

# Mayflies of the Guadalupe River

Prepared by *Nick Wiersma* for the  
Guadalupe River Chapter of  
Trout Unlimited

## Mayflies of the Guadalupe River below Canyon Dam

The original draft of this paper was written by Bud Priddy and based on information provided to him by Southwest Texas State University in the form of a thesis done by Michael Stahl Peters entitled *The Mayfly Nymphs (Insecta: Ephemeroptera) of the Guadalupe River Basin, Texas, 1977*. Peter's study covered roughly the whole river basin (Blanco River, Little Blanco River, Comal River, Guadalupe River and many of the associated creeks) from headwaters to Victoria, TX. Only 2 of the approximately 62 sites were below Canyon Dam and within the accepted trout fishery. I personally can back up virtually all of the listed species with samples of my own and add species I have also collected. I have also taken the liberty to update and correct the taxonomy within and added additional tying and or imitation advise. -- Nick Wiersema, 1996

"There are a suprising number of species or subspecies present but the similarities of those specie groupings of insects are so close that trying to represent all types is impractical and not at all necessary. In fact, an argument can be made for using an Adams in sizes twelve to twenty-two as your single dun pattern. This will work quite well on overcast days."-- Bud Priddy

### Clingers

#### **Heptageniidae**

##### 1. *Heptagenia flavescens*

Dun-Reddish-brown body, pale tails and legs, and grey wings--Adams or Dry Brown Woolly- size 12.

Nymph- Almost identical to *Stenonema* or *Stenocron* nymphs- three tails or caudal filaments, dark brown coloration, use Gold Ribbed Hare's Ear in brown- size 12 or similar.

Spinner-Creamy brownish abdomen, light legs and cerci, and clear wings with some dark crossveins-size 12

2. *Stenocron interpunctatum* (Pale Grey Fox Quill), "*heterotarsale*" was most recently one of four subspecies determination for the *S. interpunctatum* group, but they no longer considered applicable within this group.

Dun-Pale yellow body with olive secondary shade, pale yellowish tails and wings. Female appear to have orange abdomens due to the color of their egg sacks. Use Grey Fox with olive-yellow abdomen-size 14

Nymph-Brownish mottled olive body with dark brown-olive wingcase-use brownish-olive G.R. Hare's Ear nymph size 14

Spinner-Bright yellow-chartreuse-size 14

3. *Stenonema femoratum* (Red Fox Dun), because of the presence of many intermediate individuals in populations and lack of geographic isolation, subspecies are not recognized in this group, (Bednarik, A.F., and W.P. McCafferty, 1979.) i.e. *S. femoratum tripunctatum* and *S. femoratum femoratum* previously reported from the Guadalupe.

Dun-Creamy body with tannish markings and brownish-speckled wings or amber abdomen with brown wings, 2 color morphs, somewhat seasonable emergences with darker morph emerging in springtime primarily. Use Light Cahill with Badger or Red Fox Belly for dubbing or a March Brown in size 12-14

Nymph-Dark olive-brown or very pale with speckled body markings-use G.R. Hare's Ear in dark brown of light tan size 12-14

Spinner-Creamy body, 8th through 10th segments are brown-size 12-14

4. *Stenonema mexicanum integrum*

Dun-Pale whiteish-yellow with pale wing, legs and cerci. Use light PMD or Light Cahill in a size 14

Nymph-Light brown-olive with pale brown with speckled body markings-use G.R. Hare's Ear size 14

Spinner-Pale cream or yellowish with abdominal segments 1-7 hyaline or clear and 8-10 opaque creamy whitish in males. Females with all segments creamy opaque with clear wings- size 14

5. *Stenonema terminatum terminatum*, *S. ares* Burks was synonymized with *S. terminatum terminatum* Walsh (Bednarik, A.F., and W.P. McCafferty, 1979.)

Dun-Pale creamy body with greyish-brown wings, use Light Cahill size 12.

