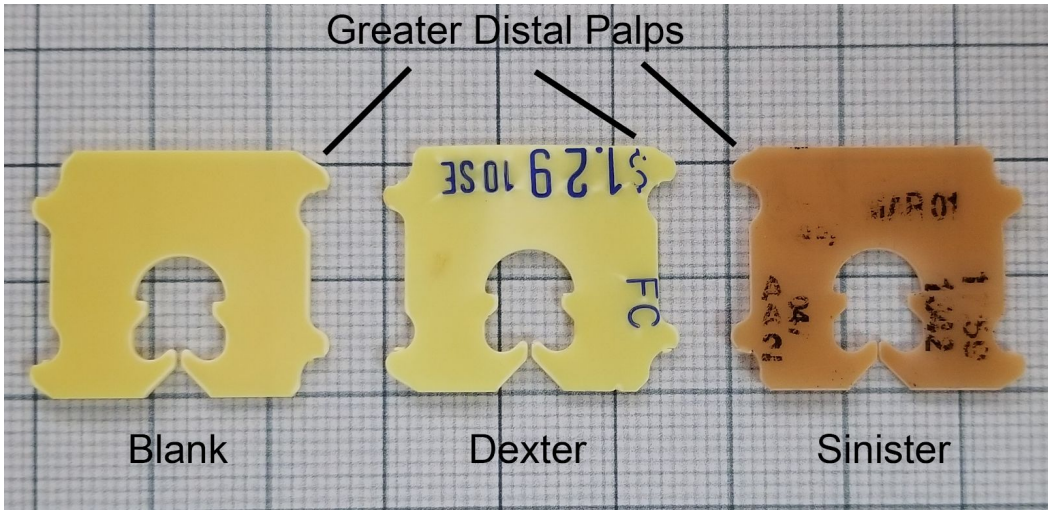


Figure 3

To determine which surface of the occlupanid that is the front face, or obverse, turn it so that any markings are visible, then ensure that the opening of the oral groove is down (as shown in figure 3). In this configuration the right and left sides of the occlupanid are the same as the viewers'. Specimens with no markings, are by default assumed to be right handed and are turned so that the greater distal palp is on the right side (as shown in figure 3). Likewise, if a specimen is observed with markings on both the obverse and reverse (we have not yet faced this situation), it will be treated like a specimen with no markings, and assumed to be right handed. The right handedness assumption is based on observation across all palp bearing occlupanid species. Based on our research right handedness is the prevalent variety in palp bearing specimens that also have markings. It is notable that some species are more likely to be left handed, however.

Classification by Markings and Attachments

We at DWORC recognize that occlupanid markings are an important area of study, however given the massively diverse variety of markings observed and the limited resources available to this institution, we have chosen to focus on a narrower field of study at this time. We look forward to the findings of those researchers who do have the resources to take on that daunting task.

We make note of markings for palp bearing occlupanids as mentioned above in the "Classification by Handedness" section. There are also three other terms used to identify other types of variation or lack thereof. For non-palp bearing occlupanids we note the lack of markings by including "inanis" (latin for blank) in the description. Some occlupanid bear discernible white patches (noticeably different in character even on white specimens). This is denoted by "macula" (latin for spot or patch) in the description. Finally some specimens have a lengthy stretch of paper or other material attached to their distal side. Some researchers remove these prior to display. We

prefer to preserve these attachments when possible, and note the feature by adding “amiculum” (latin for cape) to the description.

