

Climbing Hitches: Addenda and Corrigenda

By Mark Adams

This article provides additions to and corrections (*addenda* and *corrigenda*) of two previous articles on climbing hitches that appeared in earlier issues of *Arborist News*. The additions and corrections are based on suggestions and comments received since the publication of those articles.

The first article, “An Overview of Climbing Hitches,” appeared as the Climbers’ Corner feature for October 2004. The article focused on the technical aspects of approximately seven climbing hitches and included instructions and photographs on how to tie the various climbing hitches. The second article, “Son of a Hitch: A Genealogy of Arborists’ Climbing Hitches,” appeared as the Climbers’ Corner feature for April 2005. It discussed the history of the names of those various climbing hitches and included photographs and descriptions of two additional climbing hitches.

Prusik

There were several comments about the open (Figure 1) and closed (Figure 2) forms of the Prusik. In the genealogy article, it was stated:

... when Dr. Prusik presented this hitch, he showed it tied with a loop. Present-day arborists use the term “Prusik” to refer to this configuration whether it is tied with a loop (a closed knot) or tied with the end of a line with no termination of the tail (an open knot). Some writers consider these to be two different knots entirely (p. 51).

Some of the comments were that there should have been a stronger statement that these knots were in function, if not in



Figure 1. The form of the Prusik can be tied as either an “open” climbing hitch. . .



Figure 2. . . or as a “closed” climbing hitch. The open and closed versions respond differently, and some consider the open and closed versions to be two different knots.

name, two different knots. A hitch that is loaded on one strand behaves much differently from a hitch that is loaded on both strands. The difference between the tautline and Distel, and Blake’s and the Michoacán (which I incorrectly called the Martin; see below) is that the tautline and Blake’s are open knots, while the Distel and the Michoacán are closed knots. Thrun refers to the open version of the Prusik (tied with the end of the line) simply as a “hitch series” and emphasizes that Karl Prusik’s original article showed the Prusik tied with a closed loop.

French Prusik

The overview article stated that “there are different names to describe different configurations of the French Prusik.” The article mentioned four versions of French Prusik, describing two in detail. The genealogy article mentioned the same four variations (*Machard*, *Machard tresse*, *Valdôtain*, and *Valdôtain tresse*) and said that Geoffrey Budworth showed an “extended” French Prusik. The “extended” French Prusik, however, was not described or shown in the genealogy article. An “extended” French Prusik is simply a series of braids formed down the line; that is, it could be thought of as a *Valdôtain tresse* without the

turns. A commentator mentioned that the book *Alpine Caving Techniques* uses the name “French Prusik” for yet another knot that the commentator described as “a single-strand Bachman.”



Figure 3. When using the Schwabisch, the primary gripping takes place in the top of the knot. The Schwabisch should be tied so that the majority of the coils are in the top of the knot.

Schwabisch

The genealogy article (pp. 52–53) pointed out that the Schwabisch (which may be thought of as an asymmetric Prusik, Figure 3) appears in the book *On Rope*, which shows the knot tied with three, four, and five turns.

After some correspondence, it was determined that the first edition of *On Rope* describes and illustrates the knot correctly. In the new revised edition, however, there was a mistake in both the text and the line drawings. The text incorrectly describes where the primary gripping takes place, and the line drawings show the knot upside down.

It was thought that the genealogy article was not clear enough about the (potentially fatal) errors in *On Rope*. When using the Schwabisch, the primary gripping takes place in the top of the knot—and the Schwabisch should be tied so that the majority of the turns are in the top of the knot. Both the text and the drawings in the new revised edition of *On Rope* are incorrect.

On Rope also states that an asymmetric Prusik “. . . is a variation used when endless loop wrapping is not possible” (p. 53). But an endless loop is not necessary to make a symmetric Prusik. A symmetric Prusik can be formed with a length of cord and then the ends can be tied-off, or with the end of a line as when used to form a climbing hitch on the end of a climbing line.

Michoacán

The genealogy article showed and described a climbing hitch that had recently been introduced and with which I had not had a lot of experience. The name that was used for the knot in the article was Martin (pronounced *Mar-TEEN*) after Martin Morales, the climber who introduced the knot.