Nymph-Brown to reddish brown, use a Phaesant Tail Nymph size 12-14.

Spinner-Creamy to whitish body with clear wings, size 12.

6. *Stenonema pudicum*

Initially I felt it probably did not occur in the river below the dam. Peters reported it from a few locations above the dam, but I had never collected any specimens below the dam until recently. My best guess is that the population is small and unimportant for the fly angler.

## Baetidae

7. *Baetodes inermis*, *Baetodes alleni*, and *Baetodes edmundsi*

Dun-Pale Morning Dun (PMD) ideally tied with a very light creamy pale dun wing. Use a size 16 or 18. This is a good standard for most beatids in the river, the duns are usually very pale and a light PMD or Blue Winged Olive-BWO are more effective than standard versions. Dun probably only important stage.

Nymph-Light olive with distinct striped pattern of black or brownish-olive with light olive. Only beatid genus not morphologically designed as a swimmer. Squat dorsally-ventrally flattened, with only two caudal filaments visible not three, medial filament is vestigial or greatly reduced and only visible under magnification.

Probably not important due to behavior.

Spinner- Brownish-olive with clear wings. Probably not important.

## Swimmers

## Isonychiidae

1. *Isonychia sicca*, "manca" and other subspecies designations are currently-not considered applicable within this grouping.

Dun-Body is brownish-red with dark grey wings, the middle and rear legs are creamy white as are the two tails, front legs are dark. Priddy felt dun to be unimportant due to hatch behavior, I disagree many evenings and overcast days I observed fish aggressively feeding on them. A size 10 Chocolate Dun is effective.

Nymph- Very dark brownish-red when mature, but early instars are very pale, front legs have a large amount of long hairs on their femurs and tarsi used to filter organic matter. Generally sit at the head or rear of riffles collecting/filtering.

Largest swimmer in the river, use a size 10-12 Zug Bug, Prince Nymph or Picket Pin.

Spinner-Reddish to purplish abdomen and thorax with extremely clear wings.

**Baetidae**-- important species discussed in detail but other beatids are present (*Acentrella* sp., *Fallceon quilleri*, and most certainly others.)

2. *Baetis* (Blue Winged Olive)

Multiple species present, *B. intercalaris*, *B. flavistriga* and *B. veteris* being most prevalent. *Baetis veteris* formerly *Pseudocleon veteris*. The 17 Nearctic species of *Pseudocleon* not previously assigned to *Acentrella* or *Apobaetis* were newly placed in *Baetis* or *Barbaetis*. (McCafferty and Waltz, 1990.)

Dun-BWO or PMD, again pale version tied with pale or light blue hackles and light olive and other green bodies are advantages. Adams can also be effective. Sizes 18-22 are best.

Nymph-Light olive to a brownish olive, use a light olive to olive G.R. Hare's Ear or Quill Gordon Nymph, size 16-18.

Spinner-Light olive to brownish-olive body with clear wings, sizes 18-22.

3. *Camelobaetidius mexicanus* formerly *Dactylobaetis mexicanus*. (McCafferty and Waltz, 1990.)

Dun-Body brown with grey wings and two tails use Mahogany Dun size 18. Large population.

Nymph-Light olive body with secondary brownish-grey markings on abdominal segments, use Quill Gordon Nymph in size 18.

Spinner-Mahogany to purplish abdomen with clear wings and two tails. Size 18.

4. *Procleon texanum*, *Centroptilum album* was reported in the San Marcos River in 1950, previous to this *C. album* had a known distribution in the northeast and Canada. Due to this distribution Peters questioned the validity of the *C. album* identification. I agree. In 1990 *C. album* and the whole *Centroptilum* genus was revised and most species previously identified as *Centroptilum* were newly placed in *Procleon*. *C. album* is now considered *Procleon album*, but I strongly doubt its presence in the river. Peters did collect samples identified as *Centroptilum* at the time, but was unable to make a specific species determination. *P. texanum* was described by McCafferty and Provonsha as a new species in 1993 from adult males reared from nymphs collected from the Navasota River in 1969. Adult specimens collected by myself from the Guadalupe do not match up with any species previously described as *Procleon*, *Centroptilum*, or *Cleon*, but do fit the description of *P. texanum*.

