Prospectus Supplement No. 9 (To Prospectus dated March 30, 2023)

Comera Life Sciences Holdings, Inc.

1,946,846 Warrants to Purchase Common Stock

15,093,712 Shares of Common Stock Including 1,946,846 Shares of Common Stock issuable upon the exercise of Warrants and 342,755 Shares of Common Stock issuable upon conversion of the Series A Convertible Perpetual Preferred Stock offered by Selling Securityholders

This prospectus supplement no. 9 (this "Prospectus Supplement") updates, amends and supplements the prospectus dated March 30, 2023 (as amended or supplemented from time to time, the "Prospectus") which forms a part of the Registration Statement on Form S-1 (Registration Statement No. 333-264686) filed by Comera Life Sciences Holdings, Inc. ("Holdco"). Capitalized terms used in this Prospectus Supplement and not otherwise defined herein have the meanings specified in the Prospectus.

This Prospectus Supplement is being filed to update, amend and supplement the information included or incorporated by reference in the Prospectus with the information contained in our Current Report on Form 8-K, filed with the Securities and Exchange Commission (the "SEC") on November 16, 2023 (the "Current Report"). Accordingly, we have attached the Current Report to this Prospectus Supplement.

This Prospectus Supplement is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. This Prospectus Supplement should be read in conjunction with the Prospectus and any amendments or supplements thereto. If there is any inconsistency between the information in the Prospectus and this Prospectus Supplement, you should rely on the information in this Prospectus Supplement.

The Holdco Common Stock is listed on The Nasdaq Capital Market ("Nasdaq") under the symbol "CMRA", and the Holdco Warrants are listed on Nasdaq under the symbol "CMRAW". On November 15, 2023, the closing sale price of the Holdco Common Stock as reported on Nasdaq was \$0.2444 per share, and the closing sale price of the Holdco Warrants as reported on Nasdaq was \$0.0101 per warrant.

Investing in our securities is highly speculative and involves a high degree of risk. Before buying any securities, you should review carefully the risks and uncertainties of investing in our securities described in the section titled "Risk Factors" beginning on page 17 of the Prospectus, and under similar headings in any amendments or supplements thereto.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under the Prospectus or passed upon the accuracy or adequacy of the Prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement is November 16, 2023

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): November 15, 2023

Comera Life Sciences Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) 1-41403 (Commission File Number) 87-4706968 (IRS Employer Identification No.)

12 Gill Street Suite 4650 Woburn, Massachusetts (Address of principal executive offices)

01801 (Zip Code)

Registrant's telephone number, including area code: (617) 871-2101

Not Applicable

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Dere-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	CMRA	The Nasdaq Stock Market LLC
Warrants	CMRAW	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company \boxtimes

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing. 3.01.

On November 15, 2023, Comera Life Sciences Holdings, Inc. (the "Company") received notice from The Nasdaq Stock Market LLC that the Nasdaq Hearings Panel has determined to delist the common stock and warrants of the Company. Suspension of trading in the Company's securities will be effective at the open of trading on November 17, 2023.

The Company has a period of 15 days from the date of the notice letter to submit a written request for a review of the Nasdaq Hearings Panel's delisting determination by the Nasdaq Listing and Hearing Review Council (the "Listing Council"). The Company does not plan to appeal the Nasdaq Hearings Panel's determination and expects that a Form 25-NSE will be filed with the Securities and Exchange Commission ("SEC"), which would remove the Company's securities from listing and registration on Nasdaq.

As previously disclosed, the Company received a letter from the listing qualifications department staff of The Nasdaq Stock Market on November 18, 2022 notifying the Company that for the last 30 consecutive business days, the Company's minimum Market Value of Listed Securities ("MVLS") was below the minimum of \$35 million required for continued listing on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(b)(2). On August 8, 2023, the Nasdaq Hearings Panel granted the Company's request for the continued listing of its common stock on the Nasdaq Capital Market, subject to the Company's satisfaction of certain interim milestones and, ultimately, the Company's compliance with all applicable criteria for continued listing on Nasdaq, including the bid price requirement and the MVLS rule, by no later than November 14, 2023. On October 31, 2023, the Company received an additional delist determination for failing to regain compliance with the \$1.00 minimum bid price requirement for continued listing on The Nasdaq Capital Market (the "bid price requirement"), as set forth in Nasdaq Listing Rule 5550(a)(2) within the 180 calendar day period provided by Rule 5810(c)(3)(A). The Company was unable to regain compliance with the MVLS Rule or any of the alternative standards for continued listing in Nasdaq Listing Rule 5550(b) by November 14, 2023.

Following the delisting of its securities from the Nasdaq Capital Market, the Company will continue to be a reporting company under the Securities Exchange Act of 1934, as amended, and will continue to make all required SEC filings. The Company expects its common stock and warrants will commence trading on the OTC Markets Group platform at the open of trading on November 17, 2023 under the symbols "CMRA" and "CMRAW", respectively, and the Company has applied for trading of its securities on the OTCQB market. Quotes and related Company information will be available at www.otcmarkets.com.

Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements that are based on the beliefs and assumptions of the Company's management and on information currently available to the Company's management. Forward-looking statements include statements regarding the Company's expectations regarding the trading of its securities on the OTCQB and its ability to continue to make all required SEC filings. Forward-looking statements include statements that are not historical facts and can be identified by terms such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "seek," "should," "will," "would" or similar expressions and the negatives of those terms. These forward-looking statements are based on current expectations and beliefs concerning future developments and their potential effects. There can be no assurance that future developments affecting the Company will be those anticipated. Actual results and the timing of events could materially differ from those anticipated in these forward-looking statements as a result of certain risks and uncertainties, including the Company's ability to continue as a going concern and those described in more detail in the Company's most recent Annual Report on Form 10-K and other documents on file with the SEC. Except as required by law, the Company assumes no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: November 16, 2023

COMERA LIFE SCIENCES HOLDINGS, INC.

By: /s/ Michael Campbell

Name:Michael CampbellTitle:Chief Financial Officer