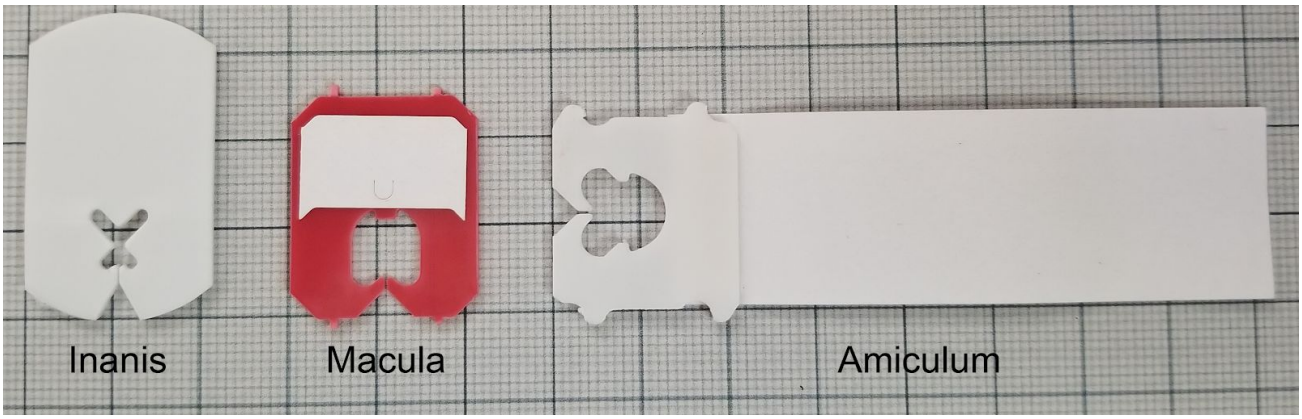


Figure 4 - Examples for Inanis, Macula and Amiculum

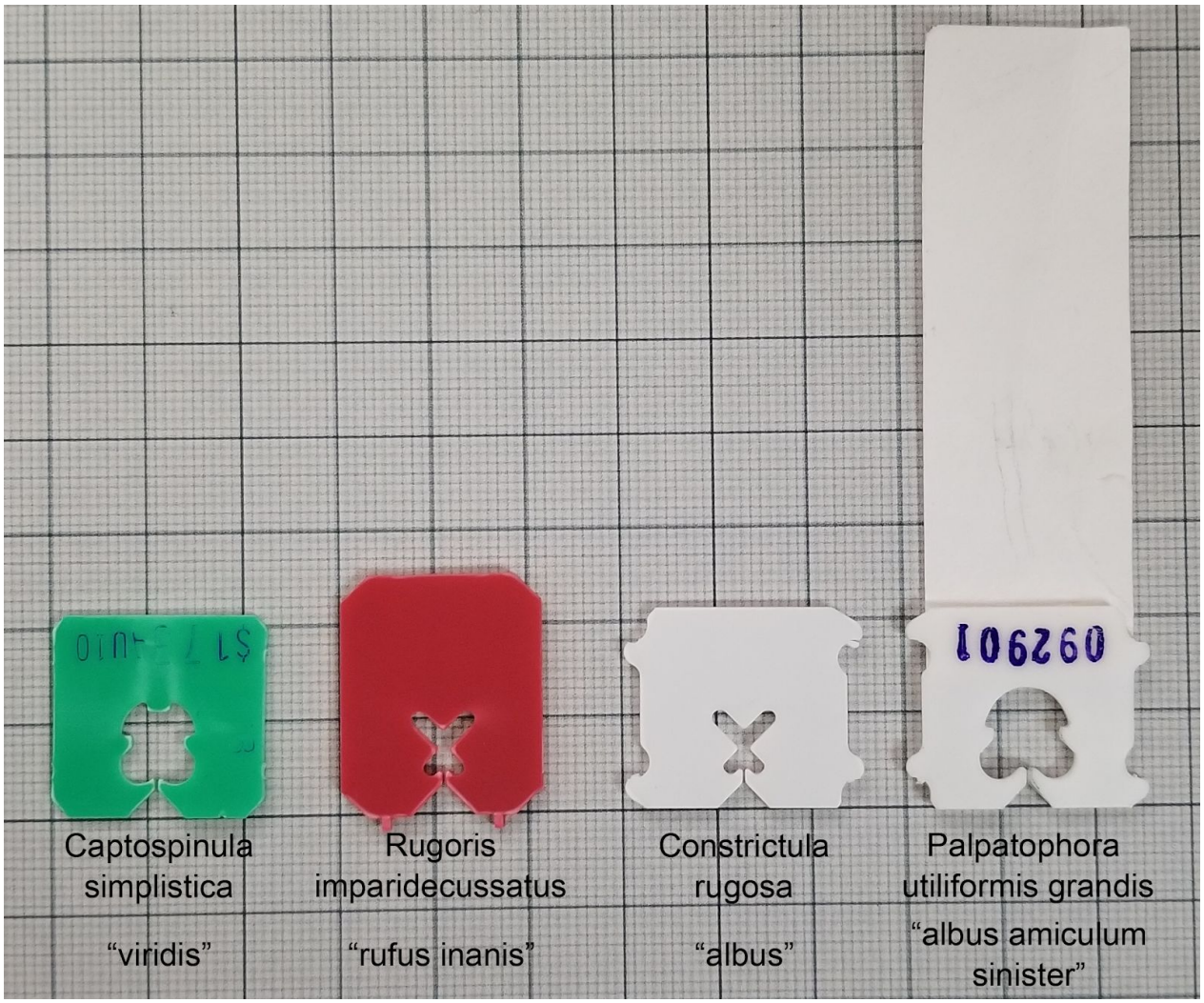


Figure 5 - Examples of occlupanids fully classified under the DWORC schema.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