Dun-White to creamy body with pale wings, size 20-22. Observed some response to a decent hatch.

Nymph-To small to effectively imitate.

Spinner-May be important, pale white to creamy body with clear wings, size 20-22.

5. *Callibaetis* spp. There are no acceptable and reliable species level key for both adults and nymphs at this time. (McCafferty and Waltz, 1990.) There may be two or more species present with what appears to be *C. montanus* and *C. punctilusus* being the most prevalent. *C. floridanus* may also be present.

Dun-Olive body with secondary speckles with blue wing, no patterning until adult, use a BWO size 16.

Nymph-Rounder and generally larger body than other beatid species also speckles on abdomen, inhabit primarily pool area above riffles or runs in the river. Light olive G.R. Hare's Ear in size 14-16.

Spinner-Olive body with darker speckles and wings clear except for brownish-olive pigment staining on outer edge between the Costal, Subcostal, R1, and R2.

## Burrowers

### Ephemeridae

1. *Hexagenia limbata*, "venusta" and other subspecies designations are currently not considered applicable within this grouping. Most common species of *Hexagenia*, found throughout North America and very common here in Texas. Dun-Females are very large and bright yellow with minor secondary olive or brown coloration. Males have multiple color morphs and sizes, colors vary from almost totally reddish-brown with secondary yellow coloration to pale yellow with pale olive markings. There are some very good patterns available using a variety of materials.(foam, deer hair, etc.) I use two different extended body patterns I developed. One is made from simple sheet foam available at any craft store. Many patterns can be complicated to tie, but emerger patterns are far simpler and very effective.

Nymph-When mature they are pale yellow with secondary brown marking and fluffy grey gills. Yellow Woollybuggers are effective or modification I like to call Hexabuggers work well in size 6-8 streamer hooks.

Spinner-Brighter yellow or brownish with long tails (2X body length), there are both male and female spinner falls and could be an advantages pattern.

## Crawlers

### Leptohyphidae (Formerly Tricorythidae)

1. *Tricorythodes spp.*, will accept multiple species present but the determination of *T. texanus* is only tentatively accepted. Currently there are no acceptable species level keys for adults or nymphs. *T. texanus* was described from samples from Devil's River in 1935 by Traver. There are people currently trying to revise work done by Allen in which many species were described.

Dun-Grey body with blue-grey wing use an Adams or greyish bodied dry fly with dun hackle and light grey to white wings in size 20-22.

Nymph-Body very pale in early instars but brownish in late instars. I suggest a size 18 Pheasant Tail Nymph, Priddy suggested a light olive emerger with grey or black hackle for legs in size 22.

Spinner-Black abdomen and thorax with clear wings in size 20-24.

2. *Leptohyphes mirus*, *Leptohyphes dolani*, *Leptohyphes succinus* and possibly *L. packeri*

Very similar to *Tricorythodes* with minor differences in operculate gill structure and presence of transverse setae on fore tibia in nymphs and the presence of hind wings in duns and adults. Any Trico pattern is more than acceptable.

### Caenidae

3. *Caenis latipennis* and *Caenis hilaris*

"Too small to duplicate well. Duns hatch in profusions and spinners fall in the thousands. The tiny duns are cream colored as are the spinners. The British call this hatch the Fisherman's curse!"--Bud Priddy

I feel inclined to agree with him although they are cute little buggers.

4. *Brachycercus lacustris* (Tiny White Wing Sepia Quill) Rarely important in U.S. streams due to small numbers size.

5. *Brachycercus maculatus*, small and unimportant due to size and rarity.