Since publication of the article, I have had an opportunity to talk with Martin, who stated that it was his desire to have the knot called the Michoacán, after the state where he lived in Mexico. Other arborists had dubbed it the Martin because they had difficulty pronouncing Michoacán. I will follow Martin’s wishes and call it Michoacán (pronounced *Mee-cho-a-CAN*) (Figure 4).

I also have been able to use the knot extensively in various settings and with various combinations of hitch cord and climbing line. In the original article from April 2005, I showed the knot tied with four turns and the top leg tucked under one (the bottom) turn. I have found this to be fluid, responsive, and reliable. Some people, however (including Martin), have commented that the knot holds better if there are five turns around the climbing line.

I have not experienced any problem with the knot slipping if it is properly tied, dressed, and set, but performance can vary dramatically depending on the length, type, diameter, and condition of the cord that is used for the split-tail, and on the type, diameter, and condition of the climbing line. For example if the legs of the knot (indicated by the arrows in Figure 4) are the length shown in Figure 4, the knot will be very loose and unpredictable.

The legs are long in Figure 4 only so that it is easy to see the whole knot tied and “exploded.” In practice, I tie the cord so that the legs are very, very short. Every climber needs to check the compatibility of the components of his or her own system before leaving the ground (some other variables are discussed in the overview article, p. 34).

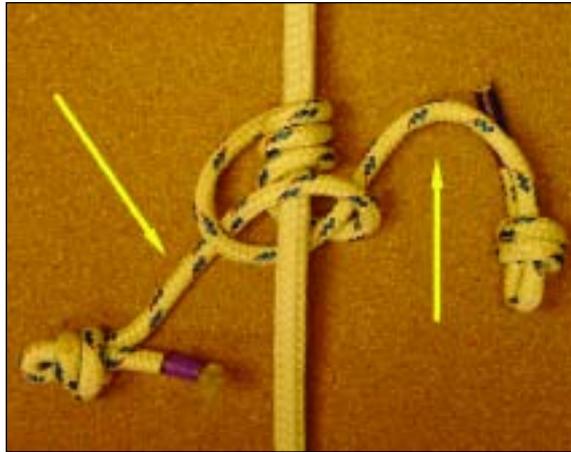


Figure 4. The Michoacán can be thought of as a “closed” version of Blake’s hitch. To form the Michoacán, the split-tail makes four counterclockwise turns up the climbing line. The top leg is dropped in front of the bottom leg, behind the climbing line, and up through the bottom turn. Both legs are then clipped to the carabiner. Some climbers prefer to use five or six turns rather than the four shown here.

On July 7, 2005, in a thread on the discussion forum of the Web site TreeBuzz, Paolo Bavaresco mentioned that he was experimenting with a new hitch, which he called the Eye-Tie. On August 18, he described the hitch in detail and provided a link to his Web site where a video gave step-by-step instructions for tying the knot (called the Eyetie on the Web site). The Eyetie hitch is exactly the same as the Michoacán except that Bavaresco uses six turns for the Eyetie instead of the four or five that are normally used for the Michoacán.

It is frequently difficult to see when one knot becomes another and deserves a new name. Making an additional turn around an object; tying the knot with a loop, the end of a line, or in a bight; terminating the tail in a different manner; or tying the knot onto the rope’s own tail, a different rope, or another object—all of these may or may not be reason to give a knot a new name. In this case, it seems that the Eyetie and the Michoacán are the same knot, realized by different arborists.

There are many variations of the climbing hitches shown in the overview and genealogy articles. A climber can add, subtract, or change the direction of wraps, braids, or twists to fine-tune any of these hitches. There are also, at least in name, many other climbing hitches. Most, if not all, of them are variations or interpretations of the knots shown in these articles. Regardless of which knot is used, it is important that each climber learns to tie, dress, and set the knot properly. It is equally important that each climber tests the compatibility of all the components of the system before attempting to use the system in a tree. Please climb and work safely.

References and Credits

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Eyetie: www.treemettlenexus.com/class2.html.

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All photos are courtesy of the author.

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