## Leptophlebiidae

6. *Neochoroterpes oklahoma* formerly *Choroterpes (Neochoroterpes) mexicanus* Allen in part ( Henry, B.C.Jr., 1993.) and more recently *Neochoroterpes mexicana* Dun-Not believed to be important, but pale brownish body with pale grey wings about size 16.

Nymphs-brownish body and light brownish tails, not quite as dorsally-ventrally flattened as the heptageniids. A size 14 to 16 dark G.R. Hare's Ear or Pheasant Tail would be an accurate imitation.

Spinner-Has a white abdomen, black thorax, and clear wings about size 16-18, Priddy believed to be important.

7. *Thraulodes gonzalesi*

Dun-Creamy-yellow body with secondary light brownish-grey markings and medium grey wings and legs, use a size 14-16 PMD.

Nymph-Greyish-olive when late instar pale olive in early instars, G.R. Hare's Ear is and acceptable pattern in size 14-16.

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8. *Traverella presidiana*

Dun-Pale yellowish body with light greyish-blue wings about size 14.

Nymph-Very distinct in appearance, prefers riffles with small cobble and gravel. Large head with massive mouth parts used to scrape periphthon (slim/sludge) off rocks like other leptophlebiids and heptageniids.

Spinner-Creamy abdomen and dark blue or black thorax with clear wings about size 14. All stages believed to be unimportant due to population size and habitat preference.

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3. Edmunds, G.F., Jr., S.L. Jensen, and L. Berner. 1976. The Mayflies of North and Central America. University of Minnesota Press, Minneapolis.
4. Bednarik, A.F., and W.P. McCafferty. 1979. Biosystematic Revision of the Genus *Stenonema* (Ephemeroptera: Heptageniidae). Canadian Bulletin of Fisheries and Aquatic Sciences, 201: 1-73.
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All of these imitation instructions are nice in theory, but the simple truth is size 14-18 Pheasant Tails, Prince, and G.R. Hare's Ear Nymphs are the most effective nymphal patterns. The best dry fly patterns are size 18-22 PMD or BWO, and size 14-18 Adams for Mayfly imitations. During the spring you can't beat a Caddisfly or ant imitation, due to the caddis hatches and ant mating flights (*Solenopsis invicta* and *S. geminata*.)

There are an incredible number of Trichopteran species present in the river with net-spinners (hydrpsychids, philopotamids, polycentropids, and psychomyids) and snail-shelled (helicoptsychids) being most prevalent. I prefer a more accurate Caddisfly imitation like "Slow-water Caddis", "Upland Caddis", or Henryville Caddis as opposed to an Elk Hair Caddis, but these too are effective when skittered across the waters surface.

Hope to see you on the river.--Nick Wiersema, 1996.

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4. Bednarik, A.F., and W.P. McCafferty. 1979. Biosystematic Revision of the Genus *Stenonema* (Ephemeroptera: Heptageniidae). Canadian Bulletin of Fisheries and Aquatic Sciences, 201: 1-73.
5. Henry, B.C.Jr., 1993. A Revision of *Neochoroterpes* (Ephemeroptera: Leptophlebiidae) New Status. Transactions of the North American Entomological Society. 119(4): 317-333.

All of these imitation instructions are nice in theory, but the simple truth is size 14-18 Pheasant Tails, Prince, and G.R. Hare's Ear Nymphs are the most effective nymphal patterns. The best dry fly patterns are size 18-22 PMD or BWO, and size 14-18 Adams for Mayfly imitations. During the spring you can't beat a Caddisfly or ant imitation, due to the caddis hatches and ant mating flights (*Solenopsis invicta* and *S. geminata*.)

There are an incredible number of Trichopteran species present in the river with net-spinners (hydropsychids, philopotamids, polycentropids, and psychomyids) and snail-shelled (helicoptsychids) being most prevalent. I prefer a more accurate Caddisfly imitation like "Slow-water Caddis", "Upland Caddis", or Henryville Caddis as opposed to an Elk Hair Caddis, but these too are effective when skittered across the waters surface.

Hope to see you on the river.--Nick Wiersema, 